The end of the cold war meant a sea-change of the security policy environment for most western states. This was followed by a need for changes; changes of security policies and defence structures. There was a demand for new ideas. A demand which was bigger than the supply of well thought out ideas. The analytical community has, according to my view, been more reactive than proactive. This paper pleads for a more active role of the analytical community.

Changes

Changes in general

Most organizations seem, by nature, to be conservative. The preferred way of operating is in a fairly stable environment slowly adapting by changing policies, organizations and technologies. It is often needed an external pressure (important changes of the environment) to trigger a change in direction.

The phenomenon may be, in part, a consequence of the end of the Cold War. The confrontation between the United States and its allies on one side and the Soviet Union on the other created opportunities for academics to dabble in military affairs, first in the areas of nuclear strategy and arms control, and later in such topics as ‘non-offensive defence’. As these issues faded in importance, a void emerged that demanded to fill. No real knowledge of military operations and no serious analysis were required to write and speak about the issue. Force transformation met these requirements perfectly. In order to discuss the merits of transformation, one need not make reference to actual or hypothetical military operations, or to understand what forces actually do. Likewise, systems or ‘technologies’ can be judged to be transformational (or not) without recourse to time-consuming approaches such as war games, simulations and calculations, or sometimes even to data.

2 Europe and North America.
environment of the organization) to initiate change. Sometimes is this perceived as a crisis by many in the organization. After a period of “Sturm und Drang” the organizations returns to a new modus vivendi or perish.

Changes can be strategic (concerning the main missions of the organization) or tactical (the way to operate).

Main drivers for changes could be:
- New missions.
- Failures in performing important missions.
- Failures in managing the economy, organization, personnel… (In general bad management).
- Changed economy.
- Pressures from the top or the bottom for changes (various reasons).

Conservative forces:
- A general resistance to change (e.g. depending on careers. Are your competences of any value in the changed organization?).
- The reason for changes is not considered persuasive enough by the personnel.

For strategic changes there is often a need to change technologies, organization, processes – at the same time. This is however often difficult. It is problematic to
construct a viable comprehensive vision which could be used for changing everything at the same time. Often changes are made step-by-step e.g. introduction of new technologies → new processes → new organizations.

Changes in security policy and defence

During the cold war the security policy context remained essentially the same. New weapon systems with improved performances were introduced. Defence structures and weapon systems changed considerably but only if you looked at it from the beginning to the end of the cold war period. Even in those days three – (or even four) letters – combinations should solve problems, though more on an operative level (ALB, FOFA….). Spin-offs (transfer of technology from the military to the civilian) were more important than spin-ins especially in the earlier phase of the cold war.

During the cold war we got used to this type of stability. We were ill-prepared for the much more dynamic security policy/defence situation which followed the end of the cold war, even if this type of situation historically probably is more the normal case.

So the security policy/defence sector has to manage a changing strategic as well as tactical environment. Even if there have been hopes and expectations of a new era of stability (“the New World Order”…) it seems evasive. For the foreseeable future we have to live with changes and uncertainties.

The defence sector has, like its civilian counterparts, a certain resistance to changes. There are even good reasons for this.

Military organizations are, by their very nature, resistant to change, this is, in no small part, due, to the fact that the cost of error is exceedingly high.\(^5\)

A risk-taking behaviour which is reasonable, or even a precondition for survival, for a small company could be totally unacceptable for a state government. Disruptive changes are more risky than sustaining (more gradual) changes. They can however in spite of this sometimes be necessary.

In spite of this the defence sector now and then has to change.

Driving forces for changes:

“Pull factors” concerning the demand side:

- New tasks
- Old tasks but in a new context (combined, joint, peace-support, changing restrictions for operations)
- Changing resources. New demands on efficiency.

“Push factors” concerning the supply side:

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• New technologies
• New processes
• New organizations.

Historically there has been an interchange between the military and the civilian sectors (both ways).

Conservative forces delaying changes:

• Careers. Reductions in certain service/branches are naturally opposed.
• Regional economic aspects. For certain regions defence activities are of great importance. Politically it could often be difficult to close down activities in such areas.
• Long defence equipment contracts and stability for the defence materiel development and production.

Security policy/Missions in the post cold war period

Demand for security by citizens in Western societies

The demand for security in our affluent Western societies has not diminished, sooner the opposite. The perceptions of threats and risks change all the time and security has many dimensions (state-security [threat from other states], protection against terrorists, social security…). The borderlines between different threats and risks and the defences against them tend to be blurred.

