



# Contours of Conflict in the 21<sup>st</sup> Century

A Cross-Language Analysis of Arabic,  
Chinese, English and Russian Perspectives  
on the Future Nature of Conflict

*The Hague* Centre for Strategic Studies N° 06 | 03 | 11



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*The Hague Centre for Strategic Studies (HCSS)*

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*The Hague* Centre for Strategic Studies (HCSS) seeks to advance international security in an era defined by geopolitical, technological and doctrinal transformation and new security risks. HCSS provides strategic analysis and offers concrete policy solutions to decision makers. HCSS serves as a strategic planning partner to governments, international organisations and the business community.



*Wohin wir uns wenden im Gewitter der Rosen,  
ist die Nacht von Dornen erhellt*

Ingeborg Bachmann, 1953



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# Reader Guidance

This study shows the richness and diversity of global views on the future of conflict across four language domains. In highlighting the wide cross-language variety, it extensively draws on original sources and provides many illustrative quotes and visualizations. As a result, this report runs 244 pages long. For those readers that are mainly interested in the key findings of this study, we have included this guidance. This will bring down the recommended reading material to some 25 pages.

## Box – Reader Guidance

Key Objectives of the Project	(13-15)
Introduction to the Metafore Protocol	(17-19)
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# 1 Future Nature of Conflict Project Overview

Conflict remains a central element of *la condition humaine*. In some regions, traditional forms of conflict have virtually disappeared while in other it remains a fact of everyday life. Yet, there is a growing feeling in many parts of the world that the future nature of conflict may be changing. Much of the thinking behind this is informed by deep subject matter knowledge, firmly grounded in (military) history as well as present day experience. This being the case, the images of future conflict are inevitably a product of the respective contexts in which they are sketched.

It goes without saying that contexts differ enormously across the world. It is likely that a Russian author will paint a different picture of the future nature of conflict than his English counterpart. A Chinese expert will undoubtedly see other forms of conflict emerge than an Arab observer. Such variations not only mark differences in contemporary strategic discourses worldwide, but also shed light on the types of conflict that may be anticipated in the future as it is these images of future conflict that inform strategic planning.

In gaining a better understanding of the future nature of conflict, it is therefore of the utmost importance to go beyond the traditional Western (English) language domain experts, and include views from regions across the world. The main purpose of the Future Nature of Conflict project is therefore to map and analyze global perspectives about the future nature of conflict published over the last two decades across four language domains – Arabic, Chinese, English and Slavic.<sup>1</sup> The aim is to

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1 Our search strategy included all Slavic languages, but yielded only two Ukrainian studies, with all the other ones being Russian. We therefore decided to use the term ‘Russian’ throughout the text, but we do caution the reader to bear in mind that this also included a few non-Russian Slavic texts.

gain a better understanding of the bandwidth of views about the future nature of conflict. These views are analyzed along different dimensions, such as actors, aims, domains, means – who, why, where, how?; as well as salience, length, extensiveness, distinctiveness – how often, how long, how widespread, how distinct? The various definitions of conflict across the language domains were also mapped.

### **Box - Key Objectives of the Future Nature of Conflict Project**

- Create a database of various perspectives on the future nature of conflict across Arabic, Chinese, English and Russian language domains.
- Analyze and compare perspectives on the future nature of conflict across language domains.
- Develop policy relevant insights in the future nature of conflict for security and defense practitioners, researchers and the general public.
- Provide a platform for global, cross-language strategic dialogue.

This study seeks to better inform decision makers from government and industry in preparing for the challenges of the future conflict environment. It has a modular setup: the results presented here can be built upon in order to gain a better insight in the future nature of conflict. The database that was created can be re-used in subsequent studies and for different purposes, including educational ones. It can also be augmented by adding additional sources, other language domains or new coding schemes. HCSS will examine whether the database can be made publicly accessible for other researchers, thus possibly ‘crowd sourcing’ its further development.

This study describes the research protocol, findings and conclusions of the Future Nature of Conflict Project. Chapter 2 offers an in depth description of the HCSS Metafore protocol. Chapters 3 through 6 provide in depth assessments of prevailing views on the future nature of conflict in the Chinese, English, Russian and Arabic language domains respectively. Chapter 7 presents a big picture overview of the global debate at the beginning of the 21<sup>st</sup> century, in addition to putting the various language specific views side to side in a cross language comparison. Chapter 8,

finally, recapitulates the key findings and briefly outlines in general terms some of the challenges faced by our security and defense establishments as a result of the changes in the nature of conflict described in the previous chapters.

### **Box - Funding**

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The Future Nature of Conflict project is funded by:

- The Dutch Ministry of Defence;
- the joint TNO / HCSS Strategy and Change Programme, and
- the HCSS Security Foresight Programme.



## 2 The Metafore Protocol

Foresight is often – explicitly or implicitly – of a normative (visionary, exhortative, cautionary, etc.) nature. This project is different in that it aims to present a more exploratory analysis of the future contours of conflict as seen by different groups across the globe. It draws upon an approach to foresight that HCSS has developed over the past few years and that we have labeled Metafore.<sup>2</sup> The essence of the Metafore approach is to present readers (and especially policymakers) with a more dispassionate meta-analysis of the bandwidth of views in the expert community on the future of any given topic. This mapping is then used as the basis for a more in-depth discussion of the broader implications of this meta-analysis.

For this project, HCSS compiled a new and unique database of studies about the future of conflict across four language domains (Arabic, Chinese, English and Russian). The main reason for selection of these language domains was the fact that the countries and regions where these languages are spoken either play or will play an important role in the strategic environment in the years to come. We furthermore assumed that there is a significant degree of cross fertilization amongst Western researchers, and the richness and variety of the Western views are largely captured by the English discourse.<sup>3</sup>

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2 For more general background on the Metafore protocol, see Stephan De Spiegeleire et al., *STRONG in the 21st Century. Strategic Orientation and Navigation under Deep Uncertainty* (The Hague: The Hague Centre for Strategic Studies, 2010).

3 It will be clear to the reader that not all language domains are covered in this study – examples of important uncovered domains include the Brazilian, Indonesian, Japanese, Spanish, Turkish, French and German language domains. The modular and scalable method we used lends itself very easily to adding such additional language domains.

The studies that we included are drawn from a wide variety of sources, including governmental sources (military doctrines, security strategies, defense reviews), academia (books and articles), publications of research institutes, public intellectuals, industry representatives, religious leaders, philosophers, etc. In essence, the project seeks to include as wide a range of 'serious' perspectives as possible on the medium to long term future of conflict, defined as 10-20 years in the future.

These future studies were systematically coded in a software program in search for parameters (the main aspects of conflict that might be subject to change in the future) and drivers (the main driving factors behind these possible changes). The insights that are culled from this meta-analysis allow us to present different views on these various aspects across all sources (the 'big picture'), but also within each language domain (or subset thereof), over time, and between governmental and non-governmental sources. The HCSS team then analyzed these data in search of dominant views but also of trends (recently increasingly or decreasingly popular explanations), of interesting counterfutures, and of so-called holes (possible elements the foresight community might have missed).

The following section describes the Metafore protocol, as it was used in this particular study, in more detail. Readers who want to jump directly to the findings themselves are invited to go directly to chapter 3, page 37. The entire protocol, as it was developed and refined in a number of HCSS studies over the past few years, consists of a number of different steps which we now call the Metafore C<sup>6+2</sup> protocol (see Figure 1).

The protocol consists of 6 consecutive steps, all of which receive constant guidance from a (fairly decentralized) **command and control (C2)**<sup>4</sup> system:

- **Conceptualize:** the HCSS team determines the boundaries of the study (definition and delineation of what to include and not to include in the study);

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4 For our take on 'command and control', see Stephan De Spiegeleire and Peter Essens, 'C2 That! Command and Control over Post-Industrial Armed Forces' (presented at the 15th International Command and Control Research and Technology Symposium, Santa Monica CA, 2010).

# Metafore C<sup>6+2</sup> protocol

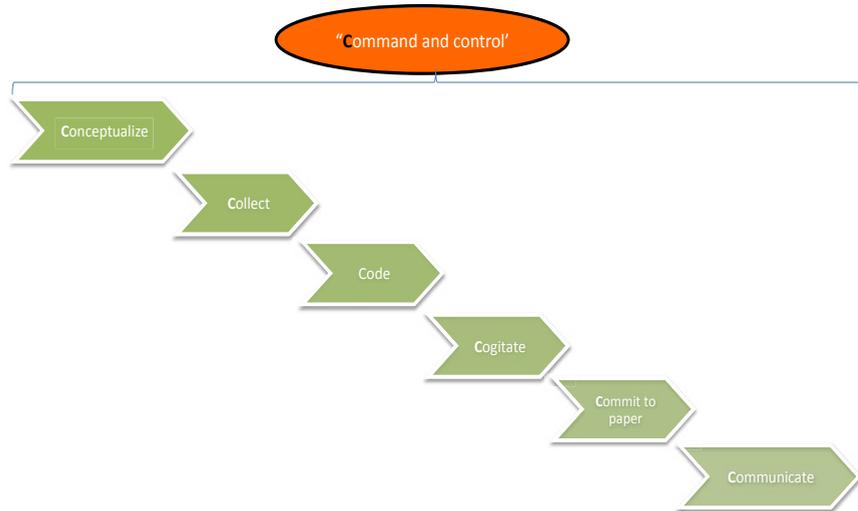


FIGURE 1. THE METAFORE C<sup>6+2</sup> PROTOCOL

- **Collect:** the entire team (both at HCSS and in different parts of the world) collects as broad a set of serious foresights studies on the topic as possible;
- **Code:** the team rigorously codes all relevant pieces of information on the topic in every study;
- **Cogitate:** the team analyzes the data culled from the coding effort;
- **Commit to paper:** the team writes up the main findings of the study, in as visual a way as possible; and finally
- **Communicate:** the team tries to inject these findings in the broader policy process.

This section will describe each step in some more detail – as it was actually implemented in this study.

## 2.1 Command and Control

In order to assist us in our international foresight work, HCSS has been developing a Metafore ecosystem. For this, HCSS has identified a

number of established institutions in the regions it wanted to cover, all with a focus on national security and with some well-educated analysts interested in this type of work. The ecosystem partners which participated in this *Future Contours of Conflict* study consisted of:

- Metafore-U (Ukraine): the *Institute for World Policy* (<http://www.iwp.org.ua/eng/>), a new Ukrainian think tank, where HCSS recruited 4 policy analysts who worked on this project (with generous funding from the Ukrainian Renaissance Foundation);
- Metafore-GT (US): HCSS has a standing arrangement with Dr. Adam Stulberg, Director of the The Sam Nunn School of International Affairs at *Georgia Tech's Center for International Strategy, Technology, and Policy* (<http://www.cistp.gatech.edu/index.html>) to employ 2 graduate students in our foresight work on a part-time basis; and
- Metafore-A (the Arab world): *The Institute for Near East & Gulf Military Analysis* (INEGMA), a Middle Eastern think tank based out of Dubai, UAE and Beirut, Lebanon (<http://www.inegma.com/>), where two analysts also participated in the collection and coding efforts, complemented by an Iraqi-Dutch analyst based in the Netherlands.

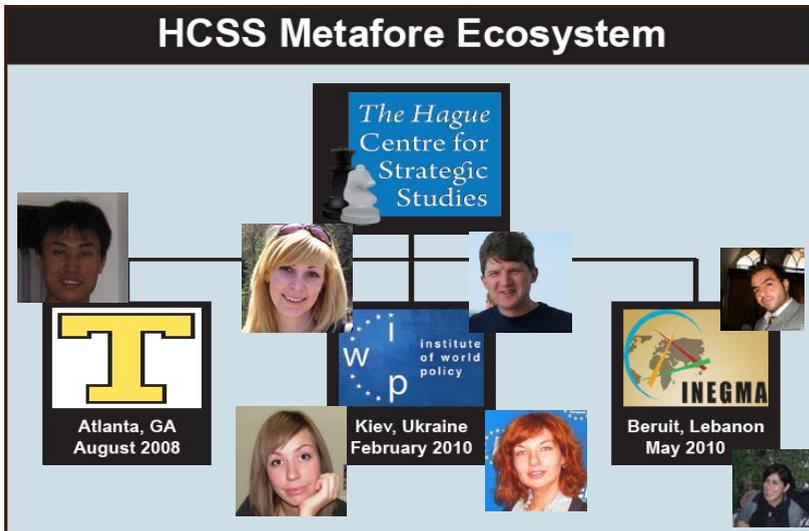


FIGURE 2. HCSS METAFORE ECOSYSTEM

- The HCSS team (consisting primarily of George Boone, Stephan De Spiegeleire and Tim Sweijjs), backed up by a number of HCSS in-house interns directed and supervised the activity of this entire team through various communication methods, notably Google Wave, a real-time communication and collaboration environment.

## 2.2 Conceptualization

From the very start of this project, a broad definition of the term ‘conflict’ was used: not only including inter-state and intra-state ‘war’, but also other incarnations of internationally relevant conflict. This choice is based on the important notion that security challenges are increasingly connected and therefore cannot be classified in a fixed scheme - what is and is not part of the field of responsibility (and of influence, and of expertise) of the defense organization and the armed forces might well have a quite different answer tomorrow than today. We have observed that all too often in the past, the defense and security community has been blindsided by overly narrow interpretations of what should be included in foresight. By focusing on major theater wars after the end of the Cold War, an important subset of the defense and security community essentially excluded smaller scale contingencies, such as peacekeeping operations, from their planning effort – for which it subsequently paid a big price. The same has happened since with global terrorism and could happen again with other phenomena that today are judged to be of no direct relevance to defense and/or security planners.

In acknowledgement of this notion, for this study we did not impose our own delineations of what could or could not be included, but were guided by the definitions we found in the documents we collected.<sup>5</sup> Nations will have to be prepared for the entire range of conflicts described in this study, and need a toolbox of instruments to deal with them – the military being one. Ultimately, this study aims not only to inform the defense community, but also a wider audience of ‘comprehensive security’ planners and policy makers.

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5 We also included ‘definition’ as one of the parameters of conflict that was coded for every study in which it was explicitly mentioned. This means that readers who just want to zoom in on those studies that talk about ‘traditional’ war, can go back to the database to single out that subset just as those who want to look at views on any forms of conflicts other than war.

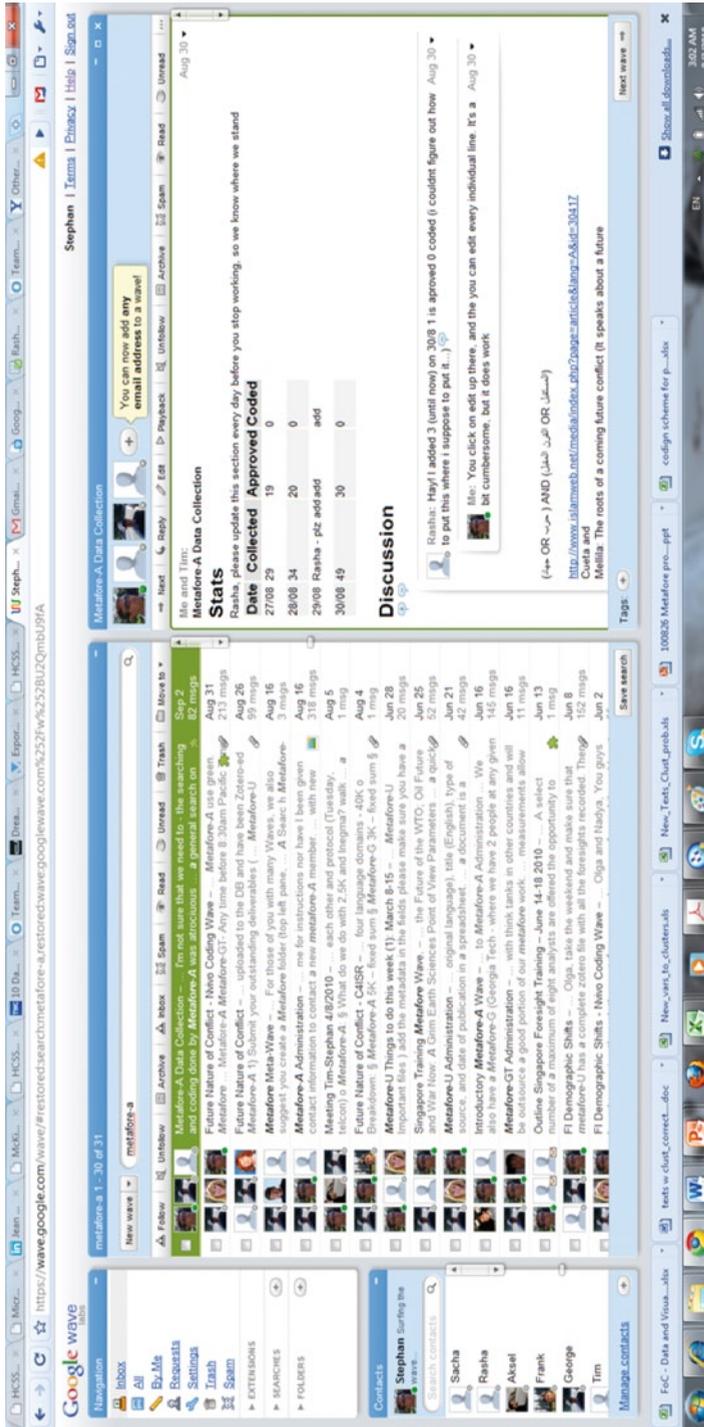


FIGURE 3. GOOGLE WAVE REAL-TIME COMMUNICATION AND COLLABORATION ENVIRONMENT

### 2.3 Collection

The HCSS team developed similar search strategies for collecting as wide a range as possible of publicly available<sup>6</sup>, serious foresight studies on the future nature of conflict for the various domains. Every ecosystem-partner searched the internet and some academic full-text databases using a search algorithm that consisted of two main broad ‘semantic baskets’:

- (The nature of) **conflict**: i.e. various words such as war, conflict, struggle, etc.
- **The future**: words as foresight, forecast, scenarios, trends, drivers, in the future, 21<sup>st</sup> century, etc.

An example of an early search query in the English-language domain was ‘*(Nature OR character OR Type) AND (War OR Conflict OR Warfare) AND (future OR scenario OR foresight OR century)*’. As stated, one of the most important guiding intuitions of this study was that we did not want to impose any preconceived notions on our search (and analysis) efforts. The initial search query which, barring some translation nuances, was identical for all language domains, was therefore continuously adjusted

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6 This is an important caveat. Much security foresight work continues to be done behind the veil of secrecy – the restrictions of which continue to be widely (even if begrudgingly) accepted throughout the world, including by this team. The HCSS team still feels that the public sources covered in this study represent a sufficiently diverse and rich set of insights to warrant the treatment we give it here. Governments increasingly are putting security foresight studies in the public domain (see e.g. ‘Multiple Futures Project - Navigating towards 2030’ (Supreme Allied Commander Transformation, 2009), [http://www.iris-france.org/docs/pdf/up\\_docs\\_bdd/20090511-112552.pdf](http://www.iris-france.org/docs/pdf/up_docs_bdd/20090511-112552.pdf); ‘UK Development Concepts and Doctrine Centre,’ in The DCDC Global Strategic Trends Programme 2007-2036, 3rd ed. (London: Development, Concepts and Doctrine Centre, 2007). ‘Verkenningen houvast voor de krijgsmacht van de toekomst’ [Future Policy Survey. Mainstay for the Armed Forces of the Future] (Ministry of Defence, the Netherlands, 2010).) – also in an effort to build public support for defense and security efforts. Furthermore, some of the most imaginative work on the future (also of security) continues to be done outside of government. This study includes an important part of both the publicly available governmental AND the non-governmental literature on this topic. We do want to point out that this study does not include some of the most imaginative work in this area that has been done in the science fiction community – an omission that we still hope to redress in the future. Having worked on both sides of the classification firewall, the HCSS team still feels that the real deficit (especially in terms of wealth of ‘new’ and potentially important insights) lies more in the latter community than in the classified community.

and refined through an iterative process. The main criterion for tuning the search query was very utilitarian in nature: it should gain the most and most relevant studies across language domains (again taking into account subtle and less subtle language differences). All search queries in all language domains were recorded in an Excel spreadsheet, meaning that search strategy can be fully retraced. A detailed overview is available upon request.

## Collection - Method

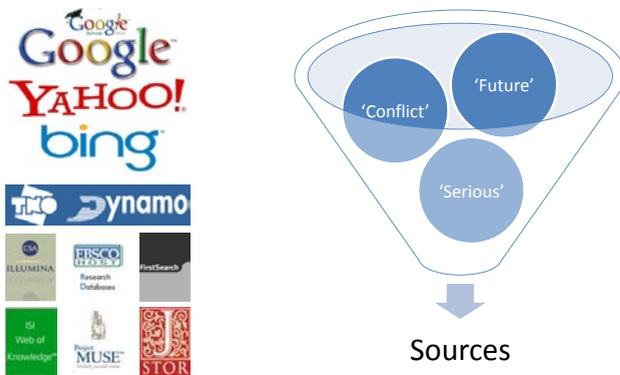


FIGURE 4. SOURCES AND SEARCH STRATEGY

In order to be included in the final set that was going to be coded, a document also had to correspond to a set of pre-defined criteria. They had to:

- be published after 1990 (i.e. after the end of the Cold War);
- contain a significant section dealing with the future (defined as 2015 and later);
- deal with conflict in the general sense (e.g. documents about the future of conflict in one specific region or in only one concrete functional domain without generalizable implications were excluded);
- be of a mainly analytical (and not moralistic, prescriptive, etc.) nature;
- have sufficient quality. 'Sufficient quality', as defined for our purposes,

holds that the authors invested a considerable amount of time and effort in producing the study on the basis of an identifiable methodology; a clear and comprehensible line of argumentation is expressed; and the length of the study is at least 15 pp.

It proved to be impossible to collect studies that fulfilled these criteria for the Arabic language domain. The team then made a conscious decision – in light of the current and anticipated future importance of the region for international conflict – to relax these criteria for the Arabic language domain. This will be further elaborated upon in chapter 6.

The final set of documents was entered into a spreadsheet, recording not only bibliographical information of the study (author, original title, translated title, date and place of publication, editor, etc.), but also other meta-data such as the time horizon of the study and the type of organization that published it (government, military, research institute). Adding this information allows the user of the database to detect whether there are any significant differences across subsets of the data: i.e. whether studies that only look 5 years ahead see different parameters of conflict than those that look 20 years ahead; whether governmental foresights differ from non-governmental, etc.<sup>7</sup>

## 2.4 Coding

After retrieving many hundreds of studies across the language domains and selecting the ones that corresponded to our criteria, we were left with between sixty and some hundred studies per language domain. The team then proceeded to systematically code these in search of the key parameters and drivers of the future nature of conflict. The aim here was to provide an overview of and gain insights into the different parameters and drivers that are seen to be prevalent in the four language domains.

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7 We want to emphasize that by classifying and coding all of these studies, this dataset also offers future researchers the possibility to detect whether there are any ‘islands’ of foresight studies that offer better post-hoc predictive accuracy than others.

## Bibliographical information

A	B	C	D	E	F
Source	Author	Organization Type	Publication Date	Language	Native Language Title
1	张健忠, 王连山	research Institute/Academia	2000	Chinese	21世纪:是战争,还是和平
2	multiple authors	book	2008	English	none
3	王显巍	research Institute/Academia	2004	Chinese	中美太空冲突:质疑——兼论中美太空合作
4	Dr. Sherifa D. Zuhur	monograph	2006	English	none
5	焦国力	research Institute/Academia	2004	Chinese	未来战争新样式——网络中心战
6	General Sir Richard Dannett	Military	2009	English	none
7	Alexander Kondrat'ev	Research Institute/Academia	2009	English	none
8	陈玉田	research Institute/Academia	2008	Slavic	Ставка на "войны будущего"
9	Stephen Biddle	article	2003	Chinese	适应打赢未来战争需要加强人民战争信息化建设
10	靳全波	research Institute/Academia	2002	English	none
11	Colin Grey	Research	2001	Chinese	制空权·制天权——未来战争第一要素
12	colonel Vyacheslav Samardak	book	2007	English	none
13	colonel Vyacheslav Samardak	Military	2000	English	none
14	Col. V. N. Gorbunov, Lt. Gen. S. A. B	Military	2009	Slavic	Вооруженная борьба и ее развитие в XXI в. часть 1
15	Igor Domnin; Alexander Savinkin	Research Institute/Academia	2009	Slavic	Вооруженная борьба и ее развитие в XXI в. часть 2
16	Schneider	study	2005	Slavic	АСИММЕТРИЧНОЕ ВОЕВАНИЕ
17	RD Hooker	Military	1995	English	none
18	Radchuk, Alexandr	Thinktank	2005	English	none
19	Sarkisyan T.S.	Thinktank	2010	Slavic	Большая ядерная игра в XXI веке: разоружение или война?
20	ANTOINE BOUSQUET	article	2004	Slavic	Молниеносная война нового поколения: взаимный сценарий
21	黄尊文	research Institute/Academia	2005	Slavic	Вызовы 21 века
22	John Arquilla and Theodore Kerasi	Research Institute /Academic	2008	English	none
23	UNICEF	study	2004	Chinese	动画:未来战争的"警告"
24	A. Nazarehyan	Research Institute/Academia	1999	English	none
25	Barry D. Watts	book	2009	English	none
26	Mr. Richard Milllett	monograph	2004	Slavic	Цивилизационные кризисы в контексте универсальной истории
27	Frank Hoffman	Research Institute /Academic	1996	English	none
28	Col. Chet Richards	power point presentation	2002	English	none
29			2007	English	none
30			2005	English	none
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FIGURE 5. BIBLIOGRAPHICAL INFORMATION

- **Parameters** are defined as the key attributes of the future nature of conflict that are likely to change in the future. The main question asked here is: what is it about conflict that is likely to change in the future.
- **Drivers** are defined as the forces that are likely to trigger changes in the parameters. The main question asked here is: what is likely to drive change in the nature of future conflict.

Again, as for the search queries, we made a conscious choice not to pre-impose any taxonomy on the coders but rather to develop that taxonomy in a few ‘spirals’.<sup>8</sup> On the basis of a close reading of a subset of texts, a preliminary list of parameters and drivers was developed inductively by the Chinese, Russian and English Metafore teams. The initial list was complemented and refined on the basis of a number of in-house HCSS expert sessions. The list that was thus obtained was consequently tried out on a small number of texts to determine whether it was possible to apply the coding scheme in practice with some degree of consistency across the language domains. Once the team felt confident both about the list itself and about its ability to code the texts consistently, the following list was agreed upon.

### Parameters – what is it about conflict that is likely to change in the future

**Actors** – Who are the main parties that may get involved in future conflict?

- Blocs of states
- Pairs of states
- State and non-state actors vs. any other actor
- State vs. non-state
- Non-state vs. non-state

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<sup>8</sup> We remind the reader that our ambition in this study is to avoid ‘presentist’ and other biases. All too often in the past, our preconceived categorizations, almost invariably based on the past and the present, have been an important reason we were blindsided for unexpected events. Nassim Taleb calls these ‘crisp categories’ and sees it as an important reason why we miss sources of uncertainties. Nassim Taleb, *The Black Swan: the Impact of the Highly Improbable*, 1st ed. (New York, NY: Random House, 2007). On this point, also see our own work De Spiegeleire et al., *STRONG in the 21st Century. Strategic Orientation and Navigation under Deep Uncertainty*..

**Aim in Conflict** – What are the key goals in future conflict?

- Physical degradation (destroy or weaken)
- Obtaining, retaining, or occupying territory
- Economic or political degradation
- Stabilization
- Survival (i.e. outlast opponent(s))

**Definition** - How is conflict defined in the study?

- Between individuals
- Political-economic tensions
- Tensions between non-state actors
- Militarized inter-state disputes
- War

**Distinctiveness** – How distinctively can the start and end points of future conflicts be discerned?

- Low (diffused)
- Leans Low
- Medium
- Leans High
- High (Punctuated)

**Domain** – What is the primary arena in which future conflict may manifests itself?

- Traditional military dimensions (land, sea, air)
- Modern military dimensions (space, cyberspace)
- Political dimension
- Economic dimension
- Human terrain (mental, moral, psychological dimension)

**Extensiveness of Conflict** – What is the geographic scale of the area where the impact of future conflict is thought to be concentrated?

- Global (e.g. World War II)
- Regional (e.g. Balkan conflicts in 1990s)
- Sub-regional (e.g. conflicts in West Africa)
- National (in one entire country)
- Domestic (confined to a certain subsection of a country domestic polity)

**Impetus for Conflict** - What may motivate actors to get involved in future conflict?

- Data conflicts – arise when actors have different interpretations of some important facts or data (e.g. information is lacking, differently interpreted or withheld)
- Interest conflicts – occur when actors perceive irreconcilable interests and frame their quarrels in those terms (this includes perceived scarce resources such as physical assets (money or other tangible things), but also procedural (how decisions should be made) or psychological issues (whose interests might be harmed emotionally))
- Value conflicts – erupt when actors perceive fundamental conflicts that are framed in term of values (e.g. they have different ways of life, deeply rooted goals or varying normative criteria on how to evaluate behavior)
- Relationship conflicts – prosper in environments of strong emotions, stereotypes, poor communication and historic negative patterns
- Structural conflicts – result from structural inequities in control, ownership, power, authority or geographic separation

**Length** – How long are future conflicts seen to last?

- Years
- Months
- Days
- Hours
- Minutes

**Pace** – What is the speed of maneuver and decision making?

- Low
- Leans Low
- Medium
- Leans High
- High

**Primary Means** – What is the predominant category of instruments used to pursue a conflict?

- Physical means
- Political means

- Economic means (e.g. economic sanctions or blockade)
- Electronic / cyber means (e.g. cyber attacks on government sites)
- Information / psychological means (e.g. spread of false information)

**Salience** – How much conflict will there be in the future?

- Low
- Leans Low
- Medium
- Leans High
- High

Drivers – what is likely to drive change in future conflict

- **Globalization** – The extent to which increasing interconnectedness of peoples, economies, and cultures drives and shapes conflict.
- **Strategic Resource Distribution** – The extent to which availability of key resources (food, water, minerals, energy, etc.) via possession or access drives and shapes conflict.
- **Nature of Future Military Technology** – The extent to which the orientation of future military means drives and shapes conflict.
- **Public Involvement** – The extent to which public involvement (e.g., supporting, condemning, or participating) drives and shapes conflict.
- **Strategic Orientation** – The ways in which national strategic views and cultures drive and shape conflict.
- **International Arms Control Norms** – The extent to which conflict may be regulated by international arms control agreements.
- **International Institutions** – The extent to which international organizations have the ability to regulate conflict.
- **Wealth Distribution** – The extent to which wealth distribution across subsets of the global population drives and shapes conflict.
- **Demographic Factors** – The extent to which population characteristics drive and shape conflict.
- **Urbanization** – The extent to which urbanization drives and shapes the nature of conflict.
- **Geographic Factors** – The extent to which geographic factors drive and shape conflict.
- **Role and Power of the State** – The ways in which the role and power of the state – both at a national and an international level – drives and shapes conflict.

- **Climate Change** – The extent to which climate change impacts the distribution of resources (e.g. food, water, arable land, land, etc.) and thereby drives and shapes conflict.
- **Fragmentation** – The extent to which state fragmentation drives and shapes conflict.

### The coding itself

The teams used the commercial qualitative coding software program Nvivo. With this program an analyst can ‘tag’ (code) specific passages within documents – in our case as a parameter or a driver. Nvivo records this coding and, in a fully transparent fashion, allows others to trace or correct the coding calls made by the analyst. Figure 6 illustrates this procedure. In the main pane of this window, we see some text from one of the sources (in this case a RAND report on Sources of conflict in the 21<sup>st</sup> century). The visible text starts with the following passage: ‘a number of key trends on the regional and global level will also drive the nature of conflict and the strategic environment toward the year 2025. These key drivers include...’. From this text, we can clearly infer that this passage deals with future drivers of conflict. The passage has consequently been coded by the analyst as a ‘driver’, which can be seen in the right pane in the form of a black color-coded stripe – the black color-code identifying it as a ‘driver’. The first bullet after the afore-mentioned text starts with ‘the search for strategic weight through new military technologies and strategies’, allowing the coder to code ‘military technologies’ as the specific driver ‘Nature of Future Military Technology’ (color coded in magenta).