Trends of importance for the development of threats and risks

Trends:

• Globalization which has an impact in many dimensions upon threats and risks.
• Proliferation of weapons and weapon technologies (including fissile material and the knowledge of making e.g. explosives). Individuals and small groups can now possess a destruction capacity which earlier was reserved for states.
• New important actors (failed states, terrorists, organized crime organizations).
• Spread and importance of IT (important as targets and as means [IW]).
• Asymmetries on several levels (strategy, tactics, means).
• The post-heroic Western society (where losses of lives are more problematic).
• The changing character (due to new actors, asymmetries …) of conflicts. When evaluating new ideas concerning our defences it is important to have rather detailed ideas about the character of different conflicts which we could be involved in. Sometimes you can get the impression that the important criteria for assessments of the defence are comparisons with the USA and private companies. These
are however not our enemies. The important missions to manage are the missions against our adversaries. The USA and some private companies in certain areas could be helpful for benchmarking our defence efforts.

Missions
Examples of missions in the form of scenarios:\footnote{Scenarios I-V from Gnesotto, Nicole; Haine Jean-Yves; Dumoulin, André; Foghelin, Jan; Heisbourg Francois; Hopkinsson, William; Otte, Marc; Ries, Tomas; Rühl, Lother; de Wijk, Rob: \textit{European defence. A proposal for a White Paper}, Institute for Security Studies, European Union, Paris, 2004.}

- \textit{Scenario I}: A large-scale peace support operation.
- \textit{Scenario II}: High-intensity humanitarian intervention.
- \textit{Scenario III}: Regional warfare in the defence of strategic European interests.
- \textit{Scenario IV}: Prevention of an attack involving WMD.
- \textit{Scenario V}: Homeland defence.
- \textit{Scenario VI}: A Stabilizing operation emphasizing counterinsurgency (could be seen as a special case of scenarios II and IV).
- \textit{Scenario VII}: State-state war.

Ideas concerning security policy and defence after the end of the cold war

Introduction
The sea-change of the security policy situation after the end of the cold war created a demand for new ideas. There was a political conviction that the cold war had come to an end, and also the missions connected to that. There was a widespread opinion of a “peace dividend”, i.e. the ambition could be reduced in the defence area. There was however no consensus about remaining old missions and new ones (if any). To summarize there was during the nineties a political pressure on downsizing and change of the defences. It was however unclear and/or uncertain which the new missions were. There was mainly a demand for change. Simultaneously there was a growing demand for efficiency in the defence sector. There was also a certain overflow of the demand for change to the area of methods for analysis.

The quest for new ideas stimulated the supply side to search for new sources of inspiration e.g.:

- Late military history before the cold war (mainly the twenties and thirties)
- The civilian side (technologies, management …)
- Old military strategists (Clausewitz …)

Revolution in Military Affairs (RMA)
The intellectual background of the RMA was the following:

We (the West) are now (the nineties) in situation similar to the one after WWI. There is a combination of new missions and demand for downsizing. Let us look for ideas etc that worked in the interwar
period and learn from them. A project was initiated by Andrew Marshall in the USA (Net Assessment/Pentagon) including historical case studies (e.g., about US carriers and German armoured warfare) and war gaming for future operations and units/weapons. The main result from the historical studies was that the most important successful new ideas were created by a combination of technology—organization—tactics/operations/doctrine.

It is difficult to make an assessment of the impact on US defence of the wargaming carried through by Marshall. You can at least have some doubts about short-term major impacts. It is never easy to accomplish major changes and still more so even you are going to make major changes simultaneously. The importance of some new weapon technologies (PGM, C4ISR...) were recognized, but these would probably have been introduced anyhow. For an assessment of the situation 1999 see Cohen.  

**Network-Centric Warfare (NCW)**

The inspiration for NCW came from the civilian side like “Just in Time”, Internet… Important persons in the development of NCW have been John Garstka and Arthur Cebrowski III.

A short description of the basic idea: Network-centric warfare follows the basic idea of network-centric computing. It assumes that there is a worldwide grid of networked communications that any ‘platform’—ship, airplane, land vehicle, or just plain grunt—can plug into so that it can easily upload or download data. The effect is just like the Internet: what each platform happens to be is much less important than how they all work together.

The first visions of the NCW were criticized for being too techno-centric. Enough considerations were not taken to organizational and human factors nor to administrative factors (responsibilities, handling of classified information etc). Continuously these factors have, at least to a certain extent, been taken into account. That is necessary but it has also meant that the vision get less and less revolutionary.