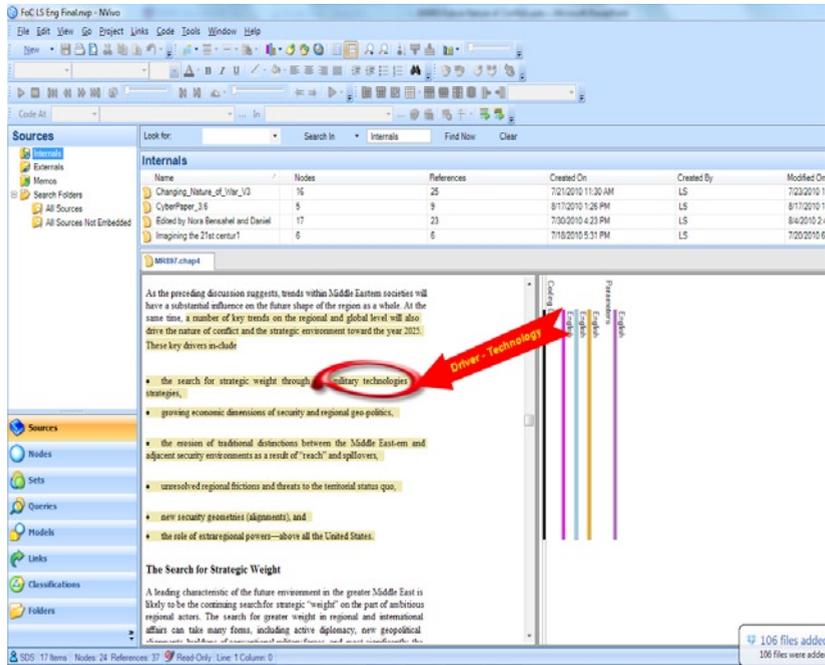


FIGURE 6. EXAMPLE OF CODING IN NVIVO

The Nvivo files are available upon request and can be used for further analysis – something the team would welcome and encourage.

**Box – The issue of intercoder reliability**

Intercoder reliability is generally acknowledged as a critical component of qualitative research design. Kolbe and Burnett, for instance, write that ‘interjudge reliability is often perceived as the standard measure of research quality. High levels of disagreement among judges suggest weaknesses in research methods, including the possibility of poor operational definitions, categories, and judge training’<sup>9</sup>.

9 Richard Kolbe, ‘Content-Analysis Research: An Examination of Applications with Directives for Improving Research Reliability and Objectivity,’ *Journal of Consumer Research* 18, no. 2 (1991): 248.

The HCSS team went – within the scope of this project – to some lengths to ensure intercoder reliability<sup>10</sup>:

- All teams were trained intensively by the HCSS team at the beginning of the project.
- Analysts in the Chinese, Russian and English teams had prior coding experience.
- Extensive documentation on coding, both general and project-specific, was made available (and constantly updated based on lessons learned) on Google Wave.
- At the start of the project, the different language domains teams each initially blind coded the same three English studies, discussed their results and calibrated their coding efforts.
- The teams were subsequently supervised by experienced HCSS staff while analyzing their specific language domain studies. Whenever they felt uncertain about some coding issues, they discussed these on the Google Wave – and invariably came to some generally acceptable solution.

After the main coding effort was completed, the results of the coding efforts of the English and Russian language domain teams were checked by HCSS staff for accuracy and cross-language comparability. We randomly picked ten studies to determine the quality of the coding. We also picked a few variables (both drivers and parameters) in Nvivo to see whether the studies that had coded these variables had been coded in a uniform way. The results of this validation effort were deemed satisfactory for the English and Russian language domains – in the sense that HCSS staff felt comfortable that the coding results adequately reflected the key parameters and drivers covered in the studies. In the absence of another in-house native Chinese speaker, the coding results of the Chinese language domain were checked on the basis of translated fragments of coded text which

10 K. Krippendorff, 'Reliability in Content Analysis,' *Human Communication Research* 30, no. 3 (2004): 411-433; M. Lombard, 'A Call for Standardization in Content Analysis Reliability,' *Human Communication Research* 30, no. 3 (2004): 434-437; M. Lombard, C. Bracken, and J. Snyder-Duch, 'Content Analysis in Mass Communication: Assessment and Reporting of Intercoder Reliability,' *Human communication research* 28, no. 4 (2002): 587-604.

also satisfied HCSS staff that they were adequately coded. For the Arabic language domain, please refer to chapter 6.

Generally speaking, the HCSS team tried to be as careful and sensitive as project resources allowed various inter coder reliability and cross-language comparability issues that bedevil much discourse analysis and discourse comparison.<sup>11</sup> Researchers writing in Chinese, Russian or English may use different terms to indicate similar concepts and vice versa. Relying on bilingual native speakers, and constantly raising and discussing such issues within the team, we have sought to overcome this constraint by using terms specific to a particular language that have a similar counterpart in other language domains. Overall, when it comes to conflict, we believe that various language discourses on the future of conflict are in fact commensurable and cross comparable. More importantly, we intend to make the dataset publicly available and warmly encourage other teams to double-check the choices that were made.

As a final point we also want to emphasize that this study, contrary to much discourse analysis, never intended to claim any statistical and/or probabilistic precision. We do present the actual figures our coding efforts obtained, but essentially to sketch the overall bandwidths in the views of various experts on some of the most important aspects of future conflict. In that sense, the precise distribution of the figures we arrived at in our study is much less important than the bandwidth they sketch. This is also why we did not calculate any of the frequently used measures or indices of intercoder reliability that are recommended in the literature.

The coding was then exported from Nvivo in a spreadsheet format to generate various visualizations of the findings using both Microsoft Excel and Tableau Software.

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11 See e.g. Allison Squires, 'Methodological Challenges in Cross-Language Qualitative Research: A Research Review,' *International Journal of Nursing Studies* 46, no. 2 (2009): 277-287.

## 2.5 Cogitate

Once all data were collected and verified, the HCSS team sat down with the tabular data that were generated and pondered and discussed these in a number of in-house sessions – two of which also included external experts from government and academia. In these sessions, we essentially explored 6 different categories of questions:

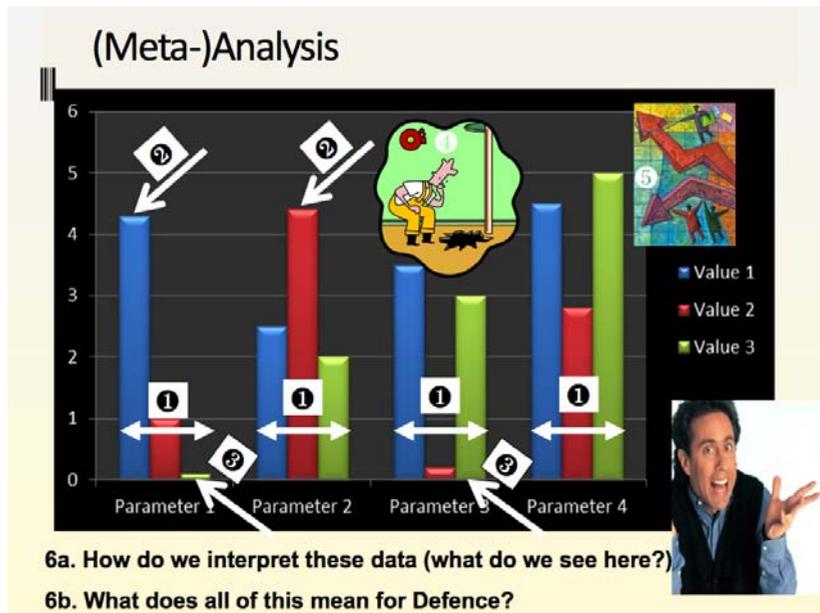


FIGURE 7. (META) ANALYSIS

- What is the bandwidth of views among experts on every single issue (general distribution of findings)?
- Are there any robust findings, where there seems to be more of a consensus among experts?
- Can we find any weak findings that may run against the (apparent) conventional wisdom, but still seem worthwhile: (interesting) outliers (plausible, internally coherent foresight views that for some reason (currently) seem to represent a minority view?

- Can we detect holes – are there any views missing based on, e.g., findings from other foresight work we have done?
- Trends – analyze the findings across times - are there any views that seem to be receding or ascending? This may also include other things such as patterns (are certain views more typical for certain types of sources (e.g. think tanks vs. government) or for certain regions.
- ‘So what - what does all of this mean? How do we interpret this? What do we know/ not know?') What does it mean for security and defense planning?

## **2.6 Committing to Paper and Communicating**

We then committed the fruits of all previous Cs (Conceptualization, Collection, Coding, Cogitation) to paper in order to communicate them to a wider audience. We would like to express thanks to our principal client the Ministry of Defence that it has allowed us to make our results open to the public.

# 3 Chinese Language Perspectives: Traditionalist and Modern

## 3.1 The State of the Field

We collected 78 articles on the future nature of conflict written by experts in the Chinese language. Although these documents came from a variety of sources, the most prominent sources included civilian research papers, military research papers, military newspaper articles, and interviews given by government officials. Of the 78 articles collected 57 satisfied the selection criteria for the study (see section 2.3) and were thus deemed suitable for coding and analysis.

The distinction between research and government seems at first glance to be fairly trite in the Chinese language domain (hereinafter referred to as Chinese literature) as most research centers are owned and operated by the state and would therefore reflect official discourse. The latter, however, is not always the case. It is true that experts tend largely not to disagree with government discourse on subjects related to grand strategy or specific and sensitive policies. Yet, on issues that are mostly of an academic nature and do not have sensitive policy implications, self-censorship – or at least, convergence between official and academic discourse – is much less observable. As for this study on Chinese perceptions and understanding of the future nature of conflict, there is little reason to doubt the sincerity of the viewpoints expressed by Chinese authors since 1) this topic is safely tucked away in the far future and 2) the debate is predominantly academic. It is therefore reasonable to assume that, like in the other language domains, the Chinese literature to a large degree reflects real thinking and should not necessarily be considered propaganda masking any genuine perceptions of the future of conflict. The sample does not include many official government reports (comparable to e.g. *The Future Character of Conflict* study by the United Kingdom Ministry of Defence) that discuss the future nature of conflict because these were not freely available in the public domain. Despite

the paucity of official documents, government views on the matter are likely to be shaped by civilian and military experts. Whether the views are reflective of those of the general population, there are no readily available sources for us to make the judgment.

The Chinese literature sample is spread widely over the 1990s and the 2000s, indicating a fairly constant interest in the topic. This is not surprising because Chinese society has undergone rapid change over the past two decades and the Chinese government consistently channels significant funds to foresight studies in order to better anticipate the future.<sup>12</sup>

### 3.2 Parameters

There appears to be a wide variety of opinions about the future nature of conflict within the Chinese language literature. Of the eleven parameters surveyed, nine lack a clear dominant value. This suggests that when experts in the Chinese foresight community look at the future, they see a varied and uncertain future for most of the aspects of conflict. At first there does not seem to be much original and innovative thinking on the Chinese side with respect to future conflicts except for some special cases. It is well observable that Chinese views have been significantly influenced by and directly or indirectly derived from Western thinking. For all the Chinese foresights, 41 percent of the references come from the Western literature. This is indeed a very high ratio if we take into consideration the fact that a large proportion of Chinese scholars (senior scholars in particular) do not read Western languages. Furthermore, a good part of the 59 percent of Chinese references is Chinese overviews of Western works and thinking. Therefore, the overall ratio of Western references – direct references as well as indirect references – is remarkably high. In addition, in literature reviews of parts of the Chinese foresights, Western literature is absolutely dominant, another indication of the heavy Western influence on Chinese thinking about future conflicts. However, it must be stressed that Chinese experts, drawing on those sources, selectively adopted the various views on conflict and adapted and

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12 See also Mu Rongping and Ren Zhongbao, 'Technology Foresight towards 2020 in China: the Practice and its Impacts' (Institute of Policy and Management, Chinese Academy of Sciences, 2009), 14-17, [http://www.ires.ma/IMG/pdf\\_FS2009\\_TF20China160309.pdf](http://www.ires.ma/IMG/pdf_FS2009_TF20China160309.pdf).

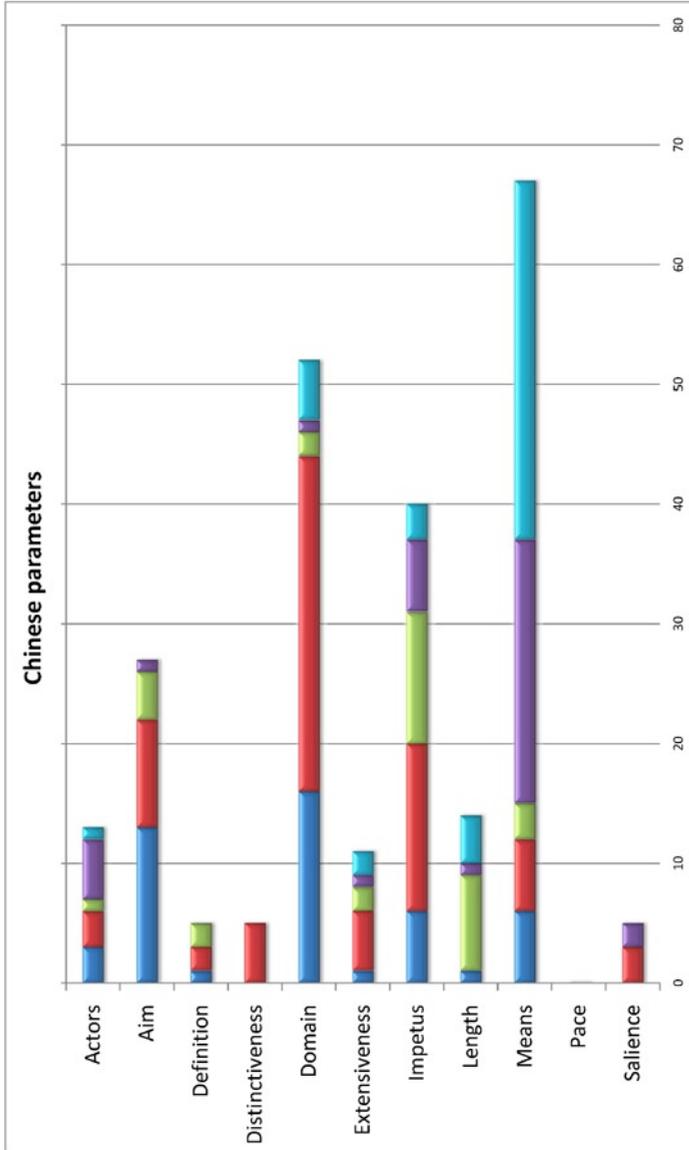


FIGURE 8. CHINESE LANGUAGE PARAMETERS

	1	2	3	4	5
<b>Actors</b>	Blocs of States	Pairs of States	State and non-state vs. non-state	State vs. non-state	Non-state vs. non-state
<b>Aim</b>	Physical degradation	Obtain/retain/occupy	Political/economic degradation	Stabilize	Survive
<b>Definition</b>	War	Militarized interstate disputes	Tensions between non-state actors	Political/economic tensions	Between individuals
<b>Distinctiveness</b>	Low	Leans low	Medium	Leans high	High
<b>Domain</b>	Traditional Dimensions	Modern military dimensions	Political	Economic	Human Terrain
<b>Extensiveness</b>	Global	Regional	Sub-regional	National	Domestic
<b>Impetus</b>	Data	Interest	Value	Relationship	Structural
<b>Length</b>	Years	Months	Days	Hours	Minutes
<b>Means</b>	Physical	Political	Economic	Electronic/Cyber	Information/ Psychological
<b>Pace</b>	Low	Leans low	Medium	Leans high	High
<b>Sallience</b>	1	2	3	4	5

developed them according to their own security, circumstances and material capability.

The research methods employed by most Chinese experts seem less scientific than those of their Western colleagues. For instance, the majority of Chinese foresights do not contain any reference/citation at all. For the entirety of 57 foresights, there are only 108 references/citations. An English study, in comparison can easily have tens if not hundreds of references/citations. In this regard, Chinese studies in our sample about future conflicts might comprise more speculative thinking than most Western studies. The gap between Western and Chinese perspectives about world politics – and the nature of future conflicts included – might become smaller over time, as Western scientific methods are introduced to and embraced by Chinese social scientists. In fact, there seems to be a general trend that as Chinese experts gradually familiarize themselves with Western thinking on issues such as international politics and grand military strategy, they become gradually affected by Western views on these subjects: peace and war, growth and development, hard power and military capability, security and stability, etc. As a result, Chinese views on these issues might be more in line with Western perceptions in the future.

Discussion about the future nature of conflict appears to center on three aspects of the debate: 1) primary means, 2) domains and 3) impetus. In addition, Chinese experts pay significant, albeit less, attention to the aims in future conflict. Pace was not covered at all. This omission, however, may be explained by the fact that Chinese experts incorporated this concept into other parameters.

### Actors

There is a fair amount of discussion about the types of actors that will participate in future conflict and a wide variety of opinions in the Chinese literature on whether state actors, non-state actors or an amalgam of actors will be prevalent in the future of conflict. Within this bandwidth of opinion, it seems that the foresight community is torn between more traditional conceptions of conflict (i.e. between coalitions of states or individual states) and more modern notions (state vs. non-state conflict). It is interesting to note that one military foresight focused only on dyadic

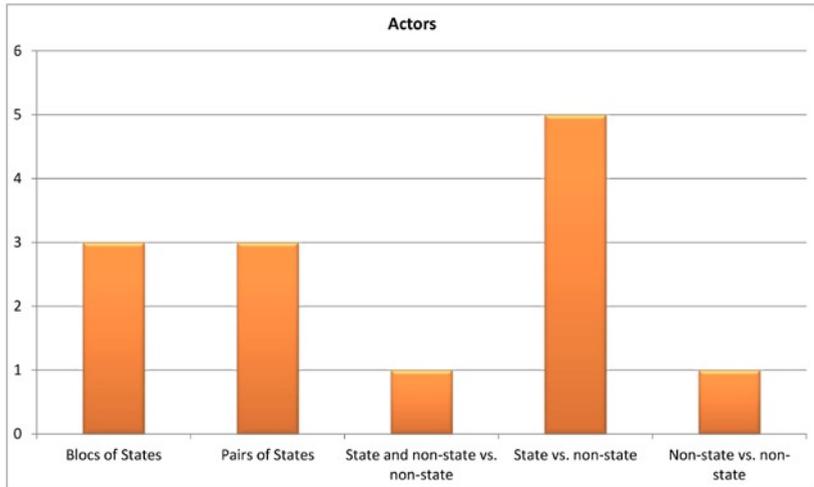


FIGURE 9. CHINESE LANGUAGE PARAMETERS: ACTORS

warfare. The more recent foresight studies have started including non-states as well.

China has a long-held non-alignment policy which precludes China from forging military alliances with other countries, in line with China's tradition to emphasize self-reliance for national security. As a result, Chinese experts do not talk much about coalitional warfare. Although the importance of non-traditional security issues (e.g. terrorism) is increasing in the Chinese language domain, traditional security between national states is still the major concern in the Chinese strategic discourse. Zhang and Whang point out, for example, '*In the world of Twenty-First Century, new conflicts of interest will emerge and relationships between states will be constantly changing. The balance of power between states will determine what international relationships will look like in the new century*'.<sup>13</sup>

13 Jianzhi Zhang and Lianshan Wang, '21 Shiji: Shi zhànzhēng, háishi hépíng' [21st Century: War or Peace?], *Zhōngguó guóqíng guólì* [China's National Conditions and Strength] (2000).

The Chinese language literature seems to downplay the significance of state and non-state vs. any actor and non-state vs. non-state conflict.

The role of non-state actors is considered to be growing which is supported by the fact that a number of Chinese experts refer to conflicts between state and non-state actors as a major form of conflict in the future. Generally speaking, Chinese do not see much space for cooperation between state and non-state actors. One exception is cyber war, in which so called ‘patriotic hackers’ feel the urge to defend their country and fight their opponents by taking advantage of the power of modern technology.<sup>14</sup> Conflict between two groups of non-state actors did not receive much attention. Cyber conflict between patriotic hackers in two rival states is mentioned as an example of non-state vs. non-state conflict. Chinese authors do not necessarily see patriotic hackers as an asset in an international conflict because their behavior is hard to control with potentially negative implications. By and large, from a Chinese perspective, the problem of drug gangs and organized crime in general is seen as a social problem, which is not discussed in relation to conflict.

### Aim

The aim of future conflicts also received a considerable amount of attention within the Chinese language debate. Despite discussing the full spectrum of possible aims, the discourse primarily clustered around the two most traditional military aims: physical degradation and obtain/retain/occupy. For example, Wang, clearly states that *‘Among the two factors (lack of resources and lack of trust) that can lead to wars, lack of resources is more fundamental. Essentially, conflicts between countries are directly or indirectly aimed at obtaining strategic and scarce resources. Against such a background, it is very important to establish an analytical framework of geopolitics on the basis of resource distribution and analyze current and future international conflicts through the lens of obtaining resources’*.<sup>15</sup>

14 Tao Tao, ‘Wèilái zhànzhēng wǎngluò juéshèng fù’ [Internet’s Critical Role in Future Wars], *Kēxué zhī yǒu* [Friends of Science], no. 3 (2009).

15 Honggang Wang, ‘Guójiā chōngtú jiāng wéirào zīyuán zhānkāi’ [Future International Conflicts Will Be over Resources], *Juécè yùxìn huàn* [Risk Decision-Making and Information] 231, no. 4 (2004).

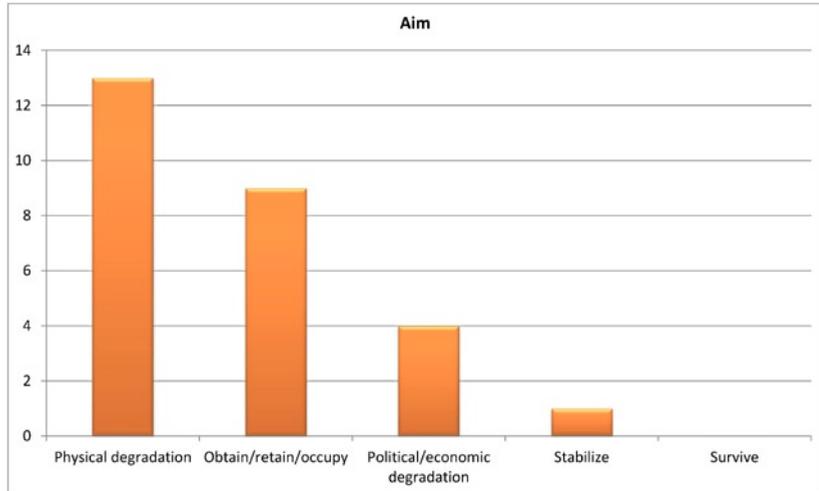


FIGURE 10. CHINESE LANGUAGE PARAMETERS: AIM

Qian and Zhou go one step further and point out that *‘over the next ten to twenty years, across the various sources of energy, petroleum will have the most significant impact on international security’*.<sup>16</sup> The Chinese language discourse appears to downplay stabilization and survival as aims in future conflicts.

Interestingly, the Chinese studies do not regard political/economic degradation as a salient aim in future conflict. This may point towards a relatively realist view of the future of conflict. Chinese experts do not consider political/economic degradation is an end in and of itself. Instead, they believe that states will continue to seek physical degradation and physical occupation as their main objective in future conflicts.

The reason that Chinese experts rarely mention survival seems to be that generally they assume that major wars between great powers are

16 Ling Qian and Man Zhou, ‘Wèilái zhànzhēng bàofā de fēi jūnshì yīnsù’ [Non-Military Factors in the Outbreak of Future Wars], *Mín fāng yuàn* [Court of Civil Defence], no. 6 (2008).

not very likely to happen in the foreseeable future. In this perspective, China's number one national security interest (i.e. survival) is unlikely to be seriously threatened in the future from the outside.<sup>17</sup> The reason that stabilization is also rarely mentioned may be that these experts do not see conflict and its (coercive) tools as a means of stabilization.

War and conflict, in their perspective, are themselves destabilizing.

## Definition

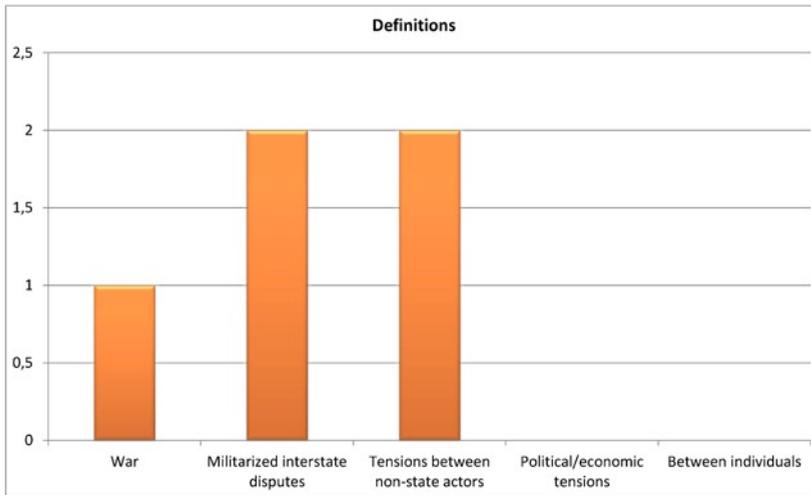


FIGURE 11. CHINESE LANGUAGE PARAMETERS: DEFINITION

Chinese experts award little consideration to the definition of conflict. Additionally, the discussion appears to cluster around the more traditional conceptions of conflict: war and militarized inter-state disputes, and tensions between non-state actors.

17 Yu Xintian, 'Zhànzhēng yǔ héping de xīn tǎdiǎn cóng wèilái zhànzhēng dà qūshì kàn zhòng guó héping juéqǐ duìwài zhànlüè' [Features of War and Peace in the Future and China's Peaceful Rise Strategy], *Guójiè zhānwàng* [International Outlook], no. 10 (2004).

War is generally defined as a comprehensive military confrontation between states; militarized inter-state disputes, in comparison, are mostly conflicts of low- to medium- level in terms of intensity, scale, and scope. Military intervention, for example, is defined as militarized inter-state dispute.<sup>18</sup> In the Chinese literature, tensions between non-state actors are mainly referred to as inter-ethnic disputes and conflicts. For instance, Zhao mentions that: *‘Since the end of the Cold War, the negative impact of nationalism has been and continues to grow, which leads to waves of ethnic separatism, inter-ethnic violence, neo-Fascism, white supremacy, and other types of ethnic conflicts. All of these contribute to regional conflicts and terrorism and pose an increasing threat to international security’*.<sup>19</sup>

The Chinese language foresight community does not look at future conflicts between individuals or as political/economic tensions. The word conflict in Chinese refers to disputes and confrontations that are relatively serious. Political and diplomatic disputes are usually referred to as tensions rather than conflict. Economic disputes, similarly, are regarded as bargaining behavior which is common in a market economy and does not generally qualify as real conflicts. Phrases such as ‘trade war’ or ‘currency war’ do appear in media reports, but they are usually used as figurative rhetoric and are not defined as conflicts in serious analysis. Chinese perspectives about conflict play down the significance of disputes between individuals, which seems to be a tradition. As has been said, dispute or violence between individuals tends to be regarded as crimes, not conflict.

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18 Ibid.

19 Yi Zhao, ‘Quánqiú huà: 21 Shìjì guójì chōngtú de zhūdǎo yīnsù’ [Globalization: The Main Factor in World Conflicts in the 21st Century], *Shānxī gāoděng xuéxiào shèhuì kēxué xuébào* [Social Sciences Journal of Colleges of Shanxi] 17, no. 2 (2005).

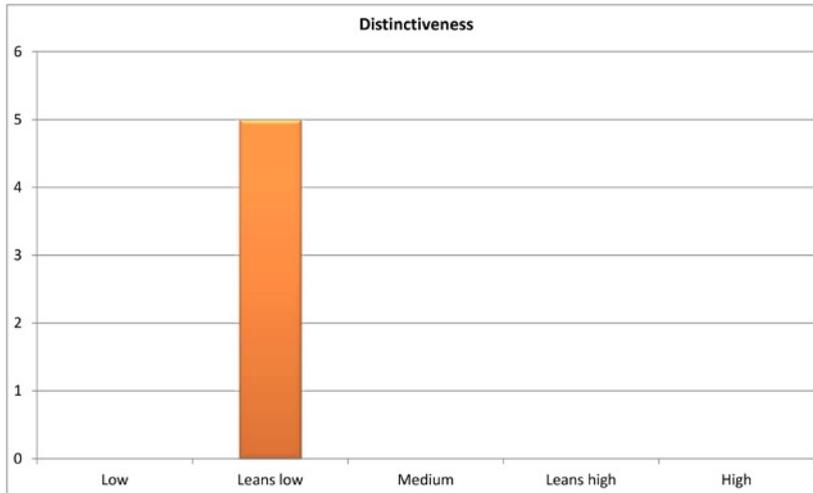


FIGURE 12. CHINESE LANGUAGE PARAMETERS: DISTINCTIVENESS

### Distinctiveness

The Chinese language experts did not really discuss distinctiveness. The few times that they did touch upon this parameter, they considered the beginning and the end of future conflicts to be far from distinct. When talking about distinctiveness, most Chinese authors consider not only the beginning and the end of future conflicts to be blurry. Lin, for example, asserts that: *'The lines between the military and the civilian, between the battlefield and the society, and between war time and peace time will all become less clearly cut'*.<sup>20</sup> Meng agrees in that *'the line between peace time and war time will become more blurry'*.<sup>21</sup>

20 Bin Lin, 'Guānyú wèilái zhànzhēng zhōng 'rén de yīnsù' de sīkǎo' [Thoughts on the Human Factor in Future Warfare], *Xiàndài jūnshì* [Modern Military], no. 2 (1998).

21 Xiangqing Meng, 'Gāo jìshù tiáojiàn xià zhànzhēng yǔ héping de xīn tèdiǎn' [Features of Future War and Peace in a High-Tech Environment], *Xiàndài guójì guānxì* [Contemporary International Relations], no. 3 (1999).

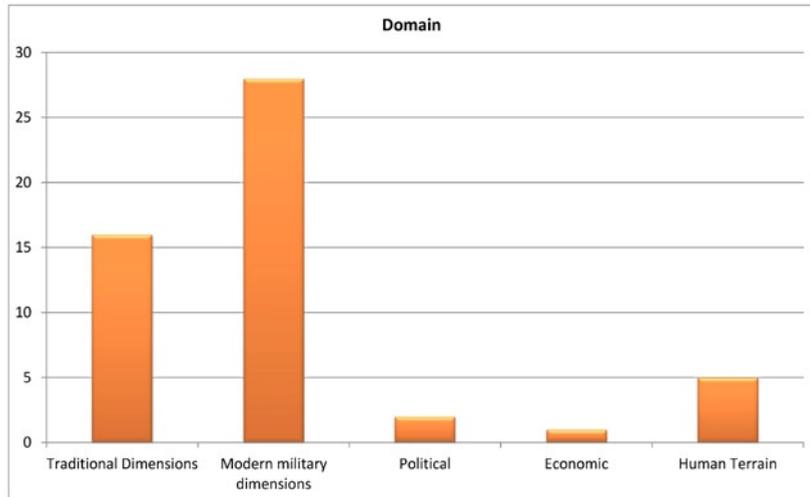


FIGURE 13. CHINESE LANGUAGE PARAMETERS: DOMAIN

### Domain

Traditional (land, sea, air) and modern (cyber and space) military dimensions feature high in the Chinese discourse whereas political/economic and the human terrain are barely mentioned. Among modern military dimensions space and cyberspace are mostly emphasized. Huang and Sun observe that *'the emergence of cyberspace has dramatically increased the possible means of warfare; cyber warfare will inevitably play an increasingly important role in future conflicts'*.<sup>22</sup>

With regard to space, Xin asserts that *'Currently there are already as many as 21 countries exploiting outer space for the purpose of national security. They are developing their military space systems and seeking advantageous positions in space development, in order to have the upper hand in future conflicts in the space... In the long term future, space will become the 'high ground' in future wars. Space adds the fourth*

22 Lingjun Huang and Yujing Sun, 'Quánshì wèilái zhànzhēng liù dà xīn zhànchǎng' [Six New Battlefields in Future Wars], *Guófáng kējì* [Defense] (2003).

*dimension to existing battlefields and will determine the future direction of conflicts*'.<sup>23</sup>

In general, Chinese authors recognize the importance of traditional military domains, but emphasize the increasing significance of incorporating modern military domains. Writes Guan: *'In the information era, the concept of battle field has been extended beyond traditional understandings. It refers not only to land and sea, but also includes the atmosphere and outer space as well as invisible domains such as electromagnetic field, information and cognitive psychology*'.<sup>24</sup>

For reasons mentioned previously, political and economic tensions or disputes are not usually defined as conflicts in Chinese literature. Some Chinese authors mention that economic means (such as economic sanction or trade embargo) can be used to facilitate military action, but they play a complementary role and do not by and of themselves constitute a domain of conflict.

### Extensiveness

The foresight literature only provides minor mention of how extensive future conflicts will be. In this discussion a wide variety of opinions do emerge. Various opinions within the Chinese foresight literature regard the potential extensiveness as ranging from global war to a conflict confined within a sub-state level region (e.g. urban conflict). Regional conflicts stand out as being mentioned most often, yet it does not constitute a robust finding, as overall it is only discussed five times in total.

As explained above, Chinese experts generally believe all-out wars between major powers or global wars that extend to most parts of the world to be unlikely. Instead, they think most conflicts will occur at the

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23 Xin Qiáng, 'Tàikōng quán lùn' [The Future of Space Power], *Guójì guānchá* [International Observer], no. 4 (2000).

24 Hui Guan, 'Shùzìhuà yǐndǎo zhànzhēng wèilái' [To Guide The Future of Digital War. 2], *Zhōngguó qīngnián kējì* [China Youth Science and Technology] (2006).

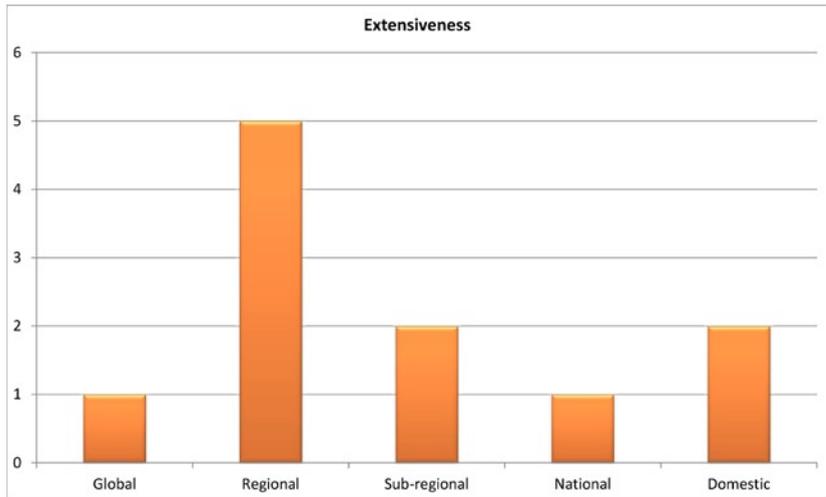


FIGURE 14. CHINESE LANGUAGE PARAMETERS: EXTENSIVENESS

regional or sub-regional levels.<sup>25</sup> Meng, for instance, mentions that *'In the future, comprehensive nuclear war is very unlikely; the likelihood for large-scale conventional wars is about 50%, and the chance for small-scale conventional wars and nontraditional forms of conflicts to occur will be 100%'*.<sup>26</sup>

When Chinese scholars talk about sub-regional conflicts they generally mean conflicts that occur within a small region that encompasses a small number of neighboring countries. In other words, it is unclear whether there is a clear distinction between regional and sub regional conflicts. Accordingly, regional conflicts and sub regional conflicts are always mentioned together in Chinese literature and regarded as a same or similar type of conflicts. There is no Chinese word or phrase that matches

25 Yutian Chen, 'Shiying dǎ yíng wèilái zhànzhēng xūyào jiāqiáng rénmin zhànzhēng xīnxī huà zhànchǎng jiànshè' [Adapt to Informationization of Battle Field and Win Future Wars], *Běijīng lǐgōng dàxué xuébào* [Beijing University of Technology] 5, no. 5 (2003).

26 Meng, 'Gāo jìshù tiáojiàn xià zhànzhēng yǔ héping de xīn tiědiǎn' [Features of Future War and Peace in a High-Tech Environment].

perfectly with ‘national conflicts’, so conflicts between states are coded under this header. Chinese experts usually see inter-state conflicts as occurring within a regional context, so they sometimes use regional conflicts to include inter-state conflicts without specifically mentioning inter-state conflicts. This might explain why national conflicts did not get frequently coded in the literature. Domestic conflicts are usually mentioned very briefly, referring mainly to inter-ethnic conflicts and conflicts between groups of people against the state such as terrorism.<sup>27</sup>

### Impetus

The various impetuses (i.e. motivations) for conflict are difficult to distinguish between, as they often involve an amalgam of reasons ranging from considerations of security, profit and value systems which may overlap to a significant degree. The impetus of future conflict garnered significant attention in the Chinese foresight community. Although there is no dominant value for this parameter, it does appear that the foresight community tends to focus on relationship and value-driven conflicts.

Relationship conflicts are coded as conflicts that are determined and influenced by relationships between governments. A number of factors including historical memory, cultural closeness, geographical relation, and alliance formation can affect inter-governmental relations which will in turn affect conflicts. Liu, for instance, talks about how a variety of factors in Sino-US relations will influence future conflicts between the two countries.<sup>28</sup> One example of a value conflict is provided by Wang who asserts that the ‘*Sino-US Conflict 2.0 is a new type of conflict that combines the power of information technology and conflict of American vs. Chinese values*’.<sup>29</sup>

Data driven conflicts are coded as conflicts that seek to control flow of data or to manipulate information. Some authors recognize the

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27 Ibid.

28 Endong Liu, ‘Zhōngguó hépíng juéqǐ shìfǒu huì dǎozhì zhōng měi chōngtú?’ [Will China’s Peaceful Rise Lead to Sino-US Conflict?], *Wūlǔmùqǐ zhìyè dàxué xuébào* [Urumqi Vocational University] 15, no. 2 (2006).

29 Wen Wang, ‘Zhōng měi chōngtú 2.0: Wǒmen zhǔnbèi hào le ma?’ [Sino-US Conflict 2.0: Are We Ready?], *Dǎng zhèng lùntán* [Party Forum], no. 3 (2010).

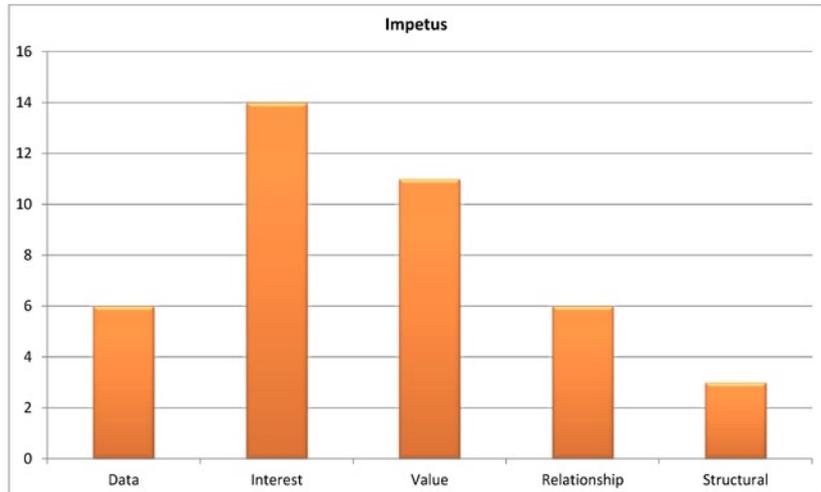


FIGURE 15. CHINESE LANGUAGE PARAMETERS: IMPETUS

importance of obtaining useful data and successfully managing the access to data or information to the enemy or the media in determining the outcome of conflicts.<sup>30</sup>

### Means

Discussion within the Chinese foresight community frequently touched on the type of means that will likely be employed in future conflicts. Views on the matter ranged from traditional to psychological. Huang for instance asserts that *'The trend of military technology revolution indicates that modern wars will not only involve (traditional) military means but will also require the exploration of new political, legal, and media propaganda means to accomplish goals'*.<sup>31</sup>

30 Haijun Geng, 'Xinxi zhàn zhūdǎo wéilái zhànzhēng' [Information Warfare Determines Wars in the Future], *Guófāng kējì* [Defense], no. 3 (2002).

31 Ming Huang, 'Wéilái zhànzhēng: 'Dòu lì' yǔ 'dòufā' bīngzhòng' [Future Wars: 'Fighting Force' and 'Battle of Wits'], *Dǎng zhèng gàn bù wénzhāi* [Party and Government Cadres Digest], no. 2 (2005).

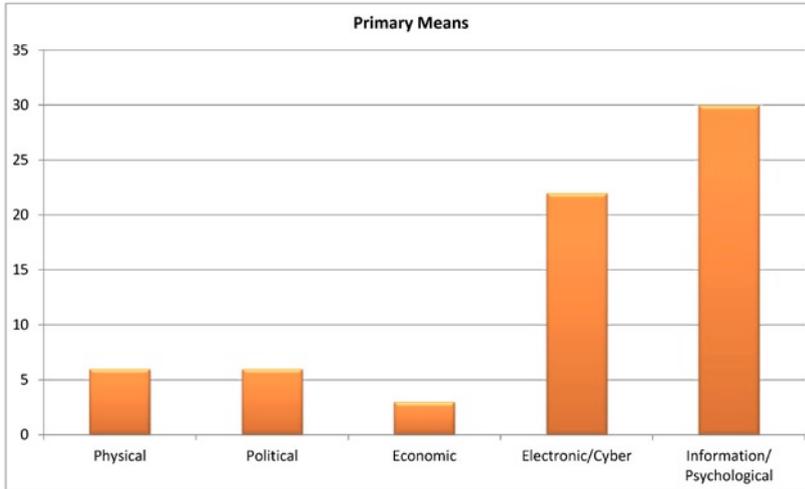


FIGURE 16. CHINESE LANGUAGE PARAMETERS: PRIMARY MEANS

Information/psychological means are frequently mentioned in Chinese literature. According to Liu *'In future conflicts, it is possible to conduct social psychological operations by making use of advanced technology and mass media, which means to create and spread various misinformation through news media and computer communication networks in order to generate confusion and chaos in the enemy country, affect public mentality, and disrupt their intelligence, decision-making, and policy implementation'*.<sup>32</sup>

In addition, electronic instruments are also perceived to be important tools in future conflict, for instance by Song and Dong, who consider it a *'main medium of information transfer against the background of advanced information technology in the future [as a result of which]*

32 Jingquan Liu, 'Guānyú xīnxi jìshù yǔ wèilái zhànzhēng ruògān wèntí de sīkǎo' [Some Thoughts on Information Technology and Future War], *Hāěrbīn gōngyè dàxué xuébào* [Of Harbin Institute of Technology] 3, no. 1 (2001).

*the electronic spectrum will become the main battlefield in competitions for information supremacy*'.<sup>33</sup>

Surprisingly, physical means were mentioned very little in comparison to both electronic/information as well as information/psychological. This likely stems from the fact that a sizable fraction of Chinese experts believe that cyber attacks and information operations will dominate the beginning and early stages of future conflicts, and they will be decisive in determining the ultimate outcome of the conflicts. Cyber attacks and information/psychological operations, in their views, will be used in the early phase of a major operation in order to achieve initial or asymmetric advantages. The outcome will be clear and manifest even before the launch of any significant physical attacks. Physical means, as a result, are awarded less attention very often in the literature in comparison to softer means (cyber and information operations) which are deemed to be more decisive in future conflicts. For instance, Geng claims that *'In the information era, the traditional model to win wars through massive manpower and firepower will be outdated; the 'soft killing' model that destroys the enemy's information systems and paralyzes their command and control will become dominant. As a result, physical confrontation on battlefields will be replaced by intelligent confrontation in the information arena; the traditional 'physical' power will be replaced by 'information' power*'.<sup>34</sup>

### Length

The time span of future conflicts received only minor discussion within the foresight community. Those that discussed this aspect of conflict, however, did have a wide range of opinions. Namely, the foresight community considered that conflicts could range from years to mere minutes. Overall, though, the majority of foresights viewed future conflicts as not lasting more than a matter of days -in fact, there was only one dissenting opinion to this notion.

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33 Kuoyi Song and He Dong, 'Wèilái zhànzhēng: Xīnxī ānquán chéngwéi zhòngtóuxì' [Future War: Information Security Will Become Critical], *Guófáng kējì* [Defense], 2001.

34 Jianzhong Geng, 'Wèilái zhànzhēng xīn qūshì zhǎnwàng' [New Trends in Future Warfare], *Guófáng kējì* [Defense] (2003).

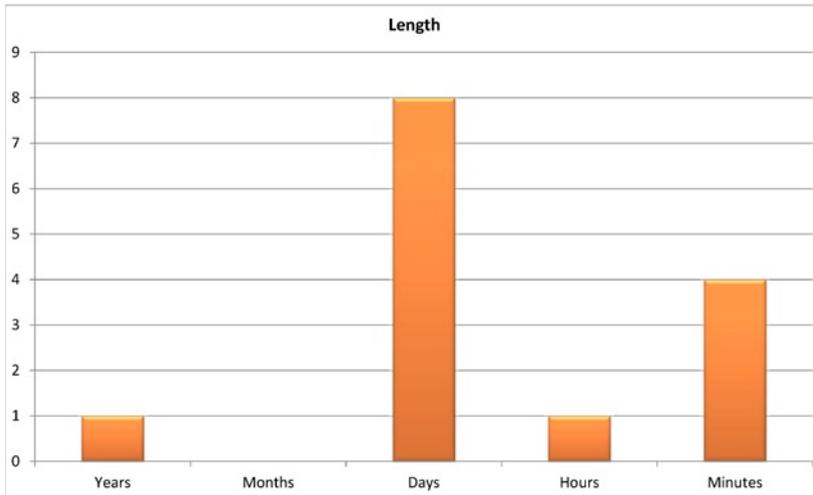


FIGURE 17. CHINESE LANGUAGE PARAMETERS: LENGTH

The insight here appears to be that advanced information and transportation technology and the new operational model of network centric warfare will make the outcomes of future conflicts determined in a very short period of time. Lin describes how *‘in future wars, with the emergence of long-distance precision guided weaponry and the improvement of the mobility of modern military, outcome of wars will be determined in a matter of minutes’*,<sup>35</sup> while Geng contends that *‘information weaponry can decide the outcome of future wars in days or even minutes’*.<sup>36</sup>

The dissenting opinion is that countries will refrain from launching high intensity wars in the future due to the collateral damage associated with such warfare. Rather, countries will opt for low intensity conflict, which will take more time to resolve. In this latter view, conflict will be more ubiquitous and more persistent.

35 Bin Lin, ‘Wèilái de zhànzhēng’ [Future Warfare], *Xiàndài jūnshì* [Modern Military], no. 3 (1998).

36 Geng, ‘Wèilái zhànzhēng xīn qūshì zhǎnwàng’ [New Trends in Future Warfare].

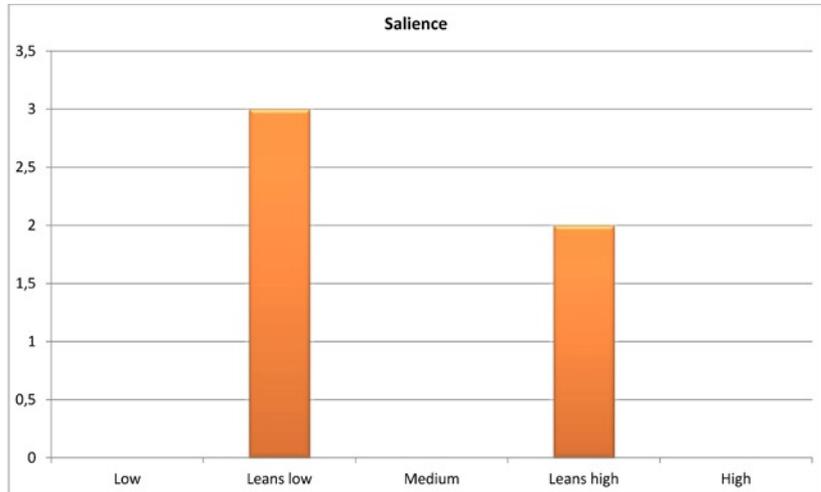


FIGURE 18. CHINESE LANGUAGE PARAMETERS: SALIENCE

### Salience

While the salience of conflict receives only minor attention in the Chinese foresight community, opinions are divided into those who believe that conflict will be fairly frequent and those who believe that conflict will be fairly infrequent. Digging deeper into the literature, however, the two views do not seem to be complete opposites. Meng points out that future conflicts *'will have the characteristics of high frequency, unexpectedness, and uncertainty'*,<sup>37</sup> and such conflicts are generally described as conflicts of low intensity and limited extensiveness. In the same article, the author also states that large-scale *'world-wide conflicts will not take place in the future, whereas limited regional conflicts will be unavoidable and will tend to be quite complicated'*.<sup>38</sup> This reflects a commonly held Chinese view about the salience of future conflicts: large-scale and high-intensity conflicts will be infrequent while small-scale regional conflicts can be expected to be much more common.

37 Meng, 'Gāo jìshù tiáojiàn xià zhànzhēng yǔ héping de xīn tēdiǎn' [Features of Future War and Peace in a High-Tech Environment].

38 Ibid., 12.

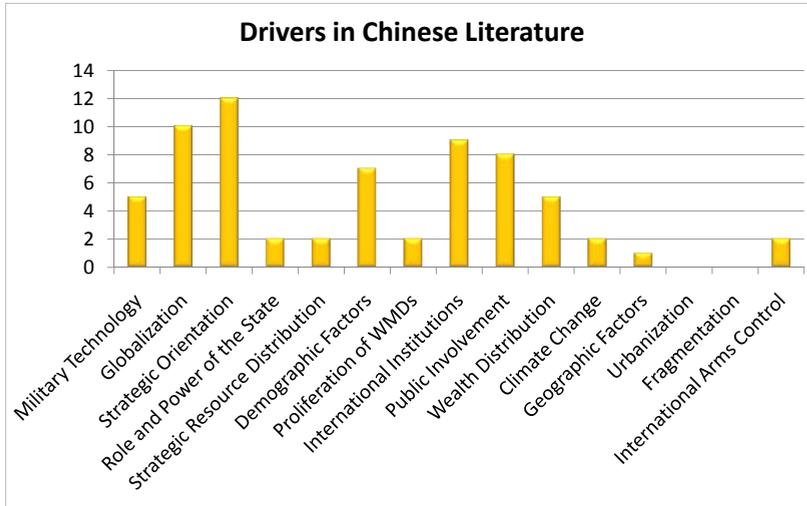


FIGURE 19. DRIVERS IN THE CHINESE LITERATURE

### 3.3 Drivers

The Chinese language domain argues that the key drivers of change in the future nature of conflict are: strategic orientation, globalization, international institutions, public involvement and demographic factors.

Strategic orientation is an important driver because Chinese authors tend to hold the view that grand strategy determines both the strategic, operational and tactical elements of future warfare doctrines and the direction of future development of a country's armed forces. For example, the strategy of deterrence is frequently mentioned by Chinese authors as a strategy that emphasizes the defensive nature of security policy and will contribute to peace in the future.<sup>39</sup> The strategy of pursuing absolute security through means of preemption, on the other hand, can negatively affect international stability. As a result, Meng believes that '*countries will become more cautious in considering going to war as a means of*

39 Ya Wang et al., 'Xūnǐ xiànshí jìshù zài jūnshì lǐngyù de yīngyòng jí duì wèilái zhànzhēng de yǐngxiǎng' [Reality Simulation Technology in the Military Fields and the Impact on Future War], *Guófáng jìshù jīchǔ* [Defense Technology Base], no. 5 (2006).

*resolving inter-state conflicts; whereas 'active defense', 'cooperative security', 'deterrence', and 'preventive diplomacy' will become more popular as strategic options for decision-makers'.<sup>40</sup>*

Globalization is seen to affect future conflicts in two ways. On the one hand, globalization increases economic interdependence between states and diminishes the incentive and reduces the likelihood for states to go to war with each other. Writes Yang: *'With the strengthening of economic globalization the global economy is binding various countries together. War will be viewed more of an obstacle rather than instrument for economic prosperity'.<sup>41</sup>*

On the other hand, however, globalization increases the chances of conflicts of values and ideas which will drive certain types of conflicts in the future such as religious and inter-ethnic conflicts. Zhao, for instance, points out that *'As long as there is still a difference between different ethnic groups in terms of values, cultures, and ethic standpoints, it will be natural that different nations will try to protect and maintain their own value systems. This has been the key driver of ethnic conflicts since the end of the Cold War. It looks as if ethnic conflicts have various reasons in terms such as religion and territorial claim, but if we look at the root causes, they all point to the impact of globalization. Therefore, the more globalized the world becomes, the more intense ethnic conflicts will be in the future'.<sup>42</sup>*

When talking about future U.S.-China conflicts, Wang stresses that *'U.S.-China Conflict 2.0 is ultimately promoted by advanced cyber technology and U.S. promotion of Western values'.<sup>43</sup>*

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40 Meng, 'Gāo jìshù tiáojiàn xià zhànzhēng yǔ héping de xīn tēdiǎn' [Features of Future War and Peace in a High-Tech Environment], 10.

41 Tongjin Yang, 'Zhànzhēng, héping yǔ dàodé——jiān lùn héping zhūyì de kěnéng xìng' [War, Peace and Morality: Possibility of the Realization of Pacifism], *Zhōngguó rénmin dàxué xuébào* [Renmin University of China], no. 3 (2004): 98.

42 Zhao, 'Quánqiú huà: 21 Shìjì guójì chōngtú de zhūdǎo yīnsù' [Globalization: The Main Factor in World Conflicts in the 21st Century], 17-18.

43 Wang, 'Zhōng měi chōngtú 2.0: Wǒmen zhūnbèi hǎo le ma?' [Sino-US Conflict 2.0: Are We Ready?].

In addition, globalization also empowers certain non-state actors and enables them possibly to initiate or contribute to future conflicts,<sup>44</sup> exemplified by Qin's claim that '*globalization is enhancing the efficiency of terrorist organizations who are taking advantage of international criminal networks to seek opportunities of cooperation*'.<sup>45</sup> Zhang and Whang write with respect to the effect of globalization that '*Economic globalization determines that international relations in 21<sup>st</sup> century will be interdependent and conflicting at the same time*'.<sup>46</sup>

Chinese experts also recognize the significance of international institutions for the occurrence and features of future conflicts. Well-established institutions will play an important positive role in bringing about peace and preventing conflicts. For example, Wu observes that '*the key for a peaceful relationship in the future is to establish new institutions and rules of action*'.<sup>47</sup> Yang asserts that '*the United Nations plays an important role in bringing about world peace. Besides the UN, other international organizations and institutions will also play an important role in helping to maintain peace; [...] International institutions will promote an internalization of international norms in national states, therefore being effective in maintaining peace*'.<sup>48</sup> International institutions are also believed to have an important role to play in containing the development of certain weapon systems and in preventing arms races in certain areas.<sup>49</sup>

The role of the public in governmental strategic decision making is growing. Geng holds that '*countries will need to obtain world-wide*

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44 Meng, 'Gāo jìshù tiáojiàn xià zhànzhēng yǔ héping de xīn tēdiǎn' [Features of Future War and Peace in a High-Tech Environment], 11.

45 Linzheng Qin, 'Cóng zhànzhēng wénhuà zǒuxiàng héping wénhuà' [From a Culture of War to a Culture of Peace], *Guówài shèhuì kēxué* [Social Sciences Abroad], no. 1 (2000): 21.

46 Zhang and Wang, '21 Shìjì: Shì zhànzhēng, hái shì héping?' [21st Century: War or Peace?], 7-8.

47 Xinbo Wu, 'Zhōng měi mócā bù huì yǐngxiǎng zhōng měi guānxì de dàjù' [Sino-US Friction Will Not Affect Overall Sino-US Relations], *Shìjiè zhīshì* [World Knowledge], no. 4 (2010): 4.

48 Zexi Yang, 'Shìjiè lìshǐ zhēngtǐ fāzhǎn de qīshì——shìjiè lìshǐ fāzhǎn qūshì yǔ 21 shìjì zhànzhēng yǔ héping yùcè' [The Overall Development of World History - Trends and Forecast for the 21st Century about War and Peace], *Xuéshù lùntán* [Academic Forum], no. 1 (2010): 76.

49 Shao Qian, 'Wèilái zhànzhēng zhōng de duì dì tàikōng wǔqì' [Space to Surface Weapons in Future Wars], *Futoshi sora tansaku* [Space Exploration], no. 11 (2003): 37.

*support of the public before launching any war in the future*'.<sup>50</sup> Yang states that the role of the public will be further enhanced by making use of the influence of the media.<sup>51</sup> Finally, Chinese experts identify the role of demographic factors in influencing the course of future conflicts. For instance, Lin points out that *'the role of the size of population will decrease in future conflicts, whereas the quality of population will be much more decisive in the future'*.<sup>52</sup> Interestingly, Chinese experts provide little discussion on geographic factors and no insight on how fragmentation or urbanization might change the future nature of conflict.

### 3.4 Main Take-Aways Chinese Language Domain

This sample of 57 foresights suggests the following conclusions may be drawn about the thinking regarding the future nature of conflict in the Chinese language domain. The Chinese language literature exudes a traditional conception of conflict that has been brought into the 21<sup>st</sup> century. The Chinese still perceived conflict as an affair of and between states that, driven by rather realist motivations and operating in various military dimensions, seek to degrade the opponent or obtain/retain some sort of physical resource. This traditional perception is infused with less traditional views on the primary means, distinctiveness, length, and salience of future conflict. Maybe an alternative way to reframe this point would be that Chinese experts tend to hold on firmly to traditional views about some fundamental and basic characters of wars and conflicts. At the same time, Chinese experts seem very adaptive to employing new concepts, means, and methods on the operational and tactical levels of fighting future wars and conflicts.

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50 Geng, 'Wèilái zhànzhēng xīn qūshì zhǎnwàng' [New Trends in Future Warfare], 74-76.

51 Yang, 'Shìjiè lìshǐ zhēngtí fāzhǎn de qūshì——shìjiè lìshǐ fāzhǎn qūshì yǔ 21 shìjǐ zhànzhēng yǔ héping yùcè' [The Overall Development of World History - Trends and Forecast for the 21st Century about War and Peace], 76.

52 Rongping and Zhongbao, 'Technology Foresight towards 2020 in China: the Practice and its Impacts,' 14-17.

Summing up, the main take-aways from the Chinese language domain are the following:

- States will play a key role in future conflict and are generally considered to continue to be the most important actors;
- Physical degradation, obtaining resources and occupying territories are expected to feature as most important aims;
- Typically, future conflicts are believed to unfold in traditional – and modern domains;
- Despite the salience of traditional and modern domains, future primary means that will be employed run the entire gamut, with special emphasis on instruments in the cyber/electronic/ psychological/ information realm;
- Globalization, international institutions, strategic orientation and public involvement are considered to play a major role in shaping the nature of future conflict.

## 4 English Language Perspectives: Vibrant and Ethnocentric

### 4.1 The State of the Field

The English-language dataset that the HCSS team collected for this project consists of 139 foresight studies that satisfied the selection criteria for the study (see section 2.3).

The English set of foresight studies represents a varied mix of serious scholarly work, official government perspectives as well as more broadly accessible writings as reflected in some of the more widely read popular press. The balance between government and research institute sources leans toward research institutes with a small majority of the studies authored by the research community. Our sample does not include many foresights from the commercial sector as we primarily relied on open source, publicly accessible foresight studies. It is highly likely that commercial organizations do write on this subject (i.e. defense companies attempting to discern the market for future military technologies), but they generally do not distribute their studies freely or openly. The team also included a subset of important books that have been published on the future of conflict over the past two decades. There is, not surprisingly, a strong Anglo-Saxon bias in the English language domain, even though a Dutch-Israeli scholar such as Martin van Creveld is part of our sample.

The overwhelming majority of the sources are American. The UK, Australia, and Israel comprise the largest non-American contingents. It is our assessment that our set of documents adequately reflects the relatively rich and vibrant debate in the defense and foresight community on the future of conflict. The richness of the English subset of studies is the result of variety of factors which may be briefly explained by a number of factors. First of all, it is the product of a liberal democratic environment which supports the free exchange of ideas in the public arena. The number of think tanks and research institutions – both publicly

and privately funded – that are allowed and encouraged to freely publish and disseminate their ideas is unprecedented in history.<sup>53</sup>

Secondly, it is the reflection of a long term historical record of the waging-of-war by Europe and its white settler communities off spring (i.e., United States, Canada, Australia and New Zealand). This continuous conflict involvement has nurtured a longstanding tradition of strategic thought, both across continental Europe as well as in the United Kingdom and the United States. To posit an uninterrupted lineage in strategic thought from Plato to NATO may be overstating the case. Yet, it would not be an exaggeration to find traces of sixteenth century aphorisms of Machiavelli in the work of contemporary British-American strategist Colin Gray.

Thirdly, the colossal amount of money spent by the United States on what it euphemistically calls ‘defense’ – over USD 500 billion in the Fiscal Year 2009 alone<sup>54</sup> – guarantees the existence of a large community of strategic thinkers. These thinkers may have been educated in military academies who seek to raise the level of strategic expertise amongst predominantly higher-level military personnel. But they may also teach or have graduated from civilian universities that offer degrees in the broader field of security studies. These strategists and security experts earn their daily livings by contemplating the ways in which these funds can be best put to use, in the process of which they produce a relentless stream of literature on the past, present and future nature of conflict.

At the same time, two caveats re the diversity of the discourse are in place. Most of the work on conflict is either funded by defense and security organizations or conducted by scholars and researchers that have some professional affiliation with the topic at hand. This produces two important selection biases worthy of notice. Firstly, to the extent that people have chosen to dedicate their professional lives to a particular topic, it goes without saying that they consider the topic

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53 James McGann, ‘Think Tanks and Policy Advice in The US’, 2005, [http://www.kas.de/wf/doc/kas\\_7042-544-1-30.pdf](http://www.kas.de/wf/doc/kas_7042-544-1-30.pdf).

54 ‘Fiscal Year 2009 Department Of Defense Budget Released’ (U.S. Department of Defense, 2008), <http://www.defense.gov/releases/release.aspx?releaseid=11663>.

of their fascination to be more important than others. As a result, they may potentially see conflicts lurking behind every tree, which may cloud their judgment. Secondly, the fact that experts have to stay close to the mainstream discourse in order to get their work published, may sometimes lead to the relentless repetition of the conventional wisdom with potentially useful outlier views or topics being left addressed by only a small minority, if at all.

#### 4.2 Parameters

In our analysis of the entire dataset of the English language domain, a very mixed picture emerges containing a vast array of views on the future nature of conflict. Especially striking is the bandwidth of views on the future with not a single future leaping out. It is commonly asserted that the conflict spectrum is evolving and becoming broader: *'An analysis of the content and character of armed confrontation in local wars and armed conflicts over the last decade leads us to the conclusion that the content of the particular military events of armed struggle in the future will be tied up closely with other, subordinate types of confrontation – economic, informational, psychological, climatic, scientific, technological, diplomatic, and ideological'*.<sup>55</sup>

It seems that following the recent abysmal record of security experts in predicting the future— with the end of the Cold War, the inter-state wars at the Balkan and the advent of hyper terrorism being largely unpredicted – the future is acknowledged to be shrouded in greater uncertainty than it was in the past.<sup>56</sup> Fewer experts claim to hold a monopoly on the truth. As Gray writes, *'The future is unpredictable, and our present security condition may well become a great deal worse than it is today'*.<sup>57</sup> Yet, even this is contested as many authors still believe in islands of certainty amidst the ocean of uncertainty. They

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55 V.N. Gorbunov and S.A. Bogdanov, 'Armed Confrontation in the 21st Century,' *Military Thought*, no. 1 (2009): 16-30.

56 Most recent defense doctrines and national security strategies contain at least some mention of, if not lingering at length about, the notion of uncertainty, see also sources mentioned in footnote 6.

57 Colin S. Gray, 'The 21st Century Security Environment and the Future of War,' *Parameters* (2008), <http://www.accessmylibrary.com/article-1G1-195580012/21st-century-security-environment.html>.