The distances between the situation today and NCW-visions differ between the services. Closest to the vision is the air force and most distant is the army. In the navy you have the easiest short term potential gains. For the army NCW could mean a real revolution. Most remains to be done however before you have a viable

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10 Ibid, p 113.
concept for the army which you can trust. There are also conservative counterforces against changes.\textsuperscript{11} Jointness is achieved in some areas but it is a long way to go to a joint NCW defence. Then it still remains to include civilian activities of interest.

Effects Based Operations (EBO)

The fundamental idea with EBO is to emphasize the political goals. Military operations are only one of possible means to reach these goals. When carrying through military operations the ultimate political goals should always be kept in mind.\textsuperscript{12}

The primacy of political goals and the subjugation of the military operations (or other means chosen) to these goals is of course nothing new. Old military strategists have laid the foundations of this thinking particularly Clausewitz but also Sun-tzu, Liddell Hart and Beaufre. There have been serious failures in performing military operations in spite of the writings of these old military strategists. Why should we be more successful now using EBO/Clausewitz than before? The reason given seems to be the effects of RMA, NCW etc., i.e. to large extent (but not only) new technologies.

There are however, to use a Clausewitzian term, some frictions in the pursuit of the EBO. In a general term these frictions could be labelled asymmetries\textsuperscript{13} e.g.:

- Our adversaries are normally rational, i.e. seeking to fulfil their goals. Goals and means chosen are however often difficult for us to know about and understand.
- You can gain information by technical intelligence but in many areas this is not enough. In certain areas the adversary knows more about us (open society) than we know about him/her.
- “Complex terrain” can be selected by the adversary which to a certain extent neutralize our technical superiority.

Transformation

David Albert’s describes transformation as “a process of renewal an adaptation to environment”.\textsuperscript{14} This seems to be a type of activity which defences always have been preoccupied with. (More or less reluctantly, more or less in the “right” direction, more or less efficiently...). What is possibly new today is the scope and scale


\textsuperscript{14} Op cit. Footnote 5.
of transformation. It could be argued\textsuperscript{15} that there is a need for bigger changes\textsuperscript{16} (due to emerging new missions and the disappearances of old ones) and possibilities for new (technical) means. The mechanics could look like:

There seems to be problems connected to the needed rapid transformation of the armed forces. The reasons for this are to a certain extent the more traditional reasons like legacy, conservatism, lack of resources … More specific for the situation of today is:

- An uncleanness and uncertainty about new missions and means which could then be used.
- Many new ideas about means which could be used but a lack of means gone through thoroughly.

While there is general agreement regarding the general nature of the changes needed, the details of DoD transformation remain a journey into the unknown. In other words, we may agree that moving to a more network-centric organization is required, but the specifics in terms of new approaches to command and control, organization, doctrine, processes, education, training, and even the capabilities we require have yet to be developed adequately. Moreover, substantial issues must be addressed before the necessary concepts can be developed, articulated, and assessed.\textsuperscript{17}

Next to come

Lessons learned by the second phase of the Iraqi operation and the emergence of the PRC as a major power will, I guess, lead to Sun-tzu as the next military strategist to appear (again) in the limelight. Special emphasis will be on:

- The risks of starting wars (think twice).\textsuperscript{18}
- The necessity of reliable intelligence.\textsuperscript{19}

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\textsuperscript{15} You always seem to live in a time of unprecedented rapid changes.

\textsuperscript{16} In Alberts, David S. and Hayes, Richard E.: \textit{Code of Best Practice, Campaigns of Experimentation. Pathways to Innovation and Transformation}. CCRP. 2005 There is a distinction made between disruptive innovation and sustaining innovation.

\textsuperscript{17} Ibid p 1.


\textsuperscript{19} Ibid, Ch 13, pp 184-86.
Sun-Tzu will of course be carefully encapsulated in a three-letters combination.

It is a good to think twice before starting a war\textsuperscript{20} and to have a reliable (strategic as well as tactical) intelligence.

The problem with Sun-Tzu is that he is easy to read and understand but difficult to apply to actual cases for the future. Even for recent history it could be difficult e.g. operation Iraqi Freedom. One commentator\textsuperscript{21} can come to the conclusion of a successful use of Sun-Tzu’s thoughts:

Using operation Iraqi Freedom as a case study, there are clear connections between Sun-tzu’s philosophy and American political and military strategy.

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It is interesting to explore, however, those ancient principles that still prescribe successful military operations today.

At a seminar in the PRC (The 6th International Symposium on Sun-Tzu’s Art of War. Shenzhen 2004-11-02--05) about Sun-Tzu’s The Art of War the conclusion was the opposite. The problems with the operation emanated from the lack of using Sun-tzu properly.

**General comments**

Defences have no value of their own. They serve some given purposes. These purposes must be reconsidered all the time. The defence sector by itself can propose new missions but it is up to the politicians to decide as for means to accomplish the missions. It is wise to use ideas from multiple sources to get new ideas for old/new missions. To take ideas from ancient times and from the civilian sector and use them for modern warfare requires however a cumbersome work of many types.\textsuperscript{22} The simple reason is that military operations are a very special activity and you cannot (at least nor in general) just transfer ideas to the military.

**Analytical Support**

During the cold war period

During the cold war the security policy context changed slowly. The main mission during the whole period remained the same – the NATO defence against the WP. Within the framework of the defence against the WP there were of course changes in weapon systems/units/doctrines. The rather stable conditions led to specific analytical problems and possibilities to use certain methods and tools. Given the security policy situation and the threat assessment (by military intelligence) the analytical efforts were concentrated


on suitable defence structures, units and weapon systems. Slow changes gave the opportunity to construct and use ambitious simulation models on different levels. Simulation models with a long life span (with successive modifications). Analytical models and war gaming were used as well. There were regular exercises.

The post-cold war period (new demands)
There has been a sea-change of the demand for (analytical) support since the cold war period:

- The missions are much less well defined on the political level. There could be possibilities by the analyst to propose clarifications.
- The possible threats are much more multifaceted. There could be possibilities to support the intelligence with analysis of different threats.
- The means to defend you are not confined to a limited repertoire of military systems within a given doctrine. Today you must look wider for ideas.
- During the cold war we thought at least that we had some empirical background (extrapolations from the Second World War) for battle assessments in our simulations. Today this empirical background is more fragile. The consequence should be a higher demand for other forms of empirical evidence.
- There seems to be a more rapidly changing character of threats and missions. Analytical support must shorten its lead-times.

The post-cold war period
A more agile analytical support is needed.
A widened scope and range of analytical support.23

- Threats and risks are much more illdefined. There are opportunities to give support to the traditional intelligence agencies. (New threats, net assessments…)
- A wider spectrum of threats and risks requires a broader thinking about possible ways to defend you. You can look at the whole chain from prevention over protection to crisis management. Ideas can be found in many non-military areas. It is important that at least some of the ideas have short lead-times before being operative. Analysts can be one group giving contributions.
- In a situation of urgency and haste it is not unusual that the numbers of alternative ways to act are reduced like the ambition to compare different alternative. There could be a rapid consensus of opinion in favour of a bad alternative. It seems to me that this problematic decision-making is spreading. It is important to work for a decision process where alternatives

are seriously considered even if the
time is limited. Red teaming, devil’s
advocate, assessment of alternatives … Activities supporting decision
making could be given many forms.
The important thing is to be able to be
present as an analyst when decisions
are prepared and be competent both
concerning methods and substance of
the problems.
• Experimentation,⁴ demonstrators …
Are getting more important. Analysts
can give contribution in design of
experiments and evaluation.
• In the UK analysts are giving support
in ongoing operations. This is a very
promising way of working especially
in these times when operations seems
to be less repetitive.

To be able to give a professional analy-
tical support to a wider area of tasks the
repertoire of methods and tools should be
extended e.g.
• Scenarios
• Models for rapid assessment of al-
ternatives
• Soft – OA methods
• Gaming.

**Concluding remarks**

- The new missions for security and
defence in the post-cold war period
make change (transformation) of the
defence sector necessary.
- The driver for change should be the
new demands. There is a technology
push but it should be controlled by the
demand side.
- Ideas and inspiration should be sear-
ched for in many places.
- Before new weapons, systems, units,
tactics, doctrines … are launched for
field use they should be tested (in stu-
dies, experimentation …) as ambitious
as possible.
- You cannot wait for a brand new revo-

dutionary concept being introduced in
the distant future. The defence must be
able to solve problems all the time.

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⁴ Op cit. Footnote 16, p 1: " If DoD’s Information Age transformation is to be successful, it needs to be
informed by a coherent set of lessons learned, experiments, and empirical analyses. This will provide the
feedback necessary to keep the effort on track".