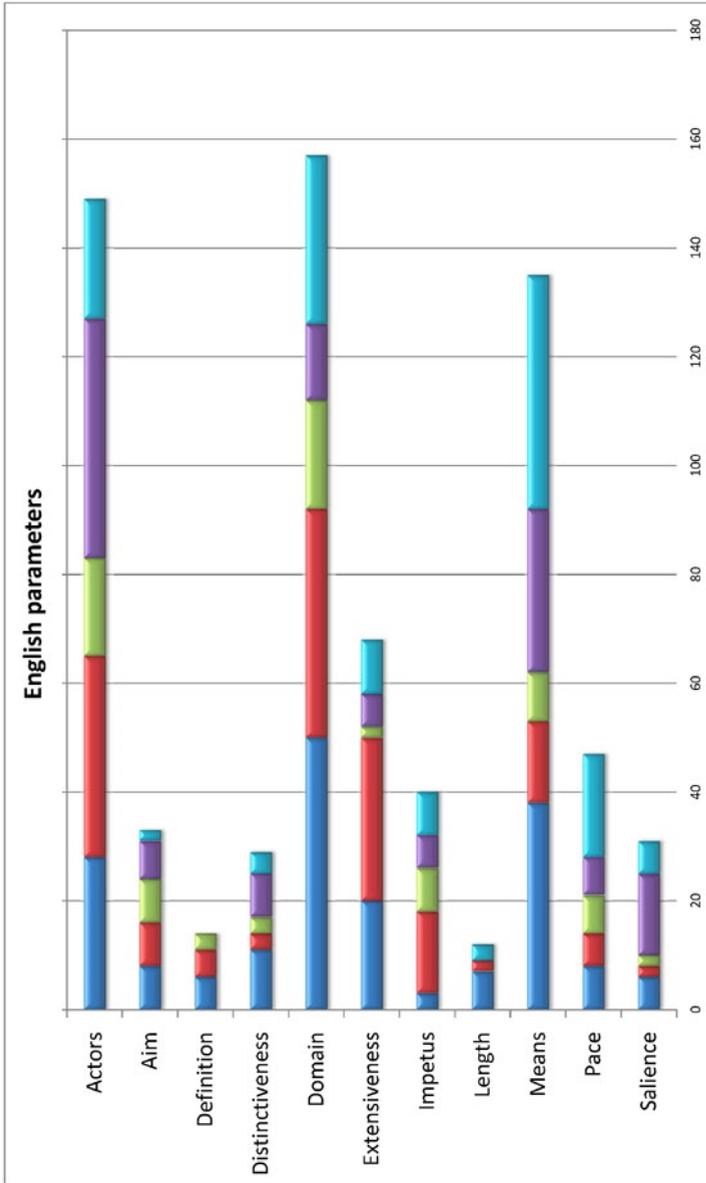


FIGURE 20. PARAMETERS OVERVIEW IN THE ENGLISH LITERATURE

Actors	1	2	3	4	5
Aim	1	2	3	4	5
Definition	1	2	3	4	5
Distinctiveness	1	2	3	4	5
Domain	1	2	3	4	5
Extensiveness	1	2	3	4	5
Impetus	1	2	3	4	5
Length	1	2	3	4	5
Means	1	2	3	4	5
Pace	1	2	3	4	5
Sallience	1	2	3	4	5
	Blocs of States	Pairs of States	State and non-state vs. non-state	State vs. non-state	Non-state vs. non-state
	Physical degradation	Obtain/retain/occupy	Political/economic degradation	Stabilize	Survive
	War	Militarized interstate disputes	Tensions between non-state actors	Political/economic tensions	Between individuals
	Low	Leans low	Medium	Leans high	High
	Traditional Dimensions	Modern military dimensions	Political	Economic	Human Terrain
	Global	Regional	Sub-regional	National	Domestic
	Data	Interest	Value	Relationship	Structural
	Years	Months	Days	Hours	Minutes
	Physical	Political	Economic	Electronic/Cyber	Information/ Psychological
	Low	Leans low	Medium	Leans high	High
	Low	Leans low	Medium	Leans high	High
	1	2	3	4	5

see variations at the lower levels, while the parameters of the overall system will remain untouched. As Scales writes: *'From a grand strategic perspective not much will change over the next fifteen years'*.<sup>58</sup>

Within the English language actors, domains and primary means receive plenty of attention across the board, while length and to a smaller extent definition, salience and distinctiveness are less often addressed. The time span of future conflicts only receives minor attention, i.e. less than 10% of the foresights.

## Actors

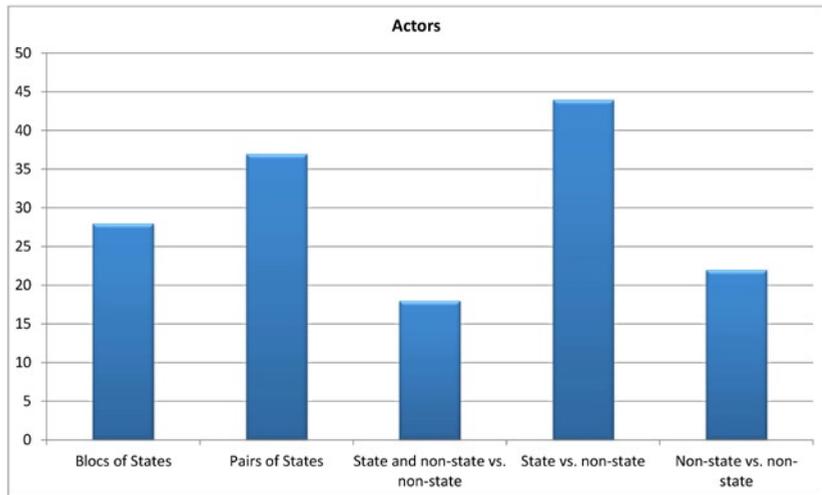


FIGURE 21. ENGLISH LANGUAGE PARAMETERS: ACTORS

When discussing actors in future conflict, views run the entire gamut from states- taking-on-states, to conflicts taking place exclusively between non-state actors, and every other combination in between. Surprisingly, state versus non-state actor conflicts are mentioned most often (especially since 2004) followed by traditional dyadic state conflicts.

58 Robert H. Scales, 'Fighting on the Edges: The Nature of War in 2020' (National Intelligence Council, 2004), [http://www.dni.gov/nic/PDF\\_GIF\\_2020\\_Support/2004\\_05\\_25\\_papers/edges.pdf](http://www.dni.gov/nic/PDF_GIF_2020_Support/2004_05_25_papers/edges.pdf).

In general, the military studies have recently shown strong interest in this particular parameter of ‘agency’ (‘who’ will engage in conflict). Unsurprisingly, states and coalitions of states continue to be seen as playing a major role in future conflict. Alliance-based conflicts do not feature prominently in the English foresight discourse as compared to dyadic conflicts or those involving non-state actors. This is especially striking in the US literature. Interest for coalitional warfare seems to be decreasing in general, but military studies do retain a strong interest in it. If coalitional conflict is addressed, it is expected to emerge from the polarization of the world system into two or more blocs caused by a swiftly changing power dynamics. As Malik notes with respect to the security environment in Asia: *‘A dramatic change in the balance of power could be the likely cause of conflict. Such a conflict most likely will be waged by a coalition of states’*.<sup>59</sup> However, the actor spectrum will undoubtedly be broadened with the entrance of non-state actors on the conflict stage. Future conflicts, according to Anon, will *‘involve state v non-state groups (a tribe, a crime cartel, an insurgent network, a terrorist group, a private military company, a corporation), and non-state groups v other non-state groups’*.<sup>60</sup>

Non-state actors have been no stranger to conflict in the past. One only has to think of the fourteenth century *condottieri* (literal translation: ‘contractors’) and their successors that either fought in the employ of princes or otherwise roamed the European countryside looking for booty up till the Treaty of Westphalia.<sup>61</sup> In modern times, the capabilities of non state actors have gained renewed vigor as a result of rapid technological developments. As contended by Riper and Scales: *‘Such groups are far from a historical novelty, but their potential access to sophisticated military technology is unprecedented. They will remain among the most difficult military problems confronting us’*.<sup>62</sup>

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59 J. Mohan Malik, ‘The Sources and Nature of Future Conflicts in the Asia-Pacific Region,’ *Comparative Strategy* 16, no. 1 (1997): 33-65.

60 ‘Imagining the 21st Century: Conflict’ (The Strategist, 2009), <http://kotare.typepad.com/thestrategist/2009/06/influences-conflict.html>.

61 Michael Eliot Howard, *War in European History* (Oxford University Press, 1976).

62 Paul Van Riper and Robert H. Scales, ‘Preparing for War in the 21st Century,’ *Parameters* (1997): 4-14.

These non-state actors will variably cooperate with or serve as subcontractors to states in so called proxy wars which will add to the complexity of the conflict universe.<sup>63</sup> Says Dannat: *'Adding to the complexity of these hybrid circumstances will be the challenge posed by hybrid adversaries: a combination of state, non-state and proxy forces.'* The amorphousness of these actors is particularly striking in the light of their different objectives, means and modi operandi. They, according to Metz, will *'consist of loose networks of a range of non-state organizations, some political or ideological in orientation, others seeking profit. They will work toward an overarching common purpose, but will not be centrally controlled or have a single center of gravity.'*<sup>64</sup>

Non-state versus non-state conflict is also frequently touched upon, both between sub-state groups – as is currently observed in many African states – as well as between religious groups and companies 'waging' conflict against one another. War amongst individuals is seen as likely as propagated by General Sir Rupert Smith. He envisions a blurring distinction between combatants and non-combatants, between soldiers and civilian, describing 'war amongst the people' as a salient aspect of future conflict: *'War amongst the people is different: it is the reality in which the people in the streets and houses and fields – all the people, anywhere – are the battlefield. Military engagements can take place anywhere: in the presence of civilians, against civilians, in defense of civilians. Civilians are the targets, objectives to be won, as much as an opposing force.'*<sup>65</sup>

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63 Dannatt, Richard. 2009. A Perspective on the Nature of Future Conflict. Government. The National Archives. May 15. <http://webarchive.nationalarchives.gov.uk/tna/+/http://www.mod.uk:80/DefenceInternet/AboutDefence/People/Speeches/ChiefStaff/20090515APerspectiveOnTheNatureOfFutureConflict.htm>; see also: 'However, proxy wars are undergoing a metamorphosis and will emerge in the form of nongovernmental outsourced wars. Some will have state sponsorship, while others will not.' Alexander, John B. 2004. The Evolution of Conflict Through 2020: Demands on Personnel, Machines, and Missions. U.S. National Intelligence Council. [http://www.dni.gov/nic/PDF\\_GIF\\_2020\\_Support/2004\\_05\\_25\\_papers/evol\\_conflict.pdf](http://www.dni.gov/nic/PDF_GIF_2020_Support/2004_05_25_papers/evol_conflict.pdf)

64 Steven Metz, *Armed Conflict in the 21st Century: The Information Revolution and Post-Modern Warfare* (The Strategic Studies Institute, 2000), <http://www.strategicstudiesinstitute.army.mil/pubs/download.cfm?q=226>.

65 Rupert Smith, *The Utility of Force: The Art of War in the Modern World* (New York, NY: Knopf, 2005).

It may be interesting to note that the more serious literature on the future of conflict remains very human-centric, and does not deal with conflict between man and machines (or even between machines) – a popular topic in the science-fiction literature. We do note that next-generation military (including unmanned) technologies are thought to play a huge role in conflict ten years down the road (see also future technologies in the section drivers).

### Aim

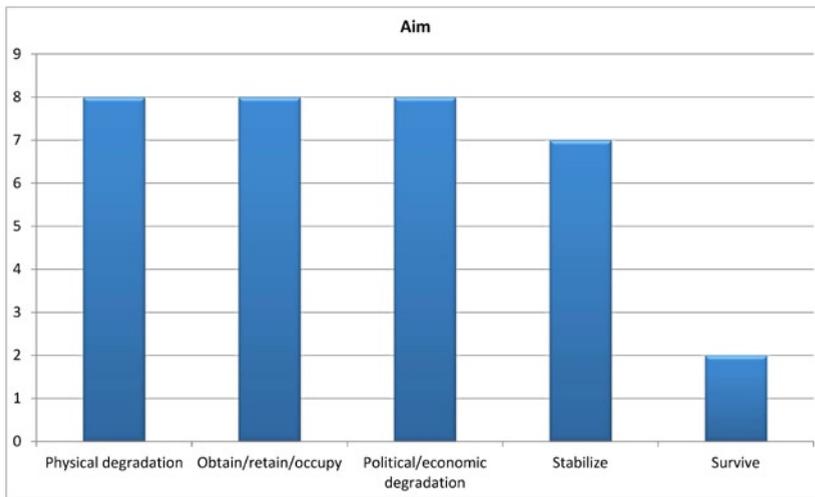


FIGURE 22. ENGLISH LANGUAGE PARAMETERS: AIM

The English language foresight literature reflects a variety of views on the potential aims that might be pursued in future conflicts. Except for survival, every single aim received a fair amount of attention. Economic and political degradation and stabilization have recently been receiving more attention in the literature. Malik argues with respect to future conflicts in the Asia-Pacific Region that *‘the world is entering a period of escalating competition between nation-states over the control of energy*

*resources, capital, and markets*'.<sup>66</sup> With respect to stabilization, Dannat asserts that *'intervention will rarely be an end in itself – as I have said the purpose of any military intervention is likely to be the restoration of stability'*.<sup>67</sup>

## Definition

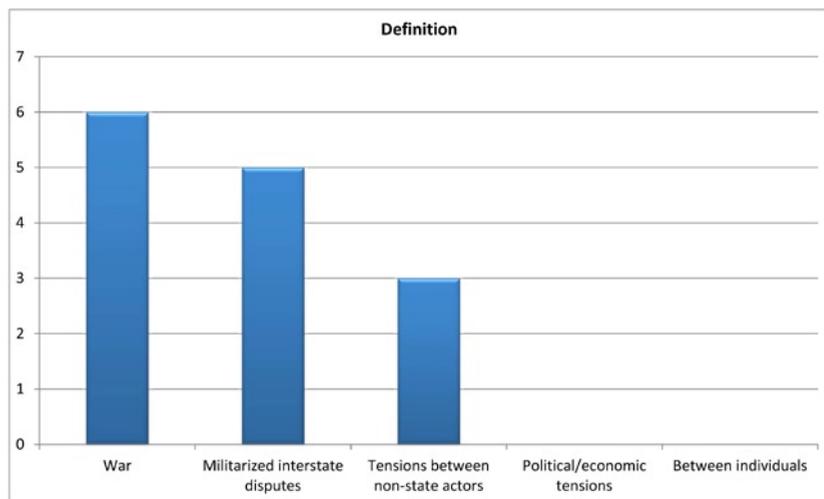


FIGURE 23. ENGLISH LANGUAGE PARAMETERS: DEFINITION

The English language foresight literature does pay some attention to the definition of conflict in the future. Unlike many of the other parameters, the discussion is confined to one extreme of the possible spectrum. More specifically, the English language foresight literature tends to focus on the more traditional/military conceptions of conflict: war and militarized inter-state disputes.

66 Malik, 'The Sources and Nature of Future Conflicts in the Asia-Pacific Region,' 33-65.

67 Richard Dannatt, 'A Perspective on the Nature of Future Conflict,' Government, *The National Archives*, May 15, 2009, <http://webarchive.nationalarchives.gov.uk/tna/+http://www.mod.uk:80/DefenceInternet/AboutDefence/People/Speeches/ChiefStaff/20090515APerspectiveOnTheNatureOfFutureConflict.htm>.

Some authors have heralded the waning of major war for two decades now. This claim really became *en vogue* following the conflicts in Afghanistan and Iraq.<sup>68</sup> In describing the future of conflict, pundits point towards the present prevalence of low-intensity conflict (LIC) with state and non-state actors engaging each other within an asymmetric context, and extrapolate this into the future: '*Largely marginalized by the Cold War, smaller conflicts have assumed greater attention since the fall of the Berlin Wall, and with the inevitable fall of rogue states like Iraq and North Korea, major conflicts will become extremely rare as a result of the aforementioned trends*'.<sup>69</sup>

Other authors, however, see the current lull in major power warfare as a discordant *caesura* and prophesize the return of great power war waged by the conventional, kinetic means of the industrial era across the traditional three domains – land, sea, air – as well as the two supposedly newer domains space and cyber.<sup>70</sup> Mazarr, for instance, asserts that '*To say, moreover, that all war is now small war, that state-to-state conflict has given way to Fourth Generation Warfare, generates an obvious blind spot for the traditional, state-on-state wars that without doubt remain possible*'.<sup>71</sup>

The English foresight community largely neglected to consider that future conflict could also be defined in non-military terms as political/economic tensions or even a spat between individuals. Furthermore, there was only minor mention of tensions between non-state actors. These themes are addressed, however, in the category instruments and actors.

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68 Creveland, the Transformation of War; Mueller, The Remnants of War; See also the drafting of the COIN manual 2006 in the US and debates about future force composition of the militaries of the US and European countries.

69 Justin Kelly, 'Future War – Future Warfare,' *Australian Army Journal* V, no. 3 (2008): 87-106.

70 Colin Gray, *Another Bloody Century: Future Warfare* (London: Weidenfeld & Nicolson, 2005).

71 Michael Mazarr, 'Extremism, Terror, and the Future of Conflict,' *Realclearpolitics.com*, April 6, 2006, [http://www.realclearpolitics.com/Commentary/com-3\\_4\\_06\\_MJM\\_pf.html](http://www.realclearpolitics.com/Commentary/com-3_4_06_MJM_pf.html).

## Distinctiveness

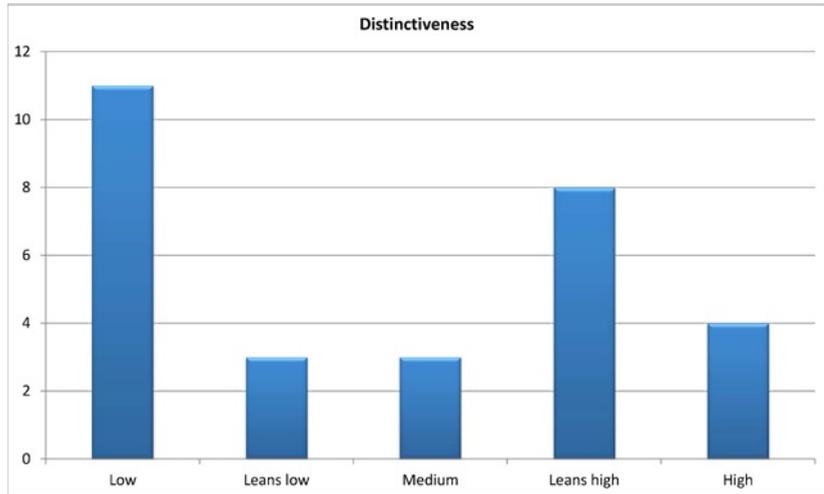


FIGURE 24. ENGLISH LANGUAGE PARAMETERS: DISTINCTIVENESS

Distinctiveness was one of the lesser discussed parameters in the English language foresight discourse, even though it has recently received some more attention in this literature. The paucity of attention, however, had no effect on the range of views. Both future conflicts with a clearly marked beginning and end were described, as well as conflicts with very blurry, indistinct boundaries. With regards to the latter, Yarger notes with a dramatic touch: *'Gone are the days of conventional wars where great powers met on battlefields to decide issues with clear boundaries and concise start and end points'*.<sup>72</sup>

72 Harry R Yarger, *Short of General War: Perspectives on the Use of Military Power in the 21st Century* (Carlisle, PA: Strategic Studies Institute, 2010), <http://www.strategicstudiesinstitute.army.mil/pubs/download.cfm?q=983>.

## Domain

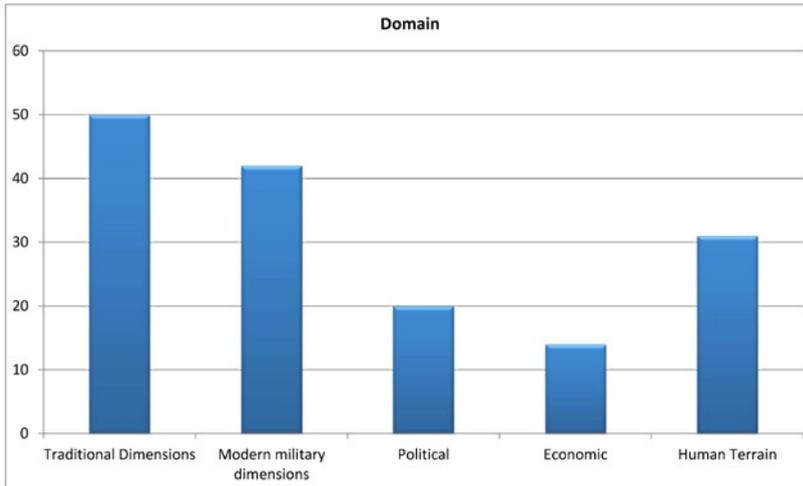


FIGURE 25. ENGLISH LANGUAGE PARAMETERS: DOMAIN

Diversity in views is not limited to actor involvement. According to the English literature it is likely that future conflict will unfold in multiple domains. Traditional – land, sea and air – and modern – space and cyberspace – receive ample mention. Surprisingly, the human terrain also received a lot of attention. Political and economic means were considered by only a small number of studies. We should also note that the human domain is not just a recent phenomenon, but started gaining traction already in the 90s, i.e. before Iraq and Afghanistan. The military is very interested in this parameter and sees all domains as plausible future areas of conflict, also across time.

Joint operations in which conflict is waged across the three domains simultaneously are seen as a part and parcel of future conflict, which will be *'three-dimensional, fought on the ground and in the air, be highly maneuverable, with across-the-board engagements, and interrelated operations and hostilities fanning out simultaneously into all physical domains'*.<sup>73</sup>

<sup>73</sup> Gorburunov and Bogdanov, 'Armed Confrontation in the 21st Century,' 16-30.

At the same time, many authors expect technological developments to expand the conflict universe: *'The technological transformation in areas such as sensors, communication and computers, space assets, missiles and precision-guided munitions (PGMs) is changing war and warfare. Both the arena where war is conducted – space and cyberspace – and the way it is conducted – its speed and weaponry – are being transformed'*.<sup>74</sup>

Cyberspace is increasingly seen as a central domain of future conflict not only complementing but in effect substituting the traditional domains. According to Buckland et al. *'Cyber war will herald a second wave of the revolution in military affairs and replace kinetic energy as the main agent of warfare'*.<sup>75</sup> Moreover, the shift towards confrontation in cyberspace will dramatically change the face of battle and military doctrines required to prevail in traditional conflict: *'Rather than a campaign being characterized by front lines, and a series of related but independent operations, campaigns in the information age will allegedly take the form of simultaneous attacks throughout the breadth, depth and cyberspace of the battle space'*.<sup>76</sup>

Space, meanwhile, which is already indispensable in the waging of contemporary conflict on Earth, is expected to become a stage of conflict proper: *'During the early portion of the 21<sup>st</sup> century, space power will also evolve into a separate and equal medium of warfare. Likewise, space forces will emerge to protect military and commercial national interests and investment in the space medium due to their increasing importance'*.<sup>77</sup>

Yet in the crossfire of traditional and modern domains, conflict will also take place in the economic and the political arena. It is asserted that the

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74 Isabelle Duyvesteyn and Jan Angstrom, *Rethinking the Nature of War (Contemporary Security Studies)* (Oxford, UK: Routledge, 2004).

75 Benjamin S. Buckland, Fred Schreier, and Theodor H. Winkler, *Democratic Governance: Challenges of Cyber Security* (DCAF, 2010), <http://genevasecurityforum.org/files/DCAF-GSF-cyber-Paper.pdf>.

76 David J. Lonsdale, *The Nature of War in the Information Age: Clausewitzian Future* (New York, NY: Routledge, 2004).

77 Howell Estes and Edward Anderson, *United States Space Command*, 1998, <http://www.fas.org/spp/military/docops/usspac/visbook.pdf>.

nature of modern economies is particularly susceptible to disruption brought about by non-military means, thereby lowering the risks posed by military invasion in favor of non-military, economic attack: *'The great danger to Western countries is no longer the threat of military invasion of the nation-state but an assault on the very foundations of our networked society. Western societies are now most vulnerable not from external invasion but from internal disruption of the government, financial, and economic institutions that make up critical infrastructures'*.<sup>78</sup>

Meanwhile, the political domain is expected to gain greater importance especially in the context of fourth generation warfare (4GW). The concept of 4GW was coined in the 1980s by William Lind. It describes evolution in warfare over the centuries and asserts that we have entered an era of 4GW marked by the decline of the nation-state and its monopoly of violence and the rise of ethnic, religious and cultural conflict in which the traditional distinction between combatants and non-combatants fades.<sup>79</sup> It is claimed that the political dimension is an essential domain of 4GW: *'The contestants in 4GW – and here the concept does depart from traditional assumptions about warfare – focus not on an enemy's military forces, but on broadcasting messages directly into its political system, in order to bring about (...) 'political paralysis' in the target countries'*.<sup>80</sup>

Finally, in line with the increasing importance of the political dimensions, the human terrain is also likely to feature in the future of conflict. First, the battle-for-the-hearts-and-minds, a concept that gained popularity in Counterinsurgency (COIN) speak over the last decade, is increasingly seen as being applicable to the overall strategic level. The recent 'revolution in strategic affairs', to use Sir Lawrence Freedman's dictum,<sup>81</sup> has brought the human terrain to the forefront of modern conflict, in which the information front occupies a central position. As contended by Sir General Richards: *'Future wars of mass maneuver are more likely to*

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78 Michael Evans, 'From Kadesh to Kandahar: Military Theory and the Future of War,' *Naval War College Review* LVI, no. 3 (2003): 132-150.

79 William S. Lind, *The Changing Face of War: Into the Fourth Generation* (Marine Corps Gazette, 1989).

80 Mazarr, 'Extremism, Terror, and the Future of Conflict.'

81 Lawrence Freedman, *The Revolution in Strategic Affairs* (IISS/Oxford, 1998).

*be fought through the minds of millions looking at computer and television screens than on some modern equivalent of the Cold War's North German Plain. Indeed some might argue the screen is our generation's North German Plain, the place where future war will be won or lost'.<sup>82</sup>*

But more futuristic outlooks on what conflict on the human terrain may eventually come to encompass are also touched upon in the literature, in which the introduction of as of yet non-existing technologies would bring the kinetic era to an end: *'The new century will bring new weapons, and some of those weapons will bring moral dilemmas. For example, suppose that discoveries in fields as seemingly diverse as evolutionary biology, neurology, complexity studies, advanced sonics, computerization, and communications allowed us to create a 'broadcast weapon' that could permanently alter human behavior without causing physical harm'.<sup>83</sup>*

### Extensiveness

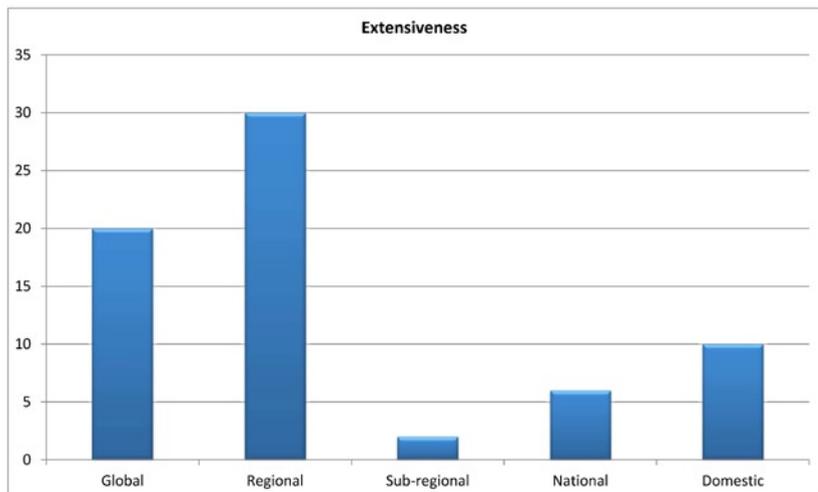


FIGURE 26. ENGLISH LANGUAGE PARAMETERS: EXTENSIVENESS

<sup>82</sup> Ralph Peters, 'The Culture of Future Conflict,' *Parameters* (96): 18-27.

<sup>83</sup> *Ibid.*

The extensiveness of future conflict was widely discussed in the English foresight community with a majority of the sources focusing on regional conflict oftentimes prompted by concerns over the supply of critical resources. As Peters claims: *‘the struggle to maintain access to critical resources will spark local and regional conflicts that will evolve into the most frequent conventional wars of the next century’*.<sup>84</sup> A sizable fraction of the studies furthermore describes conflict at a global scale, as for instance illustrated by the claim of the UK Ministry of Defence that *‘the battle space will be global in both geographic and virtual space, and highly congested’*.<sup>85</sup> Surprisingly enough, conflict at the sub regional, national and domestic levels received less attention. The military focuses especially on the global and regional dimensions.

### Impetus

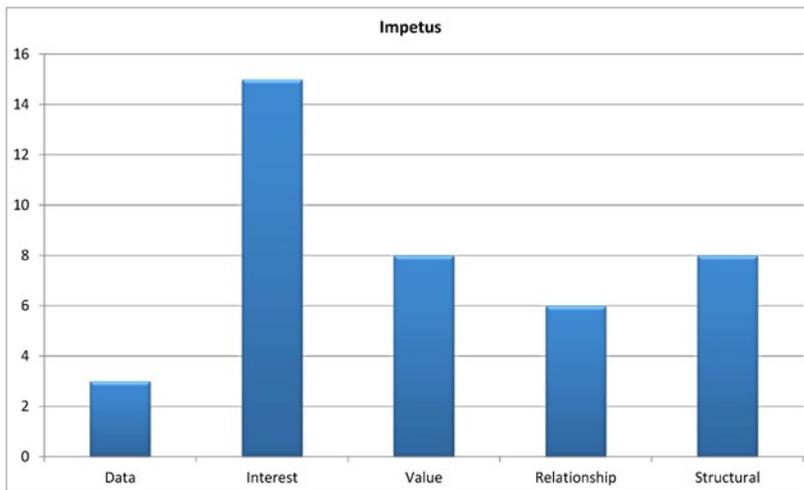


FIGURE 27. ENGLISH LANGUAGE PARAMETERS: IMPETUS

84 Ibid.

85 ‘The Future Character of Conflict’ (Ministry of Defence of the UK, 2010), [http://www.mod.uk/NR/rdonlyres/00CD3C81-8295-4B79-A306-E76C370CC314/0/20100201Future\\_Character\\_of\\_ConflictUDCDC\\_Strat\\_Trends\\_4.pdf](http://www.mod.uk/NR/rdonlyres/00CD3C81-8295-4B79-A306-E76C370CC314/0/20100201Future_Character_of_ConflictUDCDC_Strat_Trends_4.pdf).

A variety of motivations for future conflict can be discerned in the English subset ranging from value to relationship to data conflicts. Surprisingly enough, interest-based conflicts did not feature particularly strongly – even lower than value-based ones. The military has not expressed any views on this point. It has to be added that impetus or motivation – that what causes actors to enter into a conflict – is obviously a very important feature of modern conflict.

However, the various motivations that have been analyzed in the literature are difficult to distinguish and overlap to a significant degree, with different value systems different interests and different structural relationships all contributing to conflict. This may be best captured by the following quote: *'Future conflicts will most likely occur along the same geopolitical and cultural fault lines that have separated civilizations for millennia. These historic lines extend across northern and southern Europe, converge in the Balkans, and traverse through the Middle East; continuing beyond Eurasia, turning south toward the Pacific Rim, down the Malay Peninsula and into the Indonesian Archipelago. As in the past, these geopolitical fault lines will continue to witness ethnic, religious, economic, and political confrontation'*.<sup>86</sup>

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86 Robert H. Scales, 'Future Warfare. Anthology', 2001, <http://www.strategicstudiesinstitute.army.mil/pubs/download.cfm?q=222>.

## Length

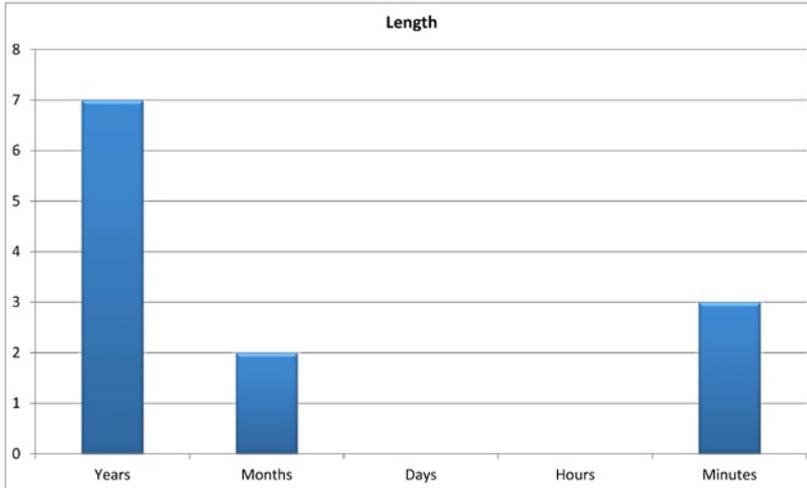


FIGURE 28. ENGLISH LANGUAGE PARAMETERS: LENGTH

Overall, the English language foresight literature does not devote substantial attention to the potential time span of future conflicts. Within this sidebar discussion, there was, however, a substantial difference of opinion. The views were such that certain experts expect future conflicts to take years to settle (diffused conflicts, state-based stalemate conflicts, or conflicts outside of the physical domain (e.g., the return the 16th-17th ‘bankrupt the opponent’ mode of conflict). Within this view, one commonly heard claim was that ‘*we are in an era of persistent conflict*’.<sup>87</sup> Alternatively, other experts suggested that future conflicts would last merely minutes, possibly reflecting the changing nature of conflict in an era in which the conduct of conflict will be dominated by advanced technologies.<sup>88</sup> The military sees the future length of conflict as still being measured in years.

87 Dannatt, ‘A Perspective on the Nature of Future Conflict.’

88 Barry D. Watts, ‘Clausewitzian Friction and Future War’ (National Defense University, 1996), <http://www.au.af.mil/au/awc/awcgate/ndu/mcnair52.pdf>.

## Pace

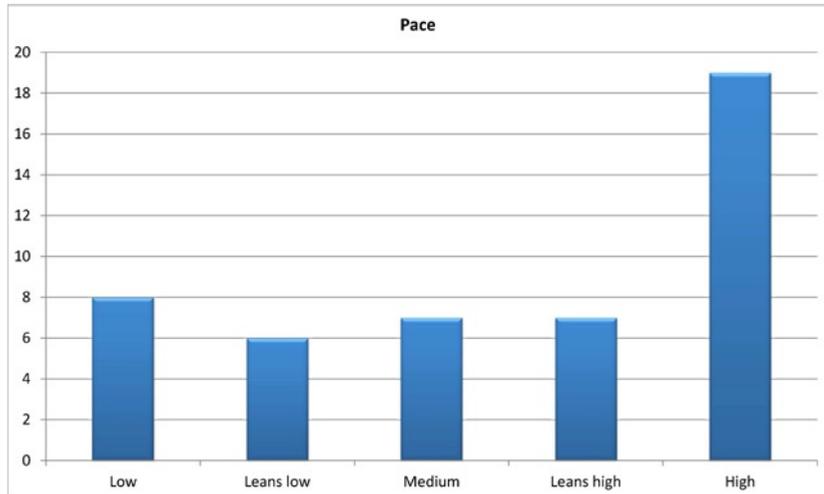


FIGURE 29. ENGLISH LANGUAGE PARAMETERS: PACE

The English language foresight literature adopts a broad range of views on the pace of future conflicts, which range from the low to the high end of the spectrum. Within this range, however, the consensus is that operations in future conflicts will be characterized by a very high pace which is deemed to be a critical key to success. Writes Metz *et al.* ‘*One of the most important determinants of success for 21<sup>st</sup> century militaries will be the extent to which they are faster than their opponents*’<sup>89</sup>

89 Metz, *Armed Conflict in the 21st Century: The Information Revolution and Post-Modern Warfare*.

## Means

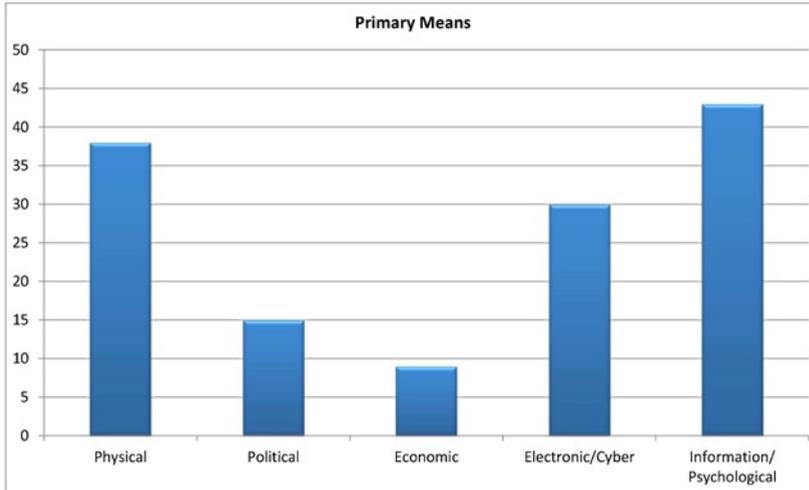


FIGURE 30. ENGLISH LANGUAGE PARAMETERS: PRIMARY MEANS

The primary means with which future conflict will be waged received plenty of attention in the English foresight community and has increasingly become a more important theme across the set of studies. Experts in the English language domain imagine a future in which actors use various instruments, ranging from the physical (i.e. kinetic instruments), to the political and economic (such as diplomacy, alliances, trade boycotts etc.), to the electronic, information and psychological (i.e., ‘the battle of the narrative’). Only political and economic means receive markedly less attention. Military studies also anticipate all means to play a role in the future – including political and economic ones.

Like in the past, physical force brought to bear in conventional and unconventional military operations is expected to remain crucial to the conduct of conflict in the future. According to Scales *‘Firepower and maneuver will continue to be the crucial determinates of how military operations play out on the 21<sup>st</sup> Century battlefields. The*

*relationship between these two primal variables will also follow the patterns of past war’.*<sup>90</sup>

The military instrument will also be resorted to as a political tool *‘that shapes, polices, and bounds the strategic environment that punishes, signals, and warns’.*<sup>91</sup> Moreover, it is stressed that in future conflict, territorial aims will be achieved through political rather than military means.<sup>92</sup> The fact that actors will need a broader toolset to prevail in conflict is a theme that English experts repeatedly come back to, says, for example, Alexander: *‘While military forces will play a substantial role in this conflict, the outcome of WW X will be determined by other factors including economic strength, sustained public will, and changes in the energy paradigm’.*<sup>93</sup>

Furthermore, it is expected that ICT developments will give rise to a technological driven revolution in military affairs that will spur the use of electronic and cyber instruments. Writes Watts: *‘In coming decades, ongoing advances in microelectronics, information technologies and software, satellite communications, advanced sensors, and low-observable technologies will give rise to a technologically driven revolution in warfare akin to the development of mobile, armored warfare (Blitzkrieg) or strategic bombing between 1918-1939’.*<sup>94</sup>

Buckland et al. even go as far as arguing that *‘cyber war [...] will replace kinetic energy as the main agent of warfare’.*<sup>95</sup> Relating the proliferation of ICT to the fact that knowledge is increasingly becoming a central resource in advanced economies,<sup>96</sup> it is frequently argued that individuals sitting behind a desktop will become more important to the course of

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90 Scales, ‘Future Warfare. Anthology.’

91 Evans, ‘From Kadesh to Kandahar: Military Theory and the Future of War,’ 132-150.

92 John B. Alexander, ‘The Evolution of Conflict Through 2020: Demands on Personnel, Machines, and Missions’ (National Intelligence Council, 2004), [http://www.dni.gov/nic/PDF\\_GIF\\_2020\\_Support/2004\\_05\\_25\\_papers/evol\\_conflict.pdf](http://www.dni.gov/nic/PDF_GIF_2020_Support/2004_05_25_papers/evol_conflict.pdf).

93 Ibid.

94 Watts, ‘Clausewitzian Friction and Future War.’

95 Buckland, Schreier, and Winkler, *Democratic Governance: Challenges of Cyber Security*.

96 Lonsdale, *The Nature of War in the Information Age: Clausewitzian Future*.

conflict. For instance, it is asserted that *‘In such a world, news media, both credentialed and bloggers, will play increasingly important roles as future conflicts evolve. They will manipulate, and be manipulated, in extremely sophisticated orchestrations exquisitely designed to wield influence in determining the outcome of contentious situations’*.<sup>97</sup>

### Saliency

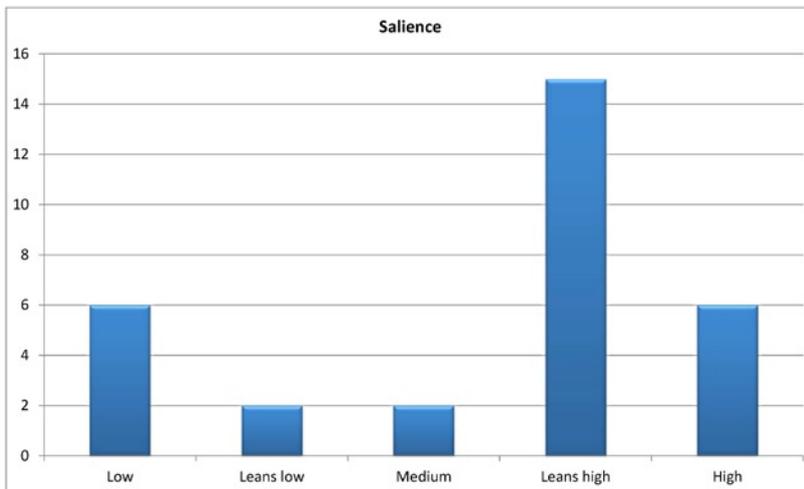


FIGURE 31. ENGLISH LANGUAGE PARAMETERS: SALIENCE

The saliency of conflict is not very often debated in the foresight community, despite its importance in strategic studies in the academic community. Military studies do not address this theme at all. Yet, the studies that do touch upon this subject are divided over the question whether conflict is going out of fashion (and a Kantian peace will slowly engulf all corners of the world), or whether instead, we will witness the return of conflict in various guises – inter-state, intra-state, non-state –

97 John B. Alexander, ‘The Changing Nature of Warfare, the Factors Mediating Future Conflict, and Implications for Sof’, 2005, [http://www.mangst.com/readme/Changing\\_Nature\\_of\\_War\\_V3.pdf](http://www.mangst.com/readme/Changing_Nature_of_War_V3.pdf).

also to those places that have enjoyed a period of peace since the Second World War. A majority of the foresights anticipate a future in which conflict is frequent, with a much smaller subset expecting a not so ‘bloody century’, aptly summarized by the claim that *‘instability and conflict will characterize the 21<sup>st</sup> century, due to cultural unrest and regional wars engulfing bordering states or consuming states from within’*.<sup>98</sup>

### 4.3 Drivers

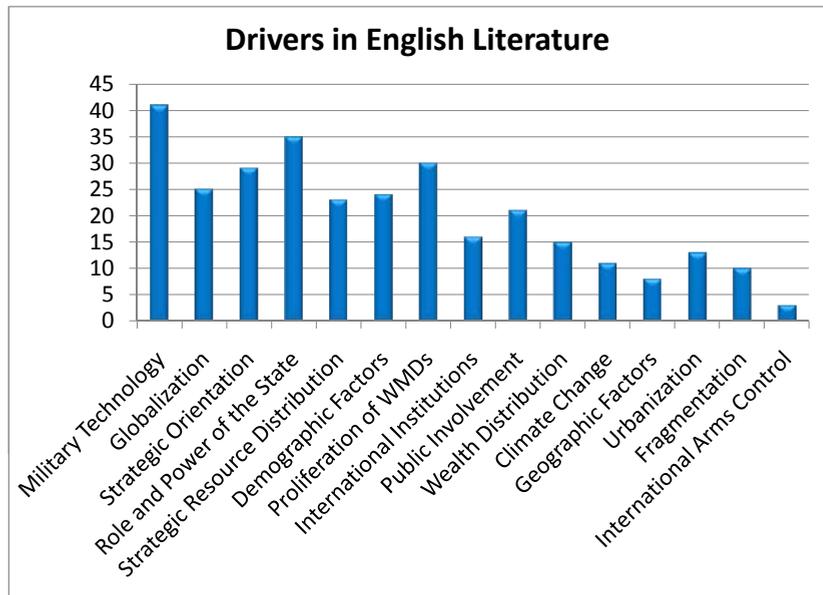


FIGURE 32. DRIVERS IN THE ENGLISH LITERATURE

Views of the English foresight community on drivers of future conflict are quite varied. The perceived drivers of future conflict are not only at different levels of analysis (e.g., state-system, state, individual), but are also of an entirely different nature (from technology, to demographic and geographic factors, to the role of the state and the distribution of

<sup>98</sup> Scales, ‘Future Warfare. Anthology.’

wealth). While many of these receive ample mention, the nature of future military technology, the proliferation of weapons of mass destruction (WMDs) and the role and power of the state leap out. Already at present, the destructiveness of military technology has made militarized conflict between equals less likely. As pointed out by Duyvestein and Angstrom: *'the increase in the destructiveness and accuracy of all forms of military technology, as a consequence of the Clausewitzian logic of extremes, has made symmetrical war, war between similarly armed opponents, increasingly difficult'*.<sup>99</sup>

Furthermore, the face of battle is expected to change dramatically driven by accelerating technological developments. As pointed out by Alexander: *'From Predator to Hermes unmanned systems are the wave of the future. Robotic devices are already making an appearance on the battlefield. These robots will increase as we search for efforts to minimize exposure of our troops. Miniaturization, to include nanoscale developments, will have significant impact on future conflicts'*.<sup>100</sup>

Global proliferation of WMDs and delivery vehicles is expected to dramatically change the strategic landscape as well. Indeed, Metz contends that *'there is no question that proliferation will dramatically alter the strategic calculus for most nations. Nearly every moderately advanced state will have weapons of mass destruction, ballistic or cruise missiles, or the capacity to make them by the second or third decade of the 21<sup>st</sup> century'*.<sup>101</sup>

The role and power wielded by states will both shape and drive future conflicts. Despite the often sung hymn of the demise and decay of states, they are still perceived to be the predominant force in the global system. Says Yarger: *'In spite of changing power relationships among states and other intergovernmental and nongovernmental actors, international world order will still be based on some form of state-centric system in the first half of the century'*.<sup>102</sup>

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99 Duyvesteyn and Angstrom, *Rethinking the Nature of War (Contemporary Security Studies)*.

100 Alexander, 'The Evolution of Conflict Through 2020: Demands on Personnel, Machines, and Missions.'

101 Metz, *Armed Conflict in the 21st Century: The Information Revolution and Post-Modern Warfare*.

102 Yarger, *Short of General War: Perspectives on the Use of Military Power in the 21st Century*.

Some even predict that weak governance structures in so-called failed states will be strengthened, even to the extent that *'the 'failed states' problem will recede, and in the meantime big states won't want anything to do with messy counterinsurgency wars'*.<sup>103</sup>

Interestingly enough, public involvement is also considered to be a driving force in settling future conflict, illustrated by Hookers claim that *'the willingness of the citizenry to participate in the common defense will be decisive. But we may also be weakened through open-ended, enervating military operations, or by fighting wars that do not command strong and sustained popular support'*.<sup>104</sup>

Fragmentation, climate change, geographic factors and the role of international arms control norms are addressed only very seldom.

#### **4.4 Main Take-Aways English Language Domain**

The rich and diverse English subset of foresight studies reflects a vibrant debate with many participants from across the ideological spectrum. The military contributes actively to the debate in this language domain. On some parameters, their views tend to be on the 'traditional side' of conflict, but not on all (e.g. means, where they also see political and economic means) Views on six out of eleven parameters which together characterize the future nature of conflict diverge considerably, with a large number of experts holding very different views. There do not appear to be any clear dominant views of the future. In short, this language domain is characterized by plurality. This may reflect a greater acceptance of the notion of uncertainty. Alternatively it may point towards an expectation of a more diverse conflict spectrum in which actors will be involved in various sorts of conflicts.

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103 Mazarr, 'Extremism, Terror, and the Future of Conflict.'

104 R.D. Hooker, 'Beyond Vom Kriege: The Character and Conduct of Modern War,' *Parameters* XXXV (2005): 4-17.

The main take aways from the English language domain can be summed up as follows:

- A wider variety of actors is likely to participate in future conflict;
- The conflict spectrum is perceived to be significantly broadened. Conflict is expected to migrate to non-kinetic domains (including political and economic domains and the human terrain). Cyberspace and space are increasingly seen as likely domains of future conflict. Yet, the traditional domains sea-land-air remain important;
- Actors will likely employ a greater range of primary means;
- Partly as a result of these developments, future conflict may become increasingly blurred, with neither a clear end nor a clear beginning;
- Key drivers are military technology, WMD proliferation and the role and power of the state.

# 5 Russian Language Perspectives: Resurgent and Diversified

## 5.1 The State of the Field

The Russian dataset of serious foresight studies about the future of conflict also proved to be a very rich one. The HCSS team collected 107 foresight studies that satisfied the criteria for the study (see section 2.3). Prior to the collapse of the Soviet Union, The Soviet defense research ecosystem was widely recognized as one of the largest and most vibrant intellectual communities thinking about the past, present and future of conflict and war. Conflict – in its various guises – had always been a central tenet in Marxism-Leninism. And the (generously endowed and quite talented) Soviet defense community had always paid much attention to the future of both conflict and – especially – warfare.<sup>105</sup> On at least two occasions, Soviet military specialists were the first to recognize (and try to capitalize upon) important changes in the future nature of warfare. The first time was in the mid-1930s, when Soviet military theorists such as Tukhachevskiy and Triandafillov were among the first to appreciate the new possibilities offered by the combination of armor and the vertical dimension (airpower) for ‘deep battle’ and to mould that into a genuinely coherent operational doctrine – quite some time before German, let alone other Western, military theorists.<sup>106</sup> The second time was in the early 1970s, when Marshall Ogarkov’s work on operational maneuver groups based on ‘reconnaissance-strike complexes’ – what we would now call sensor-shooter loops – in some ways anticipated network-centric warfare by a few decades.<sup>107</sup> Against this impressive historical background, the set

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105 Peter Hast Vigor, *The Soviet View of War, Peace, and Neutrality* (London: Routledge, 1975).

106 Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory* (London: Frank Cass, 1997); David Glantz, *Soviet Military Operational Art: In Pursuit of Deep Battle* (London: Frank Cass, 1991).

107 David Glantz, ‘The Development of the Soviet and Russian Armies in Context, 1946-2008: A Chronological and Topical Outline,’ *The Journal of Slavic Military Studies* 23, no. 1 (2010): 27.

of foresight studies we collected from the period 1990-2010 shows a few interesting characteristics.

A first observation is that the sources publishing about the future of conflict are overwhelmingly Russian, with only a few Ukrainian studies. This suggests that even two decades after the collapse of the Soviet Union, the newly independent states have been unable to (re)construct an indigenous strategic research community that would be either willing or able to think proactively about the future of conflict from their own vantage point.<sup>108</sup>

Secondly, the Russian language community does not appear to have published any serious studies on the future of conflict in the 1990s. This is in line with a previous HCSS study on the future of Russia, which also found that there were no serious studies on the security aspects of the future of Russia in the entire Yeltsin period.<sup>109</sup> Studies on this topic start being published again around 2000 – coinciding with the advent to power of President Putin. This suggests that in the turbulent years under president Yeltsin, the Soviet defense and security foresight community laid low; at least it was not publishing any work in the public domain. But it clearly did not fully disappear, as becomes evident with the resurgence of publications since the beginning of this millennium – not only in quantitative, but also in qualitative terms. The data show that there clearly still is a community, especially in Russia, with deep knowledge on security and defense issues, presumably still a residue of the impressive Soviet policy research infrastructure in this area (and also more generally in higher education), that has returned to publishing about issues of war and peace. There is even a Russian theoretical school specializing in the academic discipline of conflictology – defined as the science of the laws of the roots, genesis, development, resolution, and termination of conflicts at any level. The specifically Russian school of thought on

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108 HCSS in 2010 started a project with the Institute for World Policy in Kyiv called ‘Building Security Foresight Capacity in Ukraine’, funded by the Renaissance Foundation, to help remedy this gap. The team that has worked on the Slavic dataset is at the heart of this project.

109 Stephan De Spiegeleire, ‘The Future of Russia,’ *HCSS Future Issues* 1, no. 1 (2009).

'synergetics'<sup>110</sup> – which has so far received surprisingly little attention in the Western literature, despite interesting overlaps with recent Western thinking applying complexity theory on conflict and war<sup>111</sup> – is also well represented in our sample.

A third observation is that this resurgent and still remarkably vibrant research community – in stark contrast to its Soviet (even late Soviet) predecessors – currently truly spans the entire ideological space from liberals to right wing Eurasianists. There is much legitimate discussion about important changes in the freedom of the press in many parts of the former Soviet Union, but this dataset still suggests that the debate on these – often politically quite sensitive – issues continues in books, academic journals and on internet publications. Since 2005, a few selected military observers and commentators have also joined this debate with some fairly outspoken views, suggesting they now feel comfortable enough to assert their own interests and views. A final noteworthy trend is that Russian NGOs have become somewhat more active in this area, both foreign-supported and indigenous ones, although they are still far from playing the role they do in the Western debate.

## 5.2 Parameters

The Russian language domain pays most attention to the following four aspects of future conflict, in decreasing order of importance:

- The domain in which conflict may erupt, which is clearly the most dominant aspect in the Russian literature and is also on the rise in recent studies (including in the military).
- The means they would use (and here the underlying data show that the importance of this parameter seems to be declining somewhat in importance in the Russian domain, even though the military continues to focus on it).
- The geographical scope within which it may take place.
- The actors who might engage in it.

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110 Sergej Kurdjumov, 'Chto takoe sinergetika' [What is Synergetics], <http://spkurdyumov.narod.ru/Syn.htm>.

111 Bryan Hanson and L. Deborah Sword, 'Chaos, Complexity and Conflict (Special Issue),' *Emergence : complexity and organization* 10, no. 4 (2008).

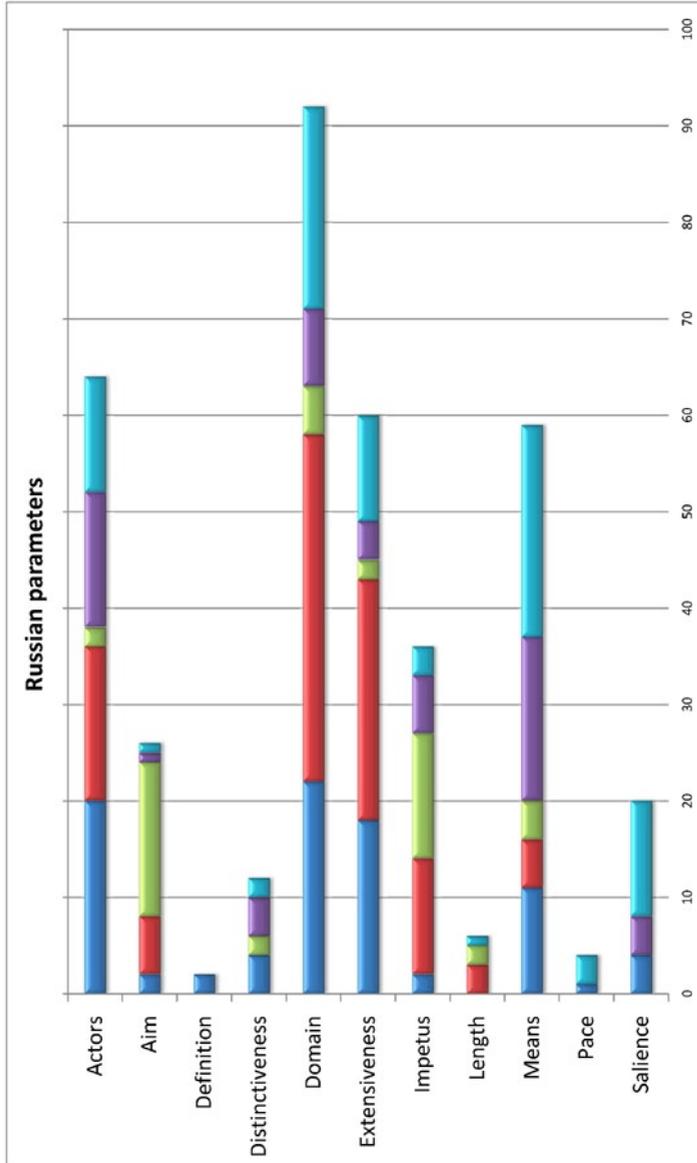


FIGURE 33. PARAMETERS OVERVIEW IN THE RUSSIAN LITERATURE

Actors	1	2	3	4	5	Actors
Aim	Blocs of States	Pairs of States	State and non-state vs. non-state	State vs. non-state	Non-state vs. non-state	Aim
Definition	Physical degradation	Obtain/retain/occupy	Political/economic degradation	Stabilize	Survive	Definition
Distinctiveness	War	Militarized interstate disputes	Tensions between non-state actors	Political/economic tensions	Between individuals	Distinctiveness
Domain	Low	Leans low	Medium	Leans high	High	Domain
Extensiveness	Traditional Dimensions	Modern military dimensions	Political	Economic	Human Terrain	Extensiveness
Impetus	Global	Regional	Sub-regional	National	Domestic	Impetus
Length	Data	Interest	Value	Relationship	Structural	Length
Means	Years	Months	Days	Hours	Minutes	Means
Pace	Physical	Political	Economic	Electronic/Cyber	Information/ Psychological	Pace
Salience	Low	Leans low	Medium	Leans high	High	Salience
	1	2	3	4	5	

The Russian debate pays less importance to things like the pace of future conflict (although the underlying data also show that this parameter is rising in importance in this language domain, albeit it still at a relatively lower level), its length, definition and distinctiveness.

The data clearly illustrate that Russian experts give different values to most parameters across the studies. This suggests a wide range of views and opinions about what the future might bring, reinforcing the point that the Russian debate on the future of conflict remains a quite diversified and vibrant one.

### Actors

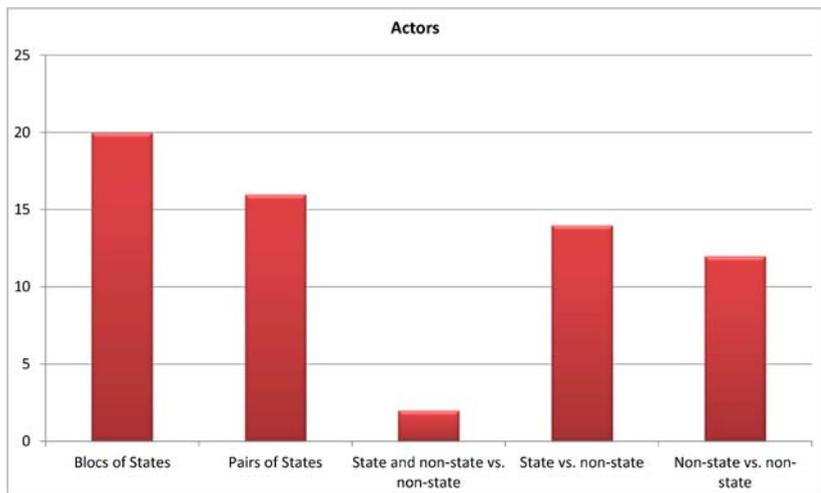


FIGURE 34. RUSSIAN LANGUAGE PARAMETERS: ACTORS

The Russian foresight community sees coalitional and dyadic conflict as the most dominant form of future conflict, including the military one. But there is also attention to the future role that non-states are likely to play in conflict – both against other non-state actors. Overall we clearly see here that the Russian community sees a very diverse set of future actors participating in various forms of conflict.

The focus on coalitional warfare is probably the most striking feature of this diagram. This is in all likelihood a reflection of two widely shared views within the Russian community: 1) the strong nature and cohesion of the Western Alliance (often identified with NATO) that many authors continue to see as a natural opponent; and 2) the importance of whatever coalition Russia is able to (re)assemble around itself. This is vividly illustrated by the assertion that *'The nature of future wars leaves countries operating only from national resources with no chances of winning, and in most cases the creation of a multinational coalition will be an important element of strategic projection. In this context, it becomes ever more important to increase the relevance of existing alliances and to form a series of new alliances, to conclude agreements in the political-military and military-technical spheres, and to create a new system of guarantees for international stability'*.<sup>112</sup>

This is also reflected in the current Russian military doctrine, as emphasized in an official document produced by and hosted on the website of the Russian Ministry for Emergency Situations: *'What are the common features of possible military conflicts? Our military doctrine gives an answer to this question. The main features are: the impact on all spheres of human activity, its **coalitional character**'*.<sup>113</sup>

At the same time, more traditional 'symmetrical' conflicts between states remain very much on the Russian radar screen: *'In the first quarter of the new XXI century one cannot exclude inter-state wars and wars between coalitions of countries... Symmetrical contact wars involving various countries will come in different guises, from small-scale armed conflicts to wars on a regional scale'*.<sup>114</sup>

The involvement of non-state actors – in conflicts both between themselves and with states – remains fairly constant throughout this

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112 M. Panov and V. Manevych, 'Voennye konflikty na rubezhe 2030 goda (chast' 1)' [Military Conflicts on the Eve of 2030 (Part 1)], 2008, <http://pentagonus.ucoz.ru/publ/19-1-0-563>.

113 V.A. Vladimirov, ed., *XX vek - vyzovy i ugrozy* [The XXI Century - Challenges and Threats] (Moskva: Inoktavo, 2005), <http://www.mchs.gov.ru/mchs/library/38.pdf>.

114 Vladimir Slipchenko, *Vojny shestogo pokolenija: oruzhie i voennoe iskusstvo budushhego* [Sixth Generation Wars: Armaments and Military Art in the Future] (Veche, 2002), <http://lib.rus.ec/b/52435/read>.

period. This may be as much a reflection of Russia's own internal troubles in the Northern Caucasus for the past few decades (or even centuries) as of the rising international prominence of regional (like Hamas, Hezbollah, Liberation Tigers of Tamil Eela, etc.) and global (Al Qaeda) non-state actors: *'Radical Islamic organizations at first glance do not possess the necessary attributes of military power and, therefore, often fall outside of the analysis of the politico-military and military-strategic situation. However, in practice this is a center of power that will largely determine the shape of warfare in the foreseeable future'*.<sup>115</sup>

The rise of non-state actors is sometimes linked to globalization: *'The process of globalization has not led to a more integrated world but to the emergence of 'global players' that are perfectly capable of facing off with individual nation-states'*.<sup>116</sup>

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115 Panov and Manevych, 'Voennye konflikty na rubezhe 2030 goda (chast' 1)' [Military Conflicts on the Eve of 2030 (Part 1)].

116 S.G. Fedoseev, 'Sovremennaja voennaja konfliktologija o voennoj bezopasnosti: problemy i perspektivy' [Modern Military Conflictology about Military Security: Problems and Prospects] (Kazakhstan Institute of Strategic Studies, 2005), <http://www.kisi.kz/img/docs/1267.pdf>.

## Aim

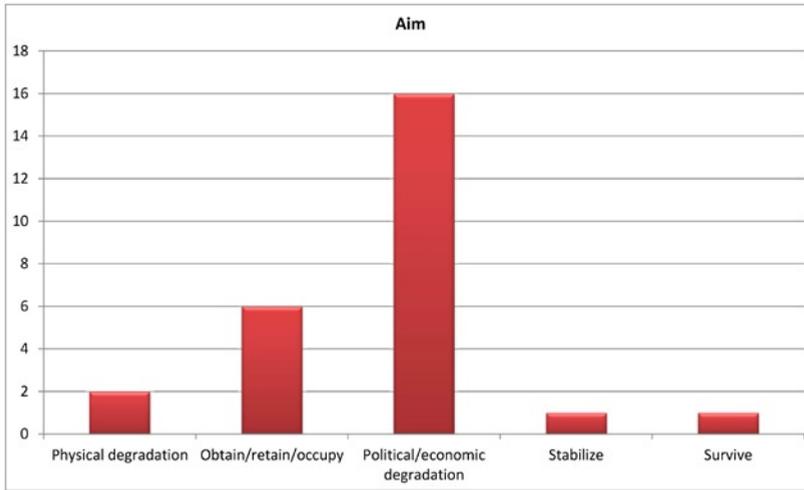


FIGURE 35. RUSSIAN LANGUAGE PARAMETERS: AIM

Economic and political degradation is seen as the most dominant aim that is likely to be pursued in the future (and this is also a fairly solid finding over time): *‘The main strategic goal of the aggressor in the wars of the sixth generation will be the defeat of the economic potential of countries subjected to aggression’*.<sup>117</sup>

Obtain, retain or occupy is a distant second aim (but also consistently so over time). *‘The objectives of the leading countries in conflict ... are as follows: the protection of territorial integrity (the fight against all kinds of separatist movements), upholding disputed territories, and other interests in a region of peace, etc’*.<sup>118</sup>

117 Slipchenko, *Vojny shestogo pokolenija: oruzhie i voennoe iskusstvo budushhego* [Sixth Generation Wars: Armaments and Military Art in the Future].

118 Vladimir Zamkov, ‘Novaja armija Podnebesnoj’ [The New Army of The Heavenly Empire], *Otechestvennye zapiski* [Notes of the Fatherland], no. 5 (2005), [http://magazines.russ.ru/oz/2005/5/2005\\_5\\_16-pr.html](http://magazines.russ.ru/oz/2005/5/2005_5_16-pr.html).

The Russian literature tends to see all other aims as fairly insignificant. It may be interesting to point out that the Russian military still seems primarily focused on physical degradation.

### Definition

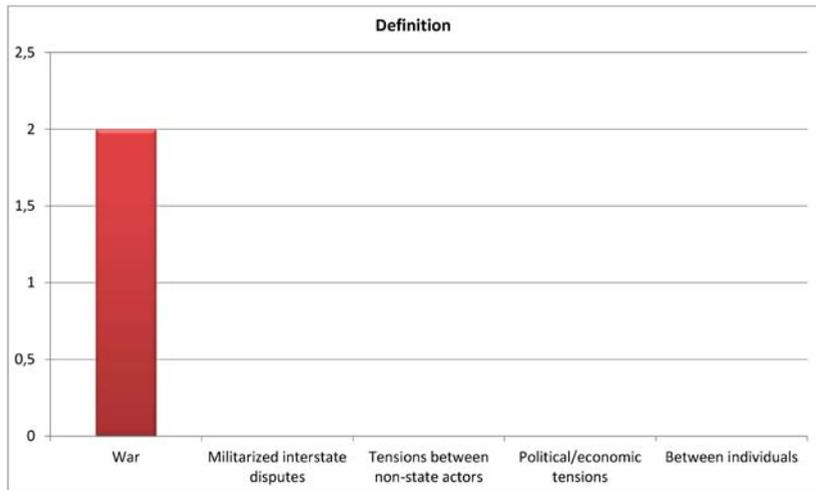


FIGURE 36. RUSSIAN LANGUAGE PARAMETERS: DEFINITION

The Russian language domain does not pay much attention to the definition of conflict. But the few Russian studies that do define conflict see it primarily as war in both the research and the military communities.

A group of experts of the Ukrainian Ministry of Defense, writing for a publication of the Geneva Centre for the Democratic Control of Armed Forces, put it this way: *‘Depending on the scale of the conflict, the number of parties involved and their military capabilities, military conflicts can be determined as war (regional, local) or armed conflict’*.<sup>119</sup>

119 ‘Strategichnij oboronnij bjuletjen’ Ukraïni na period do 2015 roku (Bila kniga Ukraïni) [Ukrainian Strategic Defense Newsletter until 2015 (The White Book of Ukraine)] (The Geneva Centre for the Democratic Control of Armed Forces), [http://www.dcaf.ch/\\_docs/legal\\_foundations/129.%20Chapter\\_115.pdf](http://www.dcaf.ch/_docs/legal_foundations/129.%20Chapter_115.pdf).

## Distinctiveness

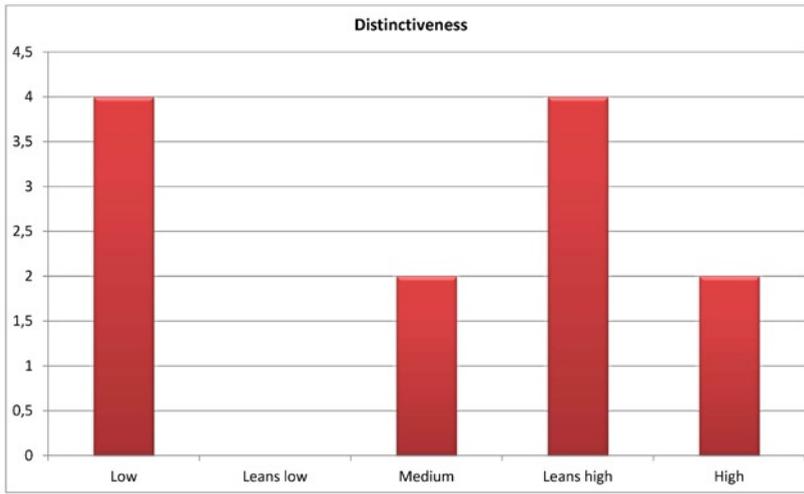


FIGURE 37. RUSSIAN LANGUAGE PARAMETERS: DISTINCTIVENESS

Changes in the distinctiveness of conflict – whether they will have a clear starting and ending point or not – are not mentioned very often in the Russian language domain. If mentioned, distinctiveness tends to skew more towards the more distinctive option – meaning that the Russian community sees conflict in the future as still having a clear start and an end: *‘A new war will certainly quickly grow into a ‘hot’ one, using all methods of military defeat’*.<sup>120</sup>

It has to be noted that the Russian literature has recently started paying somewhat more attention to the fact that conflict might become less distinctive – a (slight) trend towards somewhat lower (medium-low).

120 Aleksandr Panarin, ‘Strategicheskaja nestabil’nost’ XXI veka’ [Strategic Instability of the XXI Century], *Zhurnal ‘Moskva’* [‘Moscow’ Magazine], 2002, [http://www.patriotica.ru/actual/panar\\_strategy.html](http://www.patriotica.ru/actual/panar_strategy.html).

## Domain

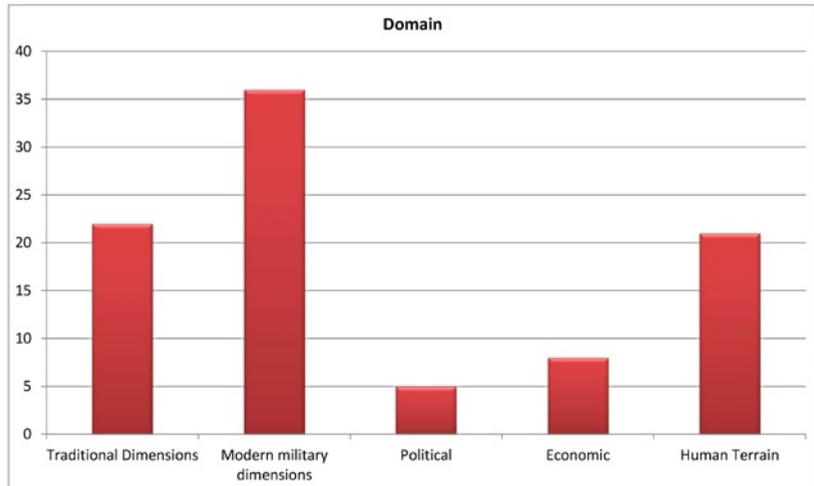


FIGURE 38. RUSSIAN LANGUAGE PARAMETERS: DOMAIN

The domain in which conflict might take place is the single most frequently mentioned aspect of conflict in the Russian studies. Most Russian studies see the military domain (traditional, but especially modern) as the dominant domain for future conflict. What is particularly striking is that the newer military domains clearly stick out.

To quote Dobroliubov at length: *‘Today’s popular military theories and futurological forecasts converge on a new triad [of war] at a new level of military-technical progress. The first form is the ‘small army’, with fantastic modern technical capabilities and the highest level of professionalism – in fact an enormous spetsnaz [‘special operations force’]. This form of army is intended to develop itself and to relegate ‘big armies’ to the dustbin of history because of their inadequacy. In recent years, this idea is closely connected to the necessity to*

*solve urgent anti-terrorist tasks requiring the use of rapid response forces. The second form is 'remote' or 'contactless' war with unmanned aerial vehicles, satellites from space and other new achievements by the aerocracy and the cosmocracy [the political and industrial constituencies behind air and space power – note of the authors]. This new form of war will allow actors to completely destroy the enemy 'without making their hands dirty' and even not so much to vanquish the enemy as to force him to concede defeat. And finally, the third form is 'information war', the latest craze of fans of 'indirect action', raising hopes that it will be possible not to destroy all the enemies, but to deceive and persuade them that they have lost, or be able to find a 'proxy' who would beat these enemies'.<sup>121</sup>*

Slipchenko also bears witness to the transfer of conflict to new domains: *'Wars of the sixth generation, generated by the revolution in military affairs, contribute many new aspects to military art and are changing the coordinate system of such wars. Wars become 'detached' from the ground and move into aerospace, which in the transition period is likely to be the main theater of war, and then also the theater of military operations. The functions of the services change and we see the emergence of a new military art of conduct of warfare in general. The role of radio-electronic warfare increases dramatically, in close combination with strategic offensive and strategic defensive forces. There arises an urgent need for non-strategic missile defense in each country'.<sup>122</sup>*

Also the Russian military has recently devoted some more attention to the 'modern' military domain (especially on cyberspace), albeit with somewhat of a lag vis-à-vis the research community. *'[T]he emergence of high-precision weapons, weapons based on new physical principles, means of information and software impact on automated control systems and computer networks make it possible to carry the fighting in areas*

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121 Yaroslav Dobrolyubov, 'Esli vojna poslezavtra...' [If War Breaks Out the Day after Tomorrow...], *Otechestvennye zapiski* [Notes of the Fatherland], no. 8 (2002), [http://www.google.com/url?q=http://magazines.russ.ru/oz/2002/8/2002\\_08\\_44.html&usd=2&usg=ALhdy292x9sBkzQS7XyuzTmbucjPmrrw3w](http://www.google.com/url?q=http://magazines.russ.ru/oz/2002/8/2002_08_44.html&usd=2&usg=ALhdy292x9sBkzQS7XyuzTmbucjPmrrw3w).

122 Slipchenko, *Vojny shestogo pokolenija: oruzhie i voennoe iskusstvo budushhego* [Sixth Generation Wars: Armaments and Military Art in the Future].

*where the use of traditional capabilities is impossible or ineffective: remote areas of land and oceans, underwater environment, the upper atmosphere, space and cyberspace*'.<sup>123</sup>

But also the traditional military domain remains important in the Russian view. The president of the Academy of Military Sciences of the Russian Federation General Gareev, for instance, writes the following on the character of future wars in a published article on the character of future wars: *'In general, future warfare will bear an enormous air-ground character with simultaneous waging of interconnected warfare on the land, air, and sea*'.<sup>124</sup>

To illustrate that it is not just the military community that continues to think of more traditional forms of armed conflict, but also the more general research community, we can quote the following article in a Russian international relations journal by a scholar from a highly respected institute in the Russian Academy of Sciences: *'We can assume an increased likelihood of local and major regional wars. The development of non-lethal technologies of warfare will be combined with traditional forms of armed conflict, including WMD. The inherent volatility in the modern international political system provides no basis to exclude the possibility of another world war in the longer term*'.<sup>125</sup>

The political and economic domains score much lower in the Russian literature, and even if they are mentioned, they are still predominantly seen as a precursor to more traditional forms of conflict, as illustrated in the following quote: *'On the background of multilevel competition the probability of political, economic and ideological conflicts is increasing,*

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123 Vyacheslav Samardak, 'Vooruzhennaja bor'ba i ee razvitie v XXI v. Chast' 2' [Armed Confrontation and Its Evolution in the XXI Century. Part 2] (Almanac, 2009), [http://www.almanacwhf.ru/index.php?view=article&catid=17%3A13nomer&id=89%3Avooruzborba2&format=pdf&option=com\\_content&Itemid=21](http://www.almanacwhf.ru/index.php?view=article&catid=17%3A13nomer&id=89%3Avooruzborba2&format=pdf&option=com_content&Itemid=21).

124 M.A. Gareev, 'Harakter buduschih vojn' [The Character of Future Wars], *Zhurnal 'Pravo i Bezopasnost'* [Journal of Law and Security], no. 1-2 (2003), [http://www.dpr.ru/pravo/pravo\\_5\\_4.htm](http://www.dpr.ru/pravo/pravo_5_4.htm).

125 Fedor Vojtolovskij, 'Nestabil'nost' v mirovoj sisteme' [Instability in the World System], *Mezhdunarodnye protsessy* [International Processes] 7, no. 1 (19), Real'nost' i teorija [Reality and Theory] (2009), <http://www.intertrends.ru/nineteenth/002.htm>.

*many of which may take violent character and destabilize the international system*'.<sup>126</sup>

Finally, the human terrain is also gaining more traction in Russian sources, not infrequently as a veiled criticism of the West's attempt to influence people across the world with ideological appeals: *'Not only various religious and political movements, but the demagogic thesis about the need for 'victory for democracy' is used as an effective mechanism for removal of governments from the national political scene*'.<sup>127</sup>

### Extensiveness

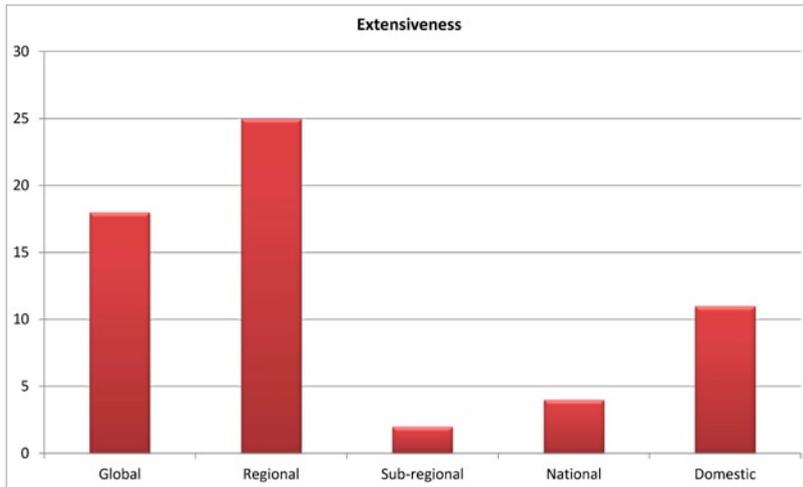


FIGURE 39. RUSSIAN LANGUAGE PARAMETERS: EXTENSIVENESS

As we already pointed out, the geographical span of future conflict receives quite some attention in the Russian literature. Once again, we observe quite diverse views on this issue, although most Russian studies

<sup>126</sup> Ibid.

<sup>127</sup> Fedoseev, 'Sovremennaja voennaja konfliktologija o voennoj bezopasnosti: problemy i perspektivy' [Modern Military Conflictology about Military Security: Problems and Prospects].

that look at the future of conflict still see conflict as being mostly of a global and a regional nature. Some authors see next-generation conflict in an ever more tightly interconnected world as inherently global: *'We can foresee that seventh-generation warfare will certainly transcend the operational or even strategic scale and will immediately acquire a planetary scale. One can already see today that such contactless wars of the next, the seventh generation will still not be carried out only by means of information, and will not be against a particular opponent. Using networks and resources, the aggressor may provoke man-made disasters in major economic areas, regions and parts of the world'*.<sup>128</sup>

Others vacillate between the idea that the likelihood of global conflict seems to have decreased, and the fact that global dangers still remain: *'The threat of global conflict has been reduced to a minimum. The system of international relations provides an unprecedented level of mutual control and confidence in the military sphere. However, major countries not only refuse to part from arsenals that clearly exceed the level of self-defense, but on the contrary, are constantly improving them, including offensive weapons. The use of diplomatic methods, strict adherence to universally recognized principles and norms of international law still did not become the dominant trend in dealing with international security'*.<sup>129</sup>

Regional conflicts have been coded most frequently in this dataset. They focus on both very specific regions and on regional conflicts in general: *'The major threat to humanity today comes from regional conflicts in Asia, involving nuclear powers, resulting in humanity teetering on the brink between peace and war'*.<sup>130</sup>

With respect to the US, Vidoevich writes: *'It is very likely that the United States will seek to increase its military superiority in comparison with*

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128 Vladimir Slipchenko, 'Informacionnoe protivoborstvo v beskontaktnykh voynah' [Information Confrontation in Non-Contact Wars], *Obozrevatel'* [Columnist], no. 12, Voenno-politicheskie problemy [Military-Political Issues] (2001), [http://www.rau.su/observer/N12\\_01/12\\_09.HTM](http://www.rau.su/observer/N12_01/12_09.HTM).

129 S.A. Kaganov, ed., *Mir vokrug Rossii: 2017. Kontury nedalekogo budushhego* [The World Around Russia: 2017. Contours of the Nearest Future] (Moscow: Council on Foreign and Defense Policy, 2007), <http://spkurdyumov.narod.ru/Karaganov.pdf>.

130 Aleksander Neklesa, 'Upravljaemyj kaos: dvizhenie k nestacionnoj sisteme mirovyh svyazej' [Manageable Chaos: Movement Towards a Non-Stationary System of World Connections], 2004, [http://www.intelros.org/books/opera\\_selecta/opera\\_selecta\\_28.pdf](http://www.intelros.org/books/opera_selecta/opera_selecta_28.pdf).

*Europe and other countries. But despite its power, America is unlikely to be able to withstand the consequences of its global militarism. Internal consolidation in the face of an external 'mortal enemy' against the threat of terrorist attacks does not lead the country out of impending economic and social crisis. This could instead lead to the country slipping towards a veiled internal dictatorship. In this case, the risk increases of regional – and in the long-term also of various global armed confrontations including the use of nuclear weapons’.*<sup>131</sup>

The national and (especially) sub-regional aspects of conflicts score relatively low in the Russian domain: *‘Military conflicts of the near future will not be global but local. Their goal will not be to defeat or destroy the enemy or to seize its territory. The most frequent target of such conflicts will be to change the policy of the enemy’.*<sup>132</sup>

This leads one Russian expert to assert that *‘the prospect of deterioration and increase in intra-state conflict becomes more likely’.*<sup>133</sup>

Russian military foresight studies interestingly enough seem to be focused primarily on the national, domestic and regional dimensions of conflict. There are no clearly discernable trends over time or across types on this parameter.

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131 Zoran Vidoevich, ‘Globalizacija, haotizacija i konflikt v sovremenom mire’ [Globalization, Chaotization and Conflicts in the Modern World], 2005, <http://www.ecsocman.edu.ru/data/507/874/1216/03Vidoevich.pdf>.

132 O.A. Kolobov, ed., *Bezopasnost’ lichnosti, obshhestva, gosudarstva* [Security of the Person, Society and the State], vol. 1, 2 vols. (Nizhnij Novgorod, 2008), [http://www.unn.ru/rus/fmo/Archive/books/monografii/Bezopasnost\\_lichnosti\\_obchestva\\_gosudarstva/tom\\_1.pdf](http://www.unn.ru/rus/fmo/Archive/books/monografii/Bezopasnost_lichnosti_obchestva_gosudarstva/tom_1.pdf).

133 Kaganov, *Mir vokrug Rossii: 2017. Kontury nedalekogo budushhego* [The World Around Russia: 2017. Contours of the Nearest Future].

## Impetus

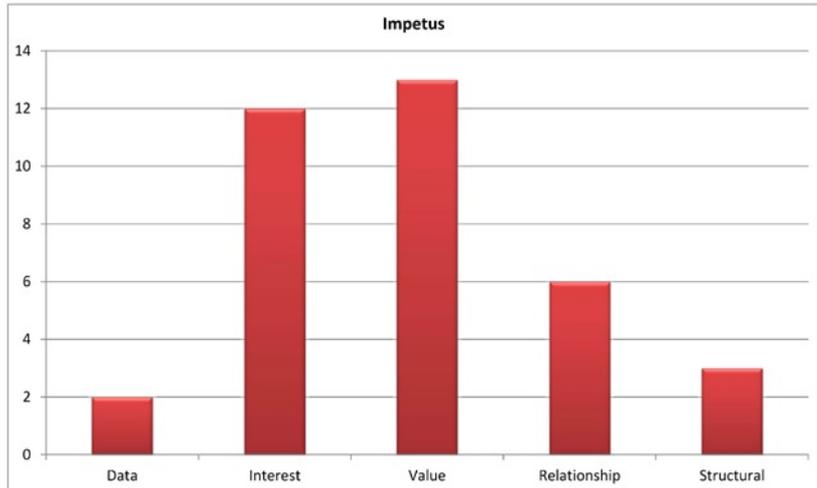


FIGURE 40. RUSSIAN LANGUAGE PARAMETERS: IMPETUS

Russian studies as a whole do not devote much attention to the reasons that drive various actors to conflict. Russian military foresight studies do not even mention this aspect of conflict at all. But those studies that do address this issue primarily see conflicts over values and interests as being dominant in the future.

Values play the most important role in this dataset: *'Many countries are forced to take special measures to protect their citizens, their culture, traditions and spiritual values from alien informational influence. It is important to always bear in mind the protection of national information resources and the confidentiality of information exchange on global open networks. It is likely that on this basis there may be political and economic confrontation between several states and a new crisis in international relations'*.<sup>134</sup>

134 V. Makhrov, 'Informacionnyye vojny i budushhee' [Informational Wars and the Future], 2004, [http://www.i-u.ru/BIBLIO/archive/mahrov\\_infor/](http://www.i-u.ru/BIBLIO/archive/mahrov_infor/).

Cultural differences also play a key role: *'In the emerging world the main source of conflict is no longer ideology or economics. The most important boundaries between humanity and the predominant sources of conflict will be determined by culture'*.<sup>135</sup>

Clashes may also spring forth from different development trajectories: *'There are two extreme scenarios of global technological development of civilizations. In the inertial scenario the gap between avant-garde civilizations that have implemented technological revolution (the North American, Western European, Japanese) and lagging civilizations, where the predominance of early industrial and remain above pre-industrial technological structures (African, Moslem) will increase, which would strengthen economic polarization and the threat of a clash of civilizations. The East European, Chinese, Indian, Buddhist and Eurasian civilizations will come closer to the civilizational vanguard. This scenario will promote the currently prevailing neoliberal model'*.<sup>136</sup>

But interests remain a close second: *'With the development of globalization, computerization and diversification, political problems will become more and more varied and complex, as will the search for optimal policy decisions. Interests of people will more easily come into conflict, impeding the formation of an agreement on the public interest'*.<sup>137</sup>

Or, writes Myunkler: *'In the XXI century, a large part of the population might easily come to the conclusion that their only chance for the future is to wage and win war. Environmental degradation, leading, for example, water shortages, increasing desertification and sea level rise, increasing global inequality in the distribution of consumer products,*

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135 Igor Popov, 'Setecentricheskaja vojna. Gotova li k nej Rossija?' [Network-Centric War: Is Russia Ready for It?] (Soviet Russia, 2010), <http://www.sovross.ru/modules.php?name=News&file=article&sid=56877>.

136 A.G. Granberg, B.N. Kuzyk, and Yu.V. Yakovets, *Budushhee civilizacij* [The Future of Civilizations] (Moscow: MISK, 2007), [http://www.civil.newparadigm.ru/Buduwee\\_civilizacij.pdf](http://www.civil.newparadigm.ru/Buduwee_civilizacij.pdf).

137 'Tseli Japonii v XXI veke' [The Goals of Japan in the XXI Century], «INTELROS – Intellektual'naja Rossija» ['INTELROS - Intellectual Russia'], [http://www.content.net.ua/thesaurus/methodology/strategy/goals\\_japan\\_21.html](http://www.content.net.ua/thesaurus/methodology/strategy/goals_japan_21.html).

*educational opportunities and living conditions, an imbalance in the rate of population growth and associated waves of migration, instability of international financial markets and the declining ability of states to regulate their own currency and economy, and, finally, in some parts of the world, the rapid decay of states – all this provides a reasonable basis to assume that many people will see forceful change, and not peaceful development, as the best opportunity to secure a future. Thus, the use of force for a better future will be a key element of their political arguments, and they will be ready not only to fight for vital resources, but also to wage asymmetric war against a superior opponent’.*<sup>138</sup>

And on a few occasions, both interests and values are mentioned together: *‘The world of the near future is a world of new uncertainties and various kinds of conflicts including maybe even global wars or planetary catastrophes. Few experts believe that a spirit of cooperation and normal competition will prevail in the ‘multi polar’ world of the future. War for subsistence resources for ‘living space’, cross-cultural conflicts are an inevitable part of globalization, which cannot be eliminated in the integration process’.*<sup>139</sup>

Structural conflicts score surprisingly low in the Russian studies (and are also declining somewhat).

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138 Herfried Munkler, ‘Vojny XXI veka’ [Wars of the XXI Century], *Mezhdunarodnyj zhurnal Krasnogo Kresta* [International Journal of the Red Cross], no. 849-852 (2003): 7-24.

139 Vidoevich, ‘Globalizacija, haotizacija i konflikty v sovremennom mire’ [Globalization, Chaotization and Conflicts in the Modern World].

## Length

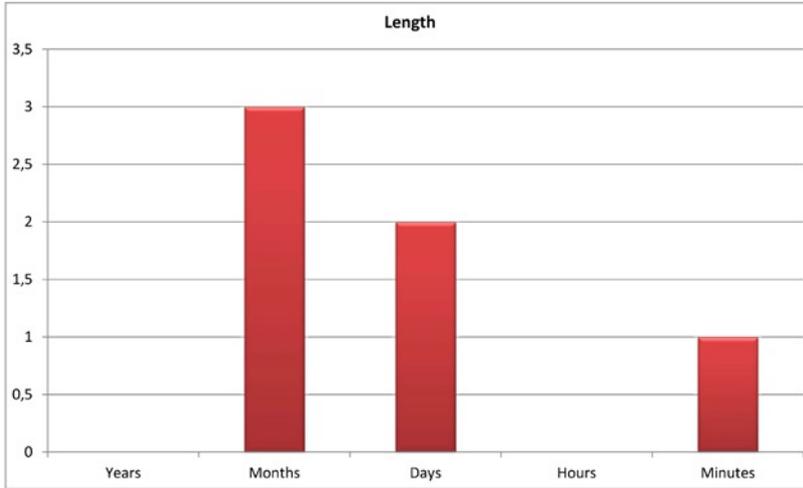


FIGURE 41. RUSSIAN LANGUAGE PARAMETERS: LENGTH

Russian studies also pay little attention to how long conflicts might last. Those that do focus on this aspect tend to see future conflicts as lasting mostly for months and (less) days. *‘Wars of the future can begin and conclude with an almost continuous air-space offensive operation in conjunction with the operation (actions) strike capabilities of naval forces and operations of electronic warfare. The duration of such a joint operation will be in the order 60-90 days or more, which surpasses all current standards’*.<sup>140</sup>

The following study sees the duration of future conflict rather in terms of minutes: *‘The most important feature of the future of NATO’s war with a nuclear power (Russia) will seemingly be its speed. If it proves impossible to trigger a ‘disarming strike’ – i.e. to neutralize the nuclear deterrent*

<sup>140</sup> Vladimir Slipchenko, ‘Vojna budushhego (prognosticheskij analiz)’ [War of the Future (Prognostic Analysis)], 2001, <http://bookap.info/psywar/slipchenco/load/doc.shtml>.

*forces (SNF) and completely eliminate the use of tactical nuclear weapons – within a few minutes, then the attacker can assume the war is lost*.<sup>141</sup>

Interestingly enough, we found no Russian studies that think that conflicts might last for years or for hours. The underlying data show a weak trend towards a view of shorter conflicts (lasting minutes).

## Means

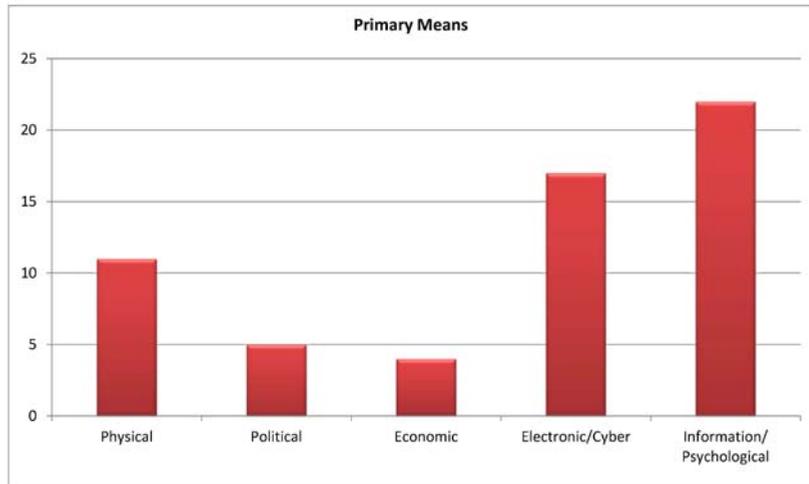


FIGURE 42. RUSSIAN LANGUAGE PARAMETERS: PRIMARY MEANS

Many Russian studies show high interest in the means that they see actors using in future conflicts. The most interesting finding here is the fact that non-kinetic means score significantly higher than the more traditional physical (kinetic) ones. Info- and psychological means are clearly seen as the dominant means – also across time: *‘Instead of thinking in terms of*

141 M. Kalashnikov, A. Vladimirov, and M. Khodarenok, ‘Vozmozhnaja vojna mezhdu RF I NATO: veroyatnye scenarii’ [Possible War Between the Russian Federation and NATO: Likely Scenarios], 2007, <http://www.bratstvo.su/content/print.asp?sn=1338>.

*'maneuver of tanks and planes and troop movements' appears a strategy of 'placement of values, beliefs, ideals, and deployment of information resources'.<sup>142</sup>*

Control over and manipulation of information is seen as a decisive element: *'The fact that great interest is shown in information confrontation in the wars of the future is not accidental. It is due to the fact that information is a weapon just like missiles, bombs, torpedoes, etc. It is now clear that the informational confrontation becomes a factor that will have a significant impact on the future of the war themselves, their origin, course and outcome'.<sup>143</sup>*

This is generally considered to be complimentary to conventional means: *'At the same time, information combat operations will start, including psychological operations against civilians and troops of the victim, electronic suppression and destruction of its control systems, communications and intelligence'.<sup>144</sup>*

Further along, more significant changes are expected: *'At the turn of the period 2030-2050, one should expect significant breakthroughs in the field of information warfare. During this time period artificial intelligence can be created, which is quite likely to find wide application both as 'shock' and as defensive weapons systems, as well as in EW forces and materiel'.<sup>145</sup>*

Electronic and cyber-means of conflict are the second most important means in the view of the Russian studies. This applies equally to military studies – also across time. Again, they are seen as complimenting rather than substituting conventional means: *'Cyber-War will be an independent*

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142 Stanislav Turonok, 'Informacionno-kommunikativnaja revoljucija i novyj spektr voenno-politicheskikh konfliktov' [Information-and-Communication Revolution and the New Spectrum of Military and Political Conflicts], *Politicheskie issledovanija* [Political Studies], no. 1 (2003), <http://www.politstudies.ru/arch/2003/1/3.htm>.

143 Slipchenko, *Vojny shestogo pokolenija: oruzhie i voennoe iskusstvo budushhego* [Sixth Generation Wars: Armaments and Military Art in the Future].

144 Popov, 'Setecentricheskaja vojna. Gotova li k nej Rossija?' [Network-Centric War: Is Russia Ready for It?].

145 Slipchenko, 'Vojna budushhego (prognosticheskij analiz)' [War of the Future (Prognostic Analysis)].

*form of war in the twenty-first century, but again, not a decisive one as it will be unable to provide radical change and a decisive advantage to one party*'.<sup>146</sup>

But instead, different primary means will be applied in tandem with one another: *'We should focus on the fact that, as already noted, electronic warfare (EW) will also increase its level of significance. From a form of fighting in the wars of the fourth generation it will become a new independent branch of service and will carry out its own form of operational-strategic action: the EW operation. The goals, objectives, involved forces and means of this operation will be very closely intertwined, and fully aligned in all directions with the strategic offensive and defensive forces and capabilities*'.<sup>147</sup>

Traditional physical means still score highly (also in the military literature), even though they do start to trend lower. *'As has been pointed out, physical armed force is likely to remain the main type of armed force also in wars of the new generation*'.<sup>148</sup>

Finally it is interesting to note that recent Russian foresight studies do not see economic and political means as playing any important role in the future, although they are sometimes mentioned in combination with other means: *'A characteristic feature here will be the integrated, comprehensive use of all forms of struggle – political, economic, informational, psychological, etc. In such advantageous condition the enemy would, unless he surrenders, receive a crushing defeat in the short-term military action, with minimal casualties and material costs. So the armed struggle changes from an uncertain two-way process into deterministic 'multi-targeted' unilateralism*'.<sup>149</sup>

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146 Dobrolyubov, 'Esli vojna poslezavtra...' [If War Breaks Out the Day after Tomorrow...].

147 Slipchenko, 'Vojna budushhego (prognosticheskij analiz)' [War of the Future (Prognostic Analysis)].

148 Vladimir Slipchenko, 'Formula uspeha v vojne' [Formula of Success in War], *Armejskij sbornik* [Military Collection], no. 6 (2002), <http://army.lv/ru/%C2%ABformula%C2%BB-uspeha-v-vojne/2139/4010>.

149 V. Kruglov, 'Kakoj budet vooruzhennaja bor'ba v budushhem?' [What will a Military Fight Look Like in the Future?], *Obozrevatel'* [Columnist], no. 8, *Voenno-politicheskie problemy* [Military-Political Issues] (2000), [http://www.nasledie.ru/oboz/N08\\_00/08\\_13.HTM](http://www.nasledie.ru/oboz/N08_00/08_13.HTM).

Pace

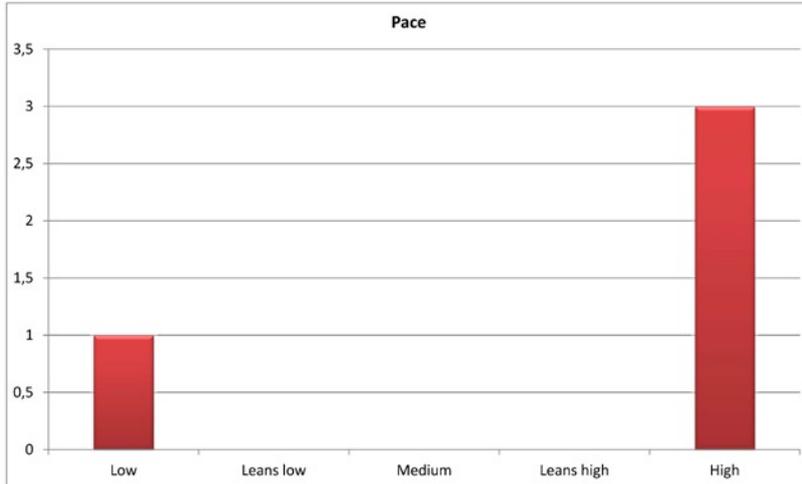


FIGURE 43. RUSSIAN LANGUAGE PARAMETERS: PACE

There is very little Russian interest in this parameter. The few studies that do present a view on this aspect of conflict still see future conflicts as being high-intensity. *‘Currently, network-centric’ concepts in the leading foreign countries aim to bring together a network of components of an ‘information’ phase of the conflict in order to improve the speed of decision making and the pace of the operation itself*.<sup>150</sup> Only one study scores this parameter as ‘low’.

150 Aleksander Kondrat’ev, “Stavka na ‘vojny budushhego’” [A Stake on ‘Wars of the Future’] (Nezavisimaya Gazeta, 2008), [http://www.ng.ru/concepts/2008-06-27/1\\_future.html](http://www.ng.ru/concepts/2008-06-27/1_future.html).

## Saliency

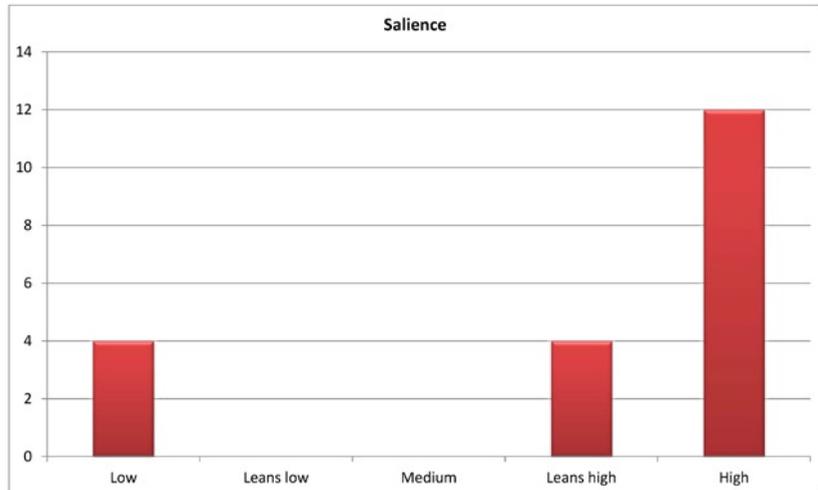


FIGURE 44. RUSSIAN LANGUAGE PARAMETERS: SALIENCY

Russian studies do not pay much attention to how salient conflict is likely to be in the future. The few Russian studies that do make statements on the future importance of conflict see conflict as highly salient – also in the military subset. According to Gareev: *‘In the last decade of the XX century there were more than 150 major armed conflicts and wars. The XXI century is not going to be calmer’*.<sup>151</sup>

Kocherov goes one step further: *‘The XXI Century clearly does not promise us the advent of the era of mercy or reason. It is equally hard to imagine that it will go down in history as the Golden Age. In this century, the world will go to devastating war; the probability of civilizational and regional conflicts involving nuclear weapons. We cannot exclude the onset of a pandemic caused by unknown viruses, increasing natural disasters due to accelerating climate change and increased tectonic activity and man-made disasters with a large number of victims’*.<sup>152</sup>

<sup>151</sup> Gareev, ‘Harakter buduschih vojn’ [The Character of Future Wars].

<sup>152</sup> Sergey Kocherov, ‘Kakim budet XXI vek?’ [What Will the XXI Century Be Like?], 2006, <http://www.polit.nnov.ru/2006/09/19/xxisent/>.

Nazaretian, meanwhile, sketches an even bleaker picture: ‘Starting with a linear projection of dangerous trends, clearly manifested in the last decades of the twentieth century in politics, demography, ecology and genetics, we see that by the middle of the XXI century planetary civilization may be on the verge of self-destruction’.<sup>153</sup>

### 5.3 Drivers

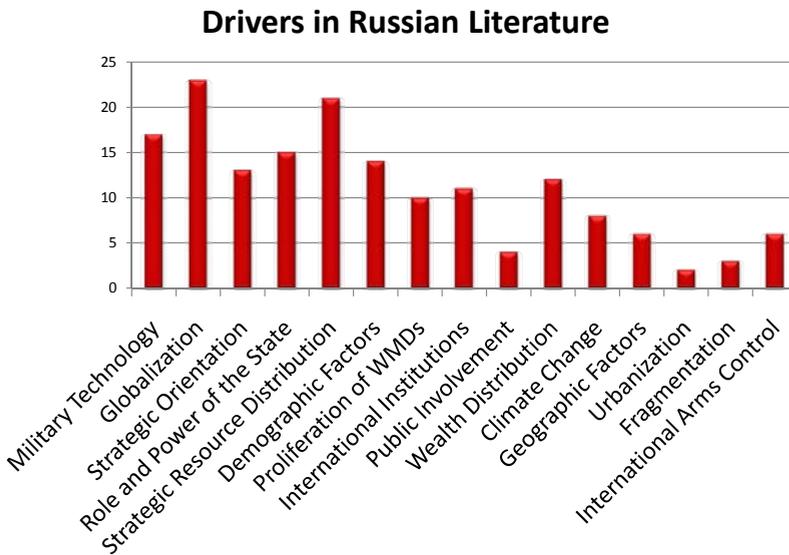


FIGURE 45. DRIVERS IN THE RUSSIAN LITERATURE

The Russian literature sees the following elements as the most powerful drivers of future conflict: globalization, strategic resource distribution, military technology, and the role and power of the state (the latter one especially more recently). Resource issues have become more important in recent years – including some explicit military interest in this area.

153 A. Nazaretyan, *Tsivilizatsionnye krizisy v kontekste universal'noj istorii* [Civilizational Crisis in the Context of Universal History], 2nd ed. (Moscow, 2004), <http://www.soc.univ.kiev.ua/LIB/PUB/N/NAZARETIAN/cyvcris.pdf>.

Climate change and international arms control have recently been getting more attention as drivers of future conflict in the Russian language domain. The Russian military clearly sees military technology as the main driver of the future of conflict. Since the second Putin administration, and continuing on to the Medvedev period, the role and power of the state is seen as becoming more important in driving the future of conflict. We also note that WMD have somewhat declined in importance in this dataset after a small peak in 2002.

Globalization is singled out as a key driver of instability. Maslov asserts that *'There are serious fears that the rampant and uncontrolled globalization process based on the selfish collective interests of the richest countries in the world will undermine a sustainable world order and will confront the world community with a state of chaos not seen since the Middle Ages'*.<sup>154</sup>

This may spur conflict at various levels, writes Vidoevich: *'Globalization brings with it the subordination of the majority minority, it leads to inevitable conflict – at the local, regional and even planetary scales'*.<sup>155</sup>

There are opposing views as to how the role and power of states will drive and shape future conflict. Some claim that the state is far from withering away: *'In reality, nation states remain the principal actors in the XXI century, and if one wants to try to understand trends in world development, one should proceed from the fact that it is the behavior of states that will determine the future course of history. States will also continue to compete, including for leadership on a global scale'*.<sup>156</sup>

Others assert that new players will surface and, to the detriment of states,

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154 A.A. Maslov, 'Globalizacija i ee osnovnye protivorechija' [Globalization and its Main Controversies] (Russian Peoples' Friendship University, 2003), <http://www.humanities.edu.ru/db/msg/26010>.

155 Vidoevich, 'Globalizacija, haotizacija i konflikty v sovremennom mire' [Globalization, Chaotization and Conflicts in the Modern World].

156 Bazhanov and Bazhanova, 'Kuda idet chelovechestvo? O tendenciyah mezhdunarodnyh otnosheniy v XX veke.' [Where Is Mankind Headed? Trends in International Relations in the XXI Century], *Obozrevatel'* [Columnist], no. 6 (2009): 10-20.

play a more important role in future conflict: *'The third wave of change will fall upon mankind because of the weakening of the disciplined players in the international arena - the states whose sovereignty would be undermined by transnational corporations, nongovernmental organizations, ethnic groups, separatist regions and mafia structures'*.<sup>157</sup>

Strategic resource distribution is considered to be a key driver of conflict. Thus asserts Sadovnichy: *'In reality, the projected path of movement of mankind in the XXI century will most likely run through the struggle for raw materials and resources'*.<sup>158</sup>

Finally, with respect to the future of military technology, it stands out that precision weaponry is singled out as a game changer. Turonok, for instance, asserts that developments in precision weaponry will *'blur[s] the lines between defensive and offensive types of weapons and methods of their use: a defending party with precision weapons can inflict irreparable damage to the attackers before they come close to the distance required for entry into a fight with conventional weapons'*.<sup>159</sup>

According to Slipchenko these developments may also significantly affect the role and status of nuclear weapons: *'Fundamentally new in the military art of contactless wars may be a gradual shift of the functions of strategic nuclear deterrence to strategic non-nuclear deterrence. Unlike nuclear deterrence, precision weapons can not only threaten the application of inevitable unacceptable damage, but they can also carry out a pre-emptive strike on them. The deterrent effect of the threat of use of precision weapons will be incomparably higher than that of unrealistic threats involving nuclear weapons. Given their considerable legitimacy in*

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157 'Prognozy dlja XXI veka' [Prognoses for the XXI Century] (System Information Analysis Center (SIAC), 2007), [http://siac.com.ua/index.php?option=com\\_content&task=view&id=154&Itemid=59](http://siac.com.ua/index.php?option=com_content&task=view&id=154&Itemid=59).

158 V.A. Sadovnichiy, 'Znanie i mudrost' v globalizirujushemsja mire' [Knowledge and Wisdom in the Globalizing World] (Moscow: Lomonosov Moscow State University, 2005), 3-21, [http://www.ebiblioteka.lt/resursai/Uzsienio%20leidiniai/Voronezh/hum/2005-02/hum0502\\_01.pdf](http://www.ebiblioteka.lt/resursai/Uzsienio%20leidiniai/Voronezh/hum/2005-02/hum0502_01.pdf).

159 Turonok, 'Informacionno-kommunikativnaja revoljucija i novyj spektr voenno-politicheskikh konfliktov' [Information-and-Communication Revolution and the New Spectrum of Military and Political Conflicts].

*comparison with nuclear weapons, we should expect that those precision weapons will assume ever on real deterrent functions against any adversary anywhere in the world’.*<sup>160</sup>

#### 5.4 Main Take-Aways Russian Language Domain

The set of documents that was collected for this report clearly illustrates that there continues to be a rich indigenous (i.e. not merely derivative) Russian debate on the future of conflict, with contains a wide span of diverse views. The Russian expert community has now taken the Western specialized literature on board (much more so than the other way around), without losing its own original ideas.

The main finding for the Russian foresight subset is that Russian analysts collectively see many different futures for most of the aspects of future conflict that we coded. The dominant view on the future nature of conflict – in those few (but important – such as the domain) aspects on which there is one – remains fairly traditional in many parts of the Russian studies. But we also see an emerging (and strengthening) focus on ‘new’ areas (such as cyber). We find little evidence of a ‘reconstructed’ Russian military – their views remain quite traditional, even if they too have acknowledged the importance of the newer dimensions of military conflict (including cyber) and of the human terrain.

The main take-aways for the Russian language domain can be summed up as follows:

- While non-state actors are acknowledged as important actors in future conflict, bloc-thinking – featuring blocs of states against states – remains powerful;
- Modern military domains (cyber and space) are increasingly seen as theatres of conflict, while the human terrain is also taken into account. However, the traditional domains will be no stranger to conflict in the future;
- Significantly, primary means in the information and the psychological

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<sup>160</sup> Vladimir Slipchenko, ‘K kakoj vojne dolzhny gotovit’sja vooruzhenye sily’ [What Kind of War Should the Armed Forces Be Preparing for], *Otechestvennyye zapiski* [Notes of the Fatherland], no. 8, Perspektivy [Prospects] (2002), <http://www.strana-oz.ru/?numid=9&article=356>.

and electronic/cyber realm are singled out as important instruments of future conflict;

- Political and economic degradation are seen to be prime aims in future conflict;
- At the same time, differences over value systems are seen as an important impetus for actors in the future;
- Key drivers of conflict are globalization, the role and power of the state, strategic resource distribution and military technology.

## 6 Arabic Language Perspectives: Poor and Presentist

### 6.1 The State of the Field

In order to capture the nature of future conflict as documented in the Arabic language three rounds of search were conducted, with two different teams (one in Beirut, and one in The Hague), but with exactly the same collection strategy that was described in the method section of this paper and was applied to the other language domains.

It became quickly apparent that if we were to apply the same criteria we used for the other language domains to the Arabic subset, we would find very few (if any) serious foresight studies. The main problems here center on:

- The ‘future’ criterion – given the ferocity of current conflicts in the region, there appear to be depressingly few truly forward-looking views (although discussions around water-related conflicts represented an exception to this rule). Whereas we observed quite some presentism in the other language domains as well, this region appears to be mired in a particularly acute version of it.
- The ‘quality’ criterion – it has been noted by many that the tradition of open, both policy-oriented and also more theoretical scholarly, discussion about these issues remains embryonic in the broader Middle East (with the notable exception of Israel). The debate also tends to be of a much more normative than of an analytical nature. We will turn to this issue in the next section of this chapter.
- The ‘generalizability’ criterion – the overwhelming majority of conflict-related documents are extremely region-specific and rarely attempt to make general statements about the future of conflict. What little there is in terms of general statements about the nature of conflict in this area, also often is quite derivative – presenting summaries of Western arguments, with (at best) a very succinct translation to what this might

mean for the region and without much autonomous reflection upon it. In the latter cases (and only in those), the HCSS team did include the documents in the set but just coded the authentic sections.

Given the importance of the region for conflict (coupled with our intuition – based on the observation that Arab groups like Al-Qaeda or Hamas clearly have long-term strategic goals that they pursue with considerable tenacity and dexterity – that there must be at least some traces of long-term strategic thinking in writing, even if they may not be in the sources we are accustomed to in other regions), the HCSS team decided to cast its nets more widely. Besides government publications and scholarly articles, we therefore also included smaller pieces by think tanks, opinion pieces in newspapers, expert magazines, interesting blog entries, etc.

Despite this extra effort, our analytical harvest remained limited. We found no noteworthy publications on the future of conflict conducted by think tanks, military experts, or government agencies. Out of a total number of 50 documents, 33 were extracted from newspapers, ten from online magazines, and seven from various websites. In most cases the sources are not well-known and/or cannot be assessed to their expert quality. We therefore decided not to insert the more quantitative data in this final report, although the data are available from HCSS upon request.

## **6.2 Some Musings on the Arab Security Foresight Puzzle**

Given the disappointing results of our meta-analysis of the Arab foresight literature, the HCSS team decided to delve a bit more deeply into this issue. Why is there so little foresight in the Arab world in general, and on security issues in specific?

### **Foresight in the Arab world**

Even a cursory look at the global foresight landscape clearly illustrates that the Arab world has no strong tradition in foresight, as it is now commonly understood across the globe, even though there are a (small)

number of notable exceptions.<sup>161</sup> In 2008, the Swedish Institute for Futures Studies produced an excellent mind map of various foresight institutes across the world<sup>162</sup>, which we present here to illustrate the number of serious and dedicated Middle Eastern foresight institutes (12 in total, including 3 in Israel and 8 (!) in Iran), compared to the much larger number of serious and dedicated Western European counterparts (see Figure 46).

Experts offer a number of explanations for the striking paucity of Arab foresight work. As Wan Fariza Alyati Binti Wan Zakaria points out in her *Futures Studies in Contemporary Islamic and Western Thought*, the odds currently are heavily stacked against futures studies in the Arab world for powerful religious reasons – mainly because of different concepts of time (with more of a spiritual than a material connotation) and different views on the role of human volition or predestination.<sup>163</sup> She describes the efforts of a number of scholars to fight the dominant view that ‘*the development of Futures Studies ... is considered as foreign and nearly remain [sic] unfamiliar among the present Muslims*’.<sup>164</sup>

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161 For an early overview, see Khair el-Din Haseeb, *The Future of the Arab Nation: Challenges and Options* (Centre for Arab Unity Studies, 1991), 499-500. For a more recent (but also more limited) description, see Wan Fariza Alyati Binti Wan Zakaria, ‘Futures Studies in Contemporary Islamic and Western Thought: A Critical Study of the Works of Ziauddin Sardar, Mahdi Elmandjra, Alvin Toffler and Daniel Bell’, 2010, [http://theses.bham.ac.uk/882/1/WanZakaria10PhD\\_A1a.pdf](http://theses.bham.ac.uk/882/1/WanZakaria10PhD_A1a.pdf). See also ‘About Futures Studies and Research in Egypt and the Arab Region’ (Egyptian-Arab Futures Research Association, 2009), [http://www.eafra.org/index.php?option=com\\_content&view=article&id=75:ABOUT%20FUTURES%20STUDIES%20AND%20RESEARCH%20IN%20EGYPT%20AND%20THE%20ARAB%20REGION&catid=25:%D9%85%D9%82%D8%A7%D9%84%D8%A7%D8%AA%20%D8%AF%D8%A7%D8%AE%D9%84%D9%8A%D8%A9&Itemid=37](http://www.eafra.org/index.php?option=com_content&view=article&id=75:ABOUT%20FUTURES%20STUDIES%20AND%20RESEARCH%20IN%20EGYPT%20AND%20THE%20ARAB%20REGION&catid=25:%D9%85%D9%82%D8%A7%D9%84%D8%A7%D8%AA%20%D8%AF%D8%A7%D8%AE%D9%84%D9%8A%D8%A9&Itemid=37).

162 Samuel Bohman, ‘World Map of the Futures Field: Research, Education, Consultants, Organisations’, 2008, <http://www.google.com.ua/url?sa=t&source=web&cd=1&ved=0CBkQFjAA&url=http%3A%2F%2Fwww.vahidthinktank.com%2FWorldMapoftheFuturesField.pdf&ei=5cpuTayXOcySOurwwfMI&usg=AFQjCNE0dthOTtunMiUbZwlP9PszOC1qzA&sig2=0DyvOBSjwUO3sBXE2jBoNA>.

163 Wan Zakaria, ‘Futures Studies in Contemporary Islamic and Western Thought: A Critical Study of the Works of Ziauddin Sardar, Mahdi Elmandjra, Alvin Toffler and Daniel Bell.’

164 *Ibid.*, 200.

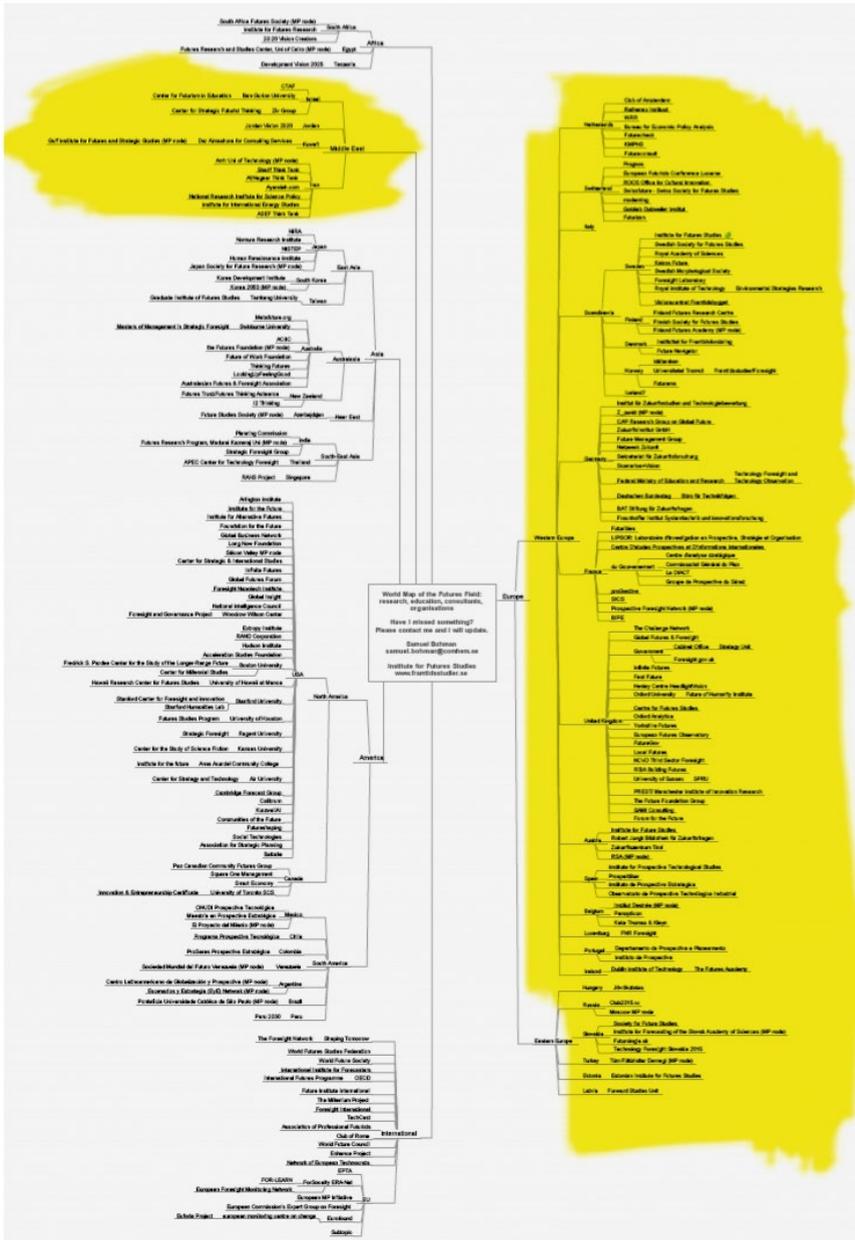


FIGURE 46. MIDDLE EASTERN VS. EUROPEAN FORESIGHT INSTITUTES

One author, generally favorable to futures studies, still argues that *'the study of future was a Western product on the ground of its relationship with scientific and technological revolution whereas the main bodies that were firstly interested to explore this field were the military institutions and multinational companies. This hence denotes their political and economical [sic] underlying purposes, as well as its strong connection with tactical and strategic studies.'*<sup>165</sup>

In describing the emergence of Futures Studies in the Middle East, Wan Fariza Alyati Binti Wan Zakari comes to the conclusion that *'[c]ompared to their Western counterparts, the development of Futures Studies at the institutional level is relatively much slower, as far as the Muslim countries are concerned'*<sup>166</sup> and that *'the significance of Futures Studies is not widely recognized by the Muslim intellectuals, let alone the public, particularly in the Muslim world.'*<sup>167</sup>

### Security Foresight in the Arab World

It may be both ironic and symptomatic that the region of the world that above all others has epitomized armed conflict in the past few decades pays so little attention to the future of conflict. Without claiming any deep knowledge on this field, this section would like to offer some conjectures about why this may be the case and suggest some courses of action to address the issue.

Beyond the more general foresight specificities that we just described (which were essentially based on religious grounds and on the role that religion plays in the Arab world), we see at least 5 additional possible reasons why there is so little security foresight:

- **Presentism.** It is indeed intriguing that security foresight came to fruition during the Cold War, and then still primarily in the defense establishments in two main protagonists of that non-war – the United States and the Soviet Union. One of the historically quite unique features of this period is that it saw a relatively strong focus on defense

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165 Ibid., 201.

166 Ibid., 204.

167 Ibid., 208.

issues (with reasonably high defense expenditures, large defense establishments and much policy attention from both the top leadership and the broader supporting echelons) without ever a shot being fired in anger between the two opponents. The combination of high security focus with low security activity may have provided a uniquely fertile climate for security foresight to blossom. In much of the Arab world today, conflict is an everyday fact of life. That focuses the attention of the defense establishments much more on today's issues, to the detriment of the future (even though a country like Israel is living proof that the two need not be mutually exclusive; one could in this context possibly even talk about a 'security foresight paradox': that it is precisely those countries that would benefit most from lengthening time horizons, are the least likely to do so).

- **Regimes.** The non-democratic nature of most of regimes in the Arab world is certainly also an inhibiting factor for the development of foresight capacity in the region. In combination with various other developmental pathologies, the political fragility of many of the Arab regimes makes any more systematic contemplation of alternative futures a fairly hazardous undertaking for the few people who might ever experience the slightest inclination in that direction. We do point out, however, that democratic regime status is clearly not a necessary or even a sufficient condition for foresight. The two other language domains indicate that foresight can thrive even in – at best – suboptimal democracies. And the relative dearth of security foresight in the newly democratic states in Central Europe or even in Latin America shows that Western-style foresight is at best thought of as an attribute of more 'mature' democracies.
- **Stovepipes.** Many Arab countries seem to have fairly large and tightly knit security elites, who may very well think about the future, but have proved unlikely to bring these discussions out in the open. The lack of both openness and of 'revolving doors' (whereby experts rotate between governmental and non-governmental institutions) makes it particularly difficult to peek into the inner chambers of governmental decision-making and thinking.

- **Civil society.** The weak current status of Arab civil society is another frequently lamented issue in the literature, in recent years even increasingly in the Arab world itself.<sup>168</sup> Of particular importance here is the issue of (despite recent progress) continued low educational attainment in most of the region<sup>169</sup>, which also implies that even if there were better links between governments and civil society in the Arab world, there would probably still be little demand from below for more forward-looking types of activities. Insufficient investment of human and financial resources into especially the social sciences<sup>170</sup> probably also plays an important role here. Finally, think tanks, which represent one of the important transmission belts between civil society and officialdom in many regions of the world, and are ideally placed for futures work, are also few and far between in the Arab world.<sup>171</sup> Thus writes Ezzat Ibrahim:

*‘Among civil society organizations, think tanks are particularly well-situated to develop new ideas pertaining to political, social, and economic reform in the Arab world. The role of think tanks in society is to seek access to, and ideally improve, the policymaking process by injecting new ideas into the debate. In order for any reform initiative to be successful in the Middle East (particularly outside initiatives offered by the United States or Europe) it must be subject to domestic*

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168 Jacques Aswad, *Arab Human Development Report 2009 Challenges to Human Security in the Arab Countries* (New York NY: United nations development programme (UNDP). Regional bureau for Arab States (RBAS), 2009). See also S. Karajah, ‘Civil Society in the Arab World: The Missing Concept,’ *The International Journal for Not-for-Profit Law* 9, no. 2 (2007); Ibid.

169 Aswad, *Arab Human Development Report 2009 Challenges to Human Security in the Arab Countries*. See especially Chapter 4 on education.

170 There are only an estimated 5,000 Arab researchers looking into the full range of social and political trends and issues that affect the Middle East. Only 2,000 publish on a regular basis through 85 research institutions that cover all domestic and international issues. Salim Nasr, ‘Reform and Development in the Region: What Does the Past Tell Us About the Future?’ (presented at the Think Tanks as Civil Society Catalysts in the MENA Region, The Bellevue Palace Hotel, Broumana, Lebanon, 1999)., as quoted in Ezzat Ibrahim, Brookings Institution., *Arab and American Think Tanks New Possibilities for Cooperation? New Engines for Reform?* (Washington D.C. Saban Center for Middle East Policy at the Brookings Institution, 2003), 12.

171 Ibrahim, Brookings Institution., *Arab and American think tanks new possibilities for cooperation?*.

*debate. Thus, with the current surge of Western reform initiatives, an opportunity has blossomed that can empower the Arab world's research institutions, which have long suffered from direct governmental intervention and a lack of sufficient funds.*<sup>172</sup>

### 6.3 Substantive Findings

The HCSS-team did code 50 documents on the basis of the same coding scheme as the other language domains. The results of this coding (which were not subjected to the same validation procedures as the other language domains) are available upon request. This section will briefly summarize the main substantive findings without entering into the same level of detail as the other regions.

What we have found in the 50 documents on conflict can be categorized into the following three areas (please note that the grouping of articles is not mutually exclusive):

- Existing conflicts between Israel and the Arab countries, between Israel and Iran, between Islamic militant movements and Israel, and between Islamic militant movements and Arab regimes amount to 24% of the total articles.
- Water conflicts constitute 18% of the 50 articles. The two primary conflicts are between Israel and its Arab neighbor countries, and between Egypt and the other eight African countries sharing the Nile basin.
- Articles related to advanced technology, space militarization, internet and/or information technology accounted for 40% of the 50 articles. These articles stress the role of technology and information in the development of weapons and future warfare.

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172 Ibid. One direct policy implication that derives from this study is that there is a good case to be made for building security foresight capacity in the Arab World. The Netherlands is increasingly recognized as an important player in this field, and given the size of many countries in the Arab world, there may be a relatively high return on investment to stimulate focused attention on this area in a few Arab countries (e.g. Jordan).

# 7 Cross-Language Domain Perspectives

## 7.1 The State of the Field

Among the Chinese, English and Russian sources, we have a total sample of 250 studies. 77 percent (191) of these sources is drawn from research institutions, 21 percent from governments (51), and only two percent (5) from international organizations. The fact that this study primarily relied on open sources goes some way towards explaining the conspicuous absence of studies from the business sector. Additionally, commercial organizations tend not to publish their research reports as this is often business confidential information.

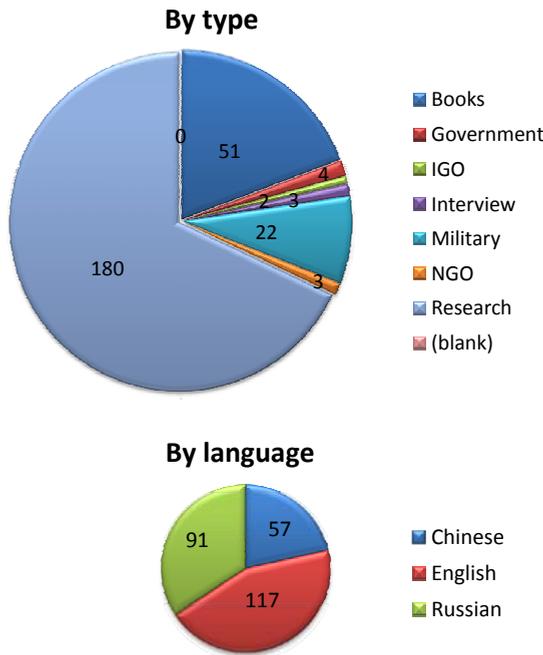


FIGURE 47. FORESIGHTS BY SOURCES & FIGURE 48. FORESIGHTS BY LANGUAGE DOMAIN

Of our sample set, 23 percent (57) was Chinese, 41 percent (100) English studies, and 36 percent (88) Russian. One should not make any inferences from the language breakdown because the language divisions did not naturally emerge nor from the total numbers as to the broader discourses, as these numbers were artificially set (that is, self selected).

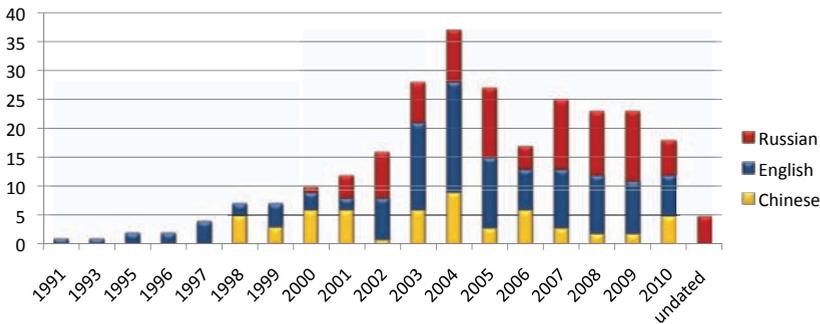


FIGURE 49. FORESIGHTS OVER TIME

Looking at the distribution of the studies over time, it appears that a much greater number of studies were published in the 2000s in comparison to the 1990s. This may be the result of the fact that studies from the 1990s are not as readily publicly available online. It may also be related to the steady-state assumption, and an atmosphere epitomized by the often referred to jubilant ‘End of History’ mood, in which the future will be characterized by peace, hence explaining a lack of interest in the future of conflict. There is a clear upward trend since the end of the 1990s with a spike in 2004. In the post 9/11 era, the field of security received a boost in attention and funding. It could be hypothesized that there is a certain cyclicity of attention (and therefore funding) for the security field with attention being up in the 1980s, down in the 1990s, and up in the 2000s.

### 7.2 Cross-Language Comparison

After having reviewed the main findings in every individual language domain, we now turn our attention to a comparison between and across these domains. Dovetailing the structure used in the language-specific sections, this section starts with an overview of the main differences

between the domains with respect to the set of sources that were collected in this project. We will then proceed with a comparative analysis of first the parameters and then the drivers, before moving to some final take-aways. If you want to go directly to the main take -aways of perspectives across languages, please jump to page 140.

The future nature of conflict continues to fascinate experts across all language domains. The fact that the HCSS team was able to collect a sizeable number of different views about this topic in all language domains testifies to this fact. At the same time, we observe distinct differences across the sets of documents in each different language domain:

- The Arab set was disappointing in quality. HCSS was unable – despite significant efforts that greatly exceeded the efforts in other language domains – to identify any studies that corresponded to the quality criteria we imposed on the three other language domains. They are therefore not included in this report. We have to conclude that the overall research infrastructure remains weakly developed in the Arab world and that there appears to be little room for serious forward-looking security research. What is most striking about the Arab literature we scanned is the extremely presentist tenor of the debate on conflict. Given the importance of the region, the authors continue to feel that we have to make a differently designed effort to identify (and take seriously) the views of local elites.
- The Chinese studies were a revelation to the team. Although there is much discussion in the strategic community about the rise of Asia (and of China in particular), our knowledge of Chinese views of the future remains patchy (and quite derivative – whereby the same sources that are cited in a few Western studies keep getting regurgitated in the Western debate). But the significantly expanded set of documents we collected show that there is a growing strategic community that is actively discussing these matters. It also demonstrates that – despite concerns about (self-) censorship – there is a remarkable amount of diversity within the debate, with some quite distinct views on various aspects of the future of conflict

- The English foresight set is – true to its reputation – uniquely rich and deep. It is worthwhile to note that interest in the future nature of conflict has increased noticeably again, especially in the past decade or so. The recent vintage of official governmental policy reflections on the future of conflict (and of the role of armed forces in it) is especially rich in countries like Australia, the UK, and the US, as well as in the EU and NATO.
- Also the Russian foresight studies that we collected are abundant and fascinating. They show that after a hiatus of about a decade during the immediate tumultuous period after the collapse of the Soviet Union, the Russian security community continues to voice its (now quite diverse) opinions forcefully and publicly.
- One particularly striking feature is the ethnocentric nature of the English literature. Both the Chinese and the Russian sets are significantly more conversant with the English-language literature (clearly without becoming merely derivative, as the rest of this cross-language analysis will clearly show) than the other way around. Based on our analysis of the three sets, the HCSS team sees no intrinsic reasons that would justify this asymmetry, as there are a number of interesting insights, datasets<sup>173</sup>, methods and theories that are quite unique to both the Chinese and the Russian language domains<sup>174</sup> that would certainly deserve closer analysis by English-writing scholars. We do see an increasing amount of Chinese and Russian scholars who actually publish in English, but these are often analysts or academic with a Western affiliation. The real heart of this debate, however, is still pounding primarily in the homelands (Russia and China), and in their

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173 It is interesting to point out that even the historical datasets, references, ‘schemas’ and ‘scripts’ differ across these language domains. Peter Brecke from Georgia Tech, for instance, was able to add about 30% more conflicts to the generally used conflict datasets in the field of international relations by parsing Chinese, Japanese and Russian sources that had hitherto remained unknown. Peter Brecke, ‘The Long-Term Patterns of Violent Conflict in Different Regions of the World’ (presented at the Uppsala Conflict Data Conference, Uppsala, Sweden, 2001).

174 Examples of this are for instance the Russian Eurasian school with a strong geopolitical bent, or synergetics, with some overlap with recent Western scholarship on complexity, while also offering some quite unique views.

native languages. We strongly feel the effort that was made in this research project points to the value added of crossing language boundaries in our analyses of the future of conflict.

Despite these clear differences between the language domains, the HCSS team feels confident that the strict coding scheme that was used in this research project (with sometimes virulent discussions on Google Wave about cross-language coding consistency) does allow for some reliable cross-language comparisons. Wherever differences remained, we tried to point these out in the language-specific analysis by offering concrete examples of how one region interpreted a particular parameter or driver.

### Parameters

This section will first provide a global overview of what the data tell us, before moving onto an analysis of first the parameters and then the drivers – all of this across and between the different domains. It will end with some concluding thoughts.

#### **Global overview**

The first observation that leaps out from the ‘big picture’ shown in Figure 50 is that it reveals a broad global expert debate on the future of conflict encompassing a wide variety of views on practically every single parameter, ranging from the types of actors who will be involved, the type of conflict they will be involved in, the instruments that they use, to the length, distinctiveness and salience of future conflict. There are very few truly dominant values – which confirms (but also makes more concrete) the observations in many recent defense foresight studies that the future is deeply uncertain (NL Future Policy Survey; NATO Multiple Futures; UK Green paper, Strategic Defence and Security Review and ‘Global Trends’; French Livre Blanc, etc.).

The second general observation from figures is that a few parameters receive more attention than others: especially the parameters ‘domain’, ‘primary means’ and ‘actors’ stand out here. This may be due to the fact that people have an easier time grasping concrete, less conceptual matters such as the ‘who-what-where-how’ question.

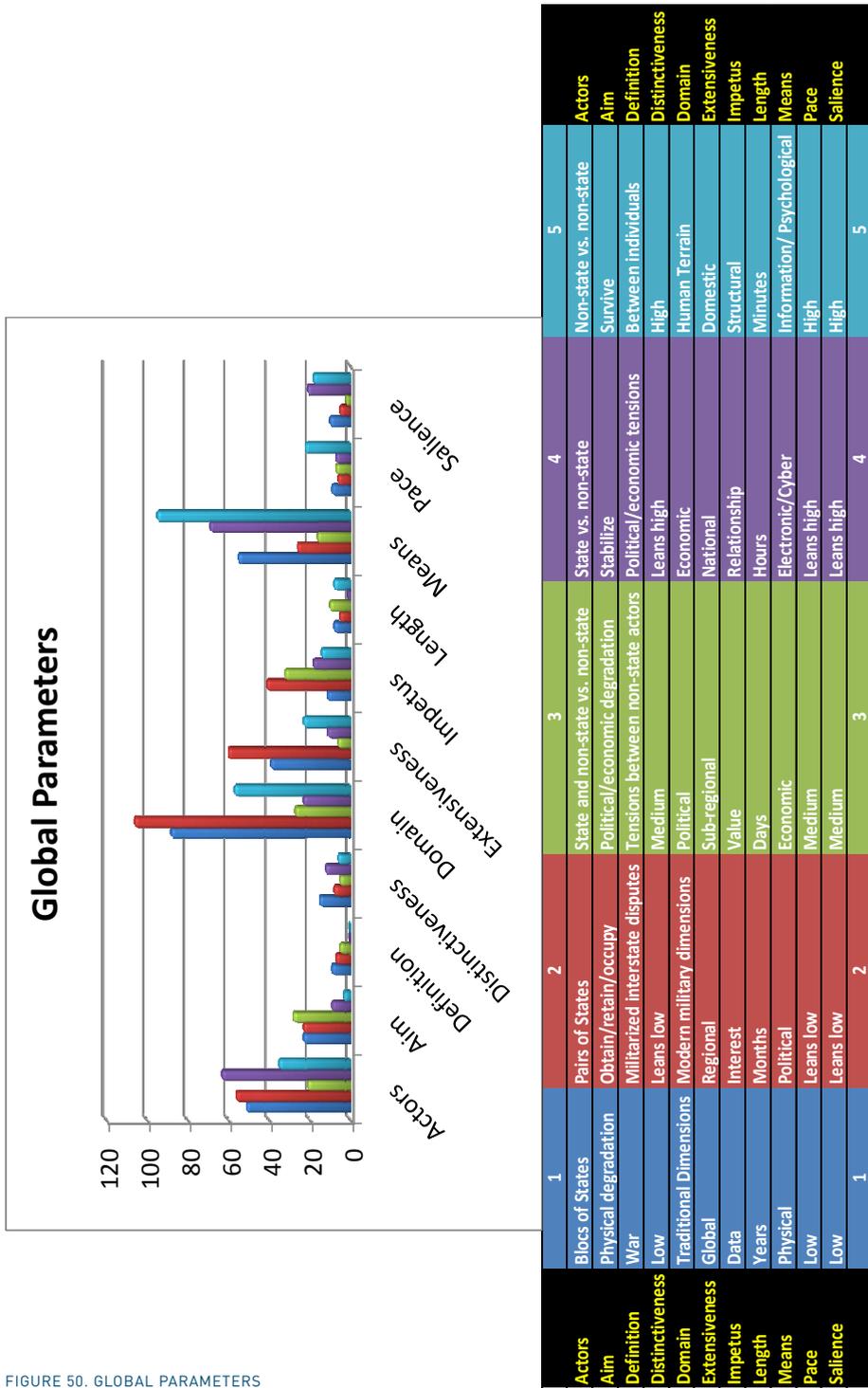


FIGURE 50. GLOBAL PARAMETERS

### **Parameters by language domain**

This section will go through the individual parameters one by one and will identify some of the most striking findings our analysis yielded.

#### **Actors**

The types of actors involved in future conflict are frequently discussed in especially the English and Russian sets – significantly less in the Chinese set. Arguably, this may be a reflection of reluctance in the Chinese literature to offend any actors and a preference to focus on more abstract topics. We also observe a fairly equal spread for almost all actor types across language domains, suggesting that this is a particularly open parameter – one that could go in many directions. We note the rising importance of non-state actors in the foresight literature, with state vs. non-state dominant overall in the English and Chinese studies, but non-state vs. non-state almost as important in the Russian studies. Despite this increased focus on non-state actors, both dyadic conflict (i.e. between states) as well as conflict involving blocs of states remains salient.

#### **Aims**

Overall, the parameter aim does not feature prominently across language domains. When it is discussed, however, experts widely diverge on the sort of aims that participants are likely to pursue in future conflict. Contrary to the view of those that see a shift from an industrial to a post-industrial mindset, territorial occupation and physical degradation continue to score relatively high in the overall data set. But political and economic degradation is seen as the most important aim overall while stabilization is mentioned only very infrequently as an aim of future conflict. Conflicts involving actual survival go practically unmentioned (entirely in the Chinese discourse) by global experts.

There are significant differences between language domains with respect to the aim actors might pursue in future conflicts. In the Chinese studies, physical degradation and obtain/retain/occupy are seen as the dominant aims, whereas in the Russian domain it is primarily political and economic degradation. The English domain is more dispersed on aims.

#### **Definition**

Surprisingly, the foresight community does not address the definition

of future conflict very often. In fact, it is the least frequently mentioned parameter in the entire set. One does get the distinct impression that implicitly, most studies still associate conflict with armed conflict. This also becomes clear in the studies that do define conflict more explicitly and in which war and militarized inter-state disputes score most highly. The only two studies that explicitly mention a definition leave no doubt at all and just equate conflict with war (although there is quite a bit of emphasis on what they call contact-less war). The Chinese studies seem a little bit 'softer', although we do want to emphasize again that the numbers here are extremely low. Conflict between individuals is not explicitly addressed at all.

### **Distinctiveness**

While distinctiveness does not receive much attention either, a broad range of opinion exists with respect to whether future conflicts will have a clearly marked end and beginning. Some consider the beginning and ends of future conflicts to be clearly demarcated while others expect the timing of conflict to be much fuzzier. The Global War on Terror or the recent (possible) cyber conflicts in places like Estonia, Georgia or Iran serve as contemporary examples in case. It may also reflect on the reality of modern, asymmetric conflicts in which actors may be able to win the war but subsequently lose the peace. In such conflicts, the end of major combat operations may not be analogous to 'mission accomplished', as one contemporary mistook it for.<sup>175</sup> It is interesting to note that most language domains see a trend over time towards conflicts that are less clearly delineated in time.

### **Domain**

The domain of future conflict is the single most often mentioned parameter in the entire set, with traditional (land, sea, air) and modern (space and cyber space) military dimensions remaining dominant. The political and economic domains are receiving an increasing but still small

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175 See the speech by President G.W Bush in which he declared the end of major combat operations standing underneath a 'Mission Accomplished banner'. See Jarrett Murphy, 'Mission Accomplished' Whodunit. W. House Changes Stories On Much-Mocked Banner At Carrier Speech' (CBS News. World, October 29, 2003), <http://www.cbsnews.com/stories/2003/10/29/iraq/main580661.shtml>.

amount of attention over the years, while the human terrain domain – the battle for the hearts and minds – is a surprising salient theme across the literature.

If we compare this parameter between the language domains, we see that the military domain remains dominant in all three domains, even if the ‘modern’ domains (cyber and space) have already surpassed the traditional (more kinetic) domains in the Chinese and Russian studies. Here again the Chinese and Russian set appears more ‘modern’ than the English set – probably a surprise to many readers. We also note that the ‘human’ domain is also clearly a domain that is getting more and more attention in all three domains, in this case especially in the English and Russian ones.

### **Extensiveness**

Whether future conflicts will be of a global versus a local nature or somewhere in between is also a quite popular theme in this literature, and one where we see considerable bandwidth in opinion. Global conflict and regional conflict are the most frequently mentioned ranges in this set, with the regional range taking first place. This may be a reflection of traditional Cold War thinking but it could also be related to the global nature of the world economy which provides for an unprecedented degree of global interdependency, also in the security realm. Sub-regional conflicts are not seen as a salient form of conflict, which may appear somewhat counter intuitive given the present day frequency of these kinds of conflicts.

Extensiveness is much more often discussed in the English and Russian sets than in the Chinese one. The global and regional geographical range are still on top in most domains (with the global one intriguingly much less so in the Chinese domain). It is interesting to note that domestic (i.e. sub-national) conflict is quite strong in the Russian domain, maybe reflecting Russia’s current (and prospective?) issues in the North Caucasus (and maybe even the Russian Far East).

### **Impetus**

Impetus or motivation – that what causes actors to enter into a conflict – is obviously a very important feature of modern conflict, even though it is not that prominent as a parameter in this set of

forward-looking studies. This may also be due to the fact that this was one of the more difficult parameters to code, as the various motivations are sometimes difficult to distinguish and overlap to a significant degree, with different value systems, different interests and different structural relationships all contributing to conflict. They may also be prone to more inter-coder discrepancies than the more tangible parameters and were therefore coded with more circumspection by the HCSS coding team. Given the parameter's importance in especially the theoretical literature, we did decide against taking it out of the study.

We note that interests come out highest of the overall coding, with values a close second. This is also the case for the Chinese and especially the English sets, but is reversed in the Russian set (but again with a very small gap between these two).

### **Length**

Compared to the other parameters, the length of future conflict is barely discussed. It received the second lowest amount of mentions across the domains. It is worth pointing out, however, that on those rare occasions when it is discussed, both conflicts of years' duration as well as conflicts that last only minutes are touched upon. There appears to be a trend towards 'shorter' conflicts in all language domains.

### **Means**

The primary means by which conflicts will be waged in the future are, unsurprisingly, discussed intensively across the various language domains with a wide variety of instruments seen as viable. This is in fact the second most frequently coded parameter overall. The data show a split between traditional (physical) means on the one hand and more 'modern' ones (electronic/cyber and information/psychological<sup>176</sup>) means on the other. While physical means remain quite prominent in the dataset, what is noticeable is that the 'modern' ones come out ahead, with the information/psychological means proving to be the most dominant means across all languages.

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<sup>176</sup> We do point out that differentiating between these two values in the coding proved difficult (e.g. where does info end and cyber start?).

Political and economic instruments are seen as less prevalent. This corresponds to our findings on the domain parameter, where the political and economic domains also scored relatively low. This may give pause for reflection to analysts who anticipate a shift towards ‘softer’ forms of conflict.

If we take a closer look at the differences between the language domains, we see that information/psychological means (and even more overwhelmingly the electro/cyber/info/psycho combo<sup>177</sup>) end up in the first spot in every single language domain. The HCSS team considers this to be one of the important findings of our study – one that our security and defense establishments would be well advised to heed. As was the case with the domain parameter, we once again note that the English set of studies seems the more traditional one of the three here<sup>178</sup>. English studies, on the other hand, put more stock, besides the traditional (physical) means, also (relatively speaking) in political and economic means.

### **Pace**

Like the duration of conflict, its pace is not discussed very frequently either, with the partial exception of the English set in which it ends up in fourth place in the ranking of parameters. In the Chinese set, this parameter is not mentioned at all. Experts in the English and Russian language domains diverge widely with a majority foreseeing a high pace of conflict in the future.

### **Salience**

The salience of conflict – how much conflict there will be in the future – receives surprisingly little attention in the foresight community. The studies that do touch upon this subject are divided over the question whether conflict is going out of fashion or whether the 21<sup>st</sup> century will witness the return of conflict in various guises – inter-state, intra-state, non-state etc. A majority of the foresights anticipate a future in which

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<sup>177</sup> See also footnote 176.

<sup>178</sup> We do have to point out the English that set goes back a bit further in time than the two other ones. But we invite the reader to take a closer look at the more detailed data in Annex C, which show that even if one takes out those earlier studies, this finding still stands.

conflict is frequent, with a much smaller subset expecting the future to be relatively more peaceful. This may also be explained by a professional bias amongst researchers of conflict: if one does not consider conflict to be probable, one will be less inclined to study it.

The English and Russian studies show some spread, but with a bias towards high salience (with in both cases also an intriguingly strong outlier in low salience), whereas the Chinese studies tend more towards a lower salience of future conflict.

### Drivers

This section will take a closer look at the drivers that are identified in the studies as the main drivers behind the future of conflict. We will start with a general overview (what do the overall data tell us?) before turning our attention to the differences between the language domains.

#### Global overview

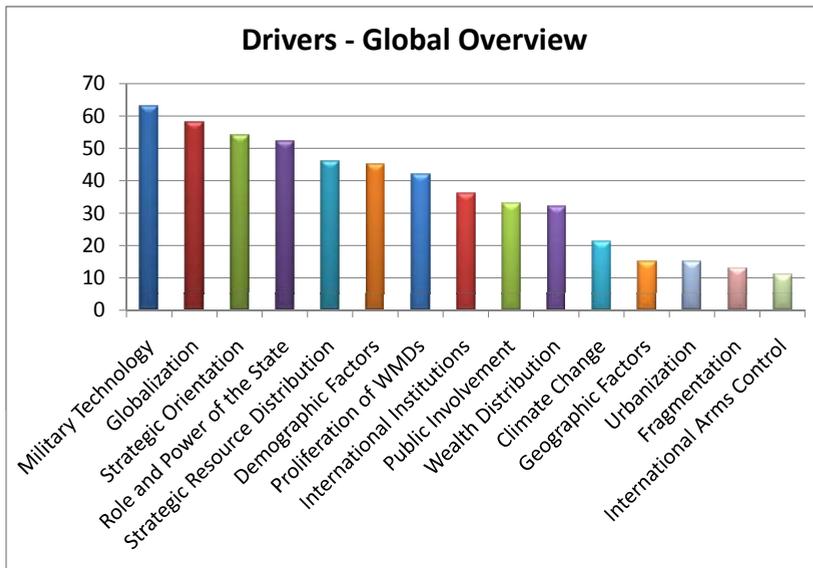


FIGURE 51. GLOBAL DRIVERS

The foresight community identifies a wide array of drivers of future conflict. These drivers were not identified by HCSS ahead of our coding effort, but were inferred from the data. They are therefore not only at different levels of analysis (e.g., state system, state, individual) but are also of an entirely different nature (from the nature of technology, to demographic and geographic factors, to the role of the state to the distribution of wealth). Military technology, globalization, strategic orientation and the role and power of the state feature most prominently as drivers of future conflict, while strategic resource distribution, WMD proliferation and demographic factors are also very frequently mentioned.

**Global drivers – Importance**

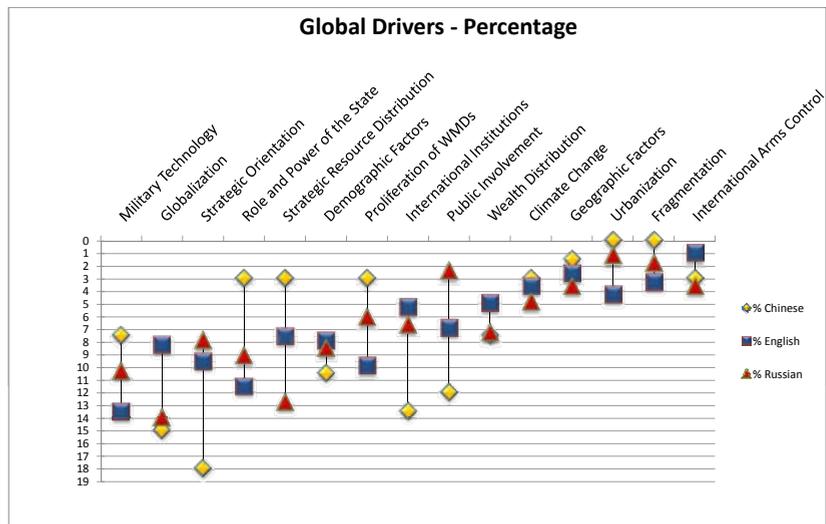


FIGURE 52. GLOBAL DRIVERS - IMPORTANCE BY LANGUAGE

This figure shows the relative importance of drivers across the different language domains. This importance is derived from the percentage of studies in a specific language domain that mentions that particular driver. They are presented here in declining order of importance from the left to the right. To give an example: future military technology is cumulatively

the most frequently mentioned driver in the three language domains, and it is mentioned in 14% of all English studies, in 10% of all Russian studies but only in a little under 8% in the Chinese studies.

Language domains clearly differ in which drivers they see as the most important. The data do not allow us to discern any real clustering effects whereby similar language domains would mention the importance of the drivers in similar ways. Sometimes the English and Chinese studies are similar (as in the cases of globalization – fairly often, or arms control and climate change – very rarely); sometimes Russian and Chinese (on globalization); and sometimes English and Russian (strategic resource distribution and geographic factors).

The biggest difference in the assessed importance of drivers across language domains is the role and the power of the state (thought to be high in the English domain and surprisingly low in the Chinese domain. We may note here that this driver is sometimes hard to differentiate with the strategic orientation driver, which is the most frequently cited Chinese driver. One interpretation here could be that this suggests that these Chinese studies do think that the grand strategy of a state may be more important for the future of conflict than the power assets it can bring to bear or its rank in the international system.

Another important difference can be found back in how often the different language domains discuss the future of military technology as a driver: this is the most frequently cited driver in the English studies, cited quite often in the Russian, but far less in the Chinese studies. We would hypothesize that this may illustrate a more traditional military hardware-focus in the former Cold War protagonists vs. an upcoming China that may be looking for other forms of power manifestation. It is important to point out that current Chinese investments in military hardware contradict this take-away from the foresight studies.

Other striking differences include the relative importance of WMD (thought to be high in English studies, but lower in both Russian and Chinese studies) and of public involvement – occurring frequently in English and (interestingly) Chinese studies, but much less in Russian studies.

## Global drivers – Rank

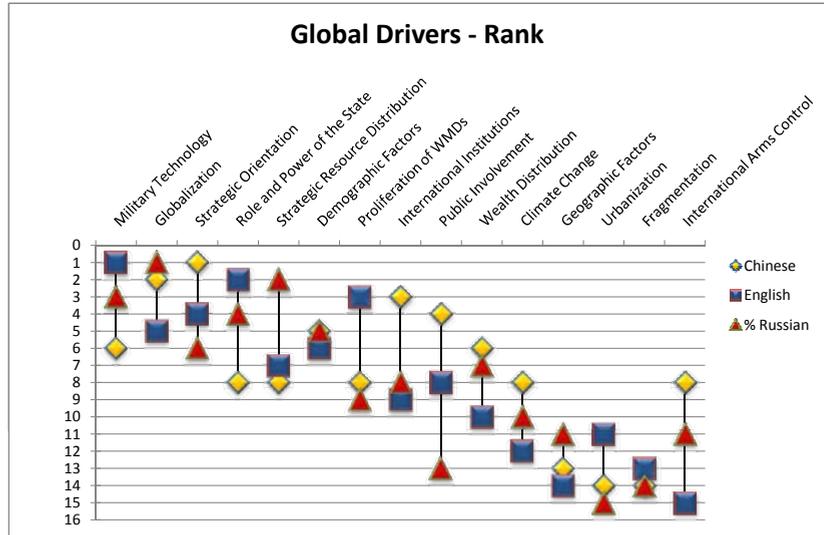


FIGURE 53. GLOBAL DRIVERS – RANK

This figure illustrates the rank order for each driver for each language domain, again ordered from left to right in cumulative declining order. To give an example: the nature of future military technology is the top driver in the English, the third one in the Russian but only the 6<sup>th</sup> one in the Chinese studies.

The figure shows – in line with the previous one – that the overall top drivers vary quite widely across the different language domains – only demographic factors and fragmentation get virtually the same rank in all 3 language domains (but neither are that high up on the list).

Whereas the previous figure (which merely illustrates how often drivers were mentioned) showed that language domains sometimes tended to cluster on an ad-hoc basis, this figure shows that when we look at the actual rank order behind the frequency count, domains tend to differ more. In the overall top 6 drivers, for instance, only globalization saw the Chinese and the Russian studies attributing it a top-3 ranking (the

English-language domain only put it in the 5<sup>th</sup> position), while both English and Russian sources put military technology in their top-3 (and the Chinese studies put it in 6<sup>th</sup> position).

### 7.3 Main Take-Aways Cross-Language Domain

The global picture together with the cross language comparison reveals the existence of a livid and lively debate on the future nature of conflict. Remarkable differences emerge between the various language domains both substantively as well as in style and quality – of the writing, research and sources. The Arab future of conflict discourse was meager and disappointing on both counts. Most striking is the presentist focus of the Arabic language debate. The Chinese studies showed a remarkable amount of diversity, with distinct views on a range of aspects of the future of conflict. The English foresight set is uniquely rich and deep, albeit rather ethnocentric, with no sign of any knowledge amongst experts in this domain of the views of other language domains. The Russian security community is resurging and articulates its opinions forcefully and publicly. It is our conviction that the current study clearly denotes the tremendous value of going beyond language boundaries in assessing the future nature of conflict.

Substantively speaking, our analysis of the various language domains warrants the following main take-aways from global views on the future nature of conflict:

- A wider variety in actor types is likely to participate in conflict from which new and unexpected coalitions across various types of actors may emerge;
- The conflict spectrum is perceived to be significantly broadened with conflict expected to venture out to non-kinetic domains;
- Unsurprisingly, cyber space and space are increasingly seen as likely domains of future conflict. How this will precisely affect the nature of conflict remains subject of heavy speculation;
- Further down the road, the human terrain is thought to become a battlefield in itself, as a result of scientific developments which are as of yet difficult to imagine let alone predict;
- Meanwhile, conflict in the traditional domains sea-land-air is by no means expected to be obsolete across the board;

- In line with the expansion of domains, actors will likely employ a broader toolset in the conduct of conflict;
- Partly as a result of these developments, future conflict may become increasingly blurred, with neither a clear ending or beginning, nor a clear understanding of the precise opponents in a conflict;

Military technology, globalization, strategic orientation and the role and power of the state are seen to be driving the future (nature of) conflict in divergent ways.



## 8 Conclusion: What Do We Take Away From This?

It is by now almost a platitude to assert that the future is uncertain.<sup>179</sup> But what precisely is the nature of this (increased) uncertainty? We see an unprecedented, and accelerating, rate of change in the world today, the result of a growing global interconnectedness. On the other hand, as always has been the case in human history, many factors that determine our security environment remain stable or display a predictable evolution. For quite a number of these factors, we have a pretty clear idea whether they are relatively certain or uncertain. But we do have to aware that we could be wrong in our classification; and for some factors we just don't know. It is this situation that calls for a subtle, well-developed future orientation process that combines an array of approaches, from trend analysis and predictions based on extrapolation, via shock planning, to ways to prepare structures and processes for quick adaptation to new, unforeseen or even unforeseeable, strategic changes.

Pundits regularly assert that human kind is transitioning through a period marked by epochal change with profound implications for the future of conflict.<sup>180</sup> But the precise parameters of these implications are not often systematically described, other than at the highest aggregated level – e.g., the world is entering the Information Age - or by giving anecdotal examples –e.g., how unmanned aerial vehicles (UAVs) are revolutionizing aerial warfare. Many of the big picture exercises which seem to be part and parcel of defense foresight planning these days<sup>181</sup> go some way towards describing one or multiple environments

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179 Following the publication of Taleb, *The Black Swan: the Impact of the Highly Improbable*.

180 Indeed, many of the experts whose work we examined in the course of this study are inclined to do so, but also the authors of this piece are sometimes guilty as charged. See for example, Tim Sweijs et al., 'World Foresight Forum 2011. Grand Challenges of a New Era' (HCSS, 2010).

181 For example the studies referred to in footnote 6.

within which future conflicts may unfold, and are useful in that respect. However, the dynamics in the parameters that define the (future) nature of conflict – rather than figure as mere contextual variables – can only be described using a higher-level resolution frame. We should take care, however, not to miss the woods for the trees either, by zooming in too closely on elements at an operational or even tactical level. Ideally, we should capture the dynamics within and between the various layers of aggregation,<sup>182</sup> to identify the salient changes in these parameters at – what we, in line with common parlance, will call – the strategic level. This is precisely where the analysis in this study contributes.<sup>183</sup>



FIGURE 54. MULTILAYERED REALITY AND THE FUTURE NATURE OF CONFLICT

182 Paul K. Davis, *Introduction to Multiresolution, Multiperspective Modeling (MRMPM) and Exploratory Analysis* (Santa Monica, CA: RAND, 2005), SLIDE 34, 36, 37

183 What this study certainly does *not* contribute to is speculation on precise instances of future conflicts. This would only make sense within the framework of scenario/simulation exercise, which this study emphatically is not..

But for HCSS, as for its customers, orientation is not an end in itself. Orientation is useful only if it feeds and facilitates better future navigation.<sup>184</sup> This study is a first step in an analytical sequence that, in the end, should impact real world balance of investment choices that determine the capability portfolio of the defense organization, and possibly of other security organizations. In this analytical sequence we aim to contribute to bridging the gap between the ‘armchair’ strategists who, comfortably non-committed, may contemplate the future nature of conflict in a conceptual sense; and the defense and security planners in governments, who are faced with difficult decisions that directly affect the ability of their organizations to navigate future conflict environments up to twenty or more years down the road.

It is with an eye towards these difficult decisions that we will briefly discuss our interpretation of what the results from this study could mean for future security and defense planning. This is by no means a comprehensive overview of the actual choices that face our defense and security establishments, nor a balanced assessment of the options they might have. This (luckily) falls beyond the scope of this study. This analysis will only briefly sketch a number of issues that our security and defense establishments will likely face in the decades to come, and therefore must start to contemplate now.

Based upon our research, the picture emerges that over the next twenty years conflict will experience significant transformation. We definitely do not go so far as to assert that an inevitable epochal change in the future nature of conflict will come about. At a philosophical level, applying an interpretation of Clausewitz’s work more broadly, the nature of conflict could be seen as being immutable, while it is only its form and shape which change<sup>185</sup>. But even with respect to form and shape, it is likely that there will be a degree of continuity over the next two decades. Actors, means and domains will broaden up, but will not be entirely replaced.

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184 De Spiegeleire et al., *STRONG in the 21st Century: Strategic Orientation and Navigation under Deep Uncertainty*.

185 Carl Von Clausewitz, *On War*, trans. Michael Eliot Howard and Peter Paret (Everyman’s Library, Random House, 1993); Paul Van Riper, *The Immutable Nature of War*, 2006, [http://www.donhcs.com/hsr/20\\_october/doc/03\\_The%20Immutable%20Nature%20of%20War.pdf](http://www.donhcs.com/hsr/20_october/doc/03_The%20Immutable%20Nature%20of%20War.pdf).

What we do see, however, is that the rules of the game that will guide future conflict will be (and are already being) rewritten to such an extent that our current security and defense establishments will have to substantially adapt.

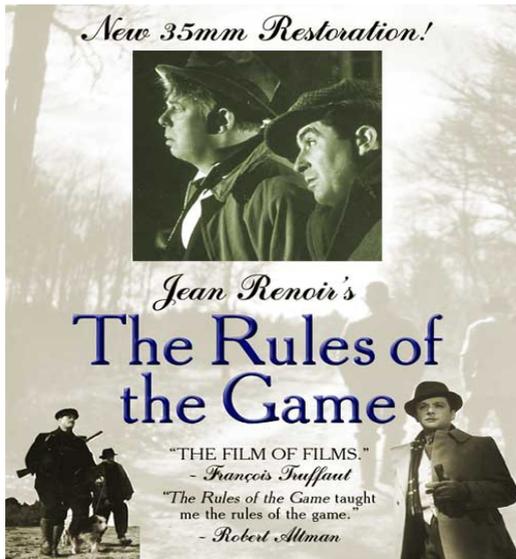


FIGURE 55. THE RULES OF THE GAME ARE CHANGING

In illustrating this notion of the changing rules of the game, we will briefly highlight some of the challenges related to the key dimensions of change identified in this study.

**What does the emergence of new actors mean for security and defense?** As has become abundantly clear from our overview, a wider variety of actor types is likely to participate in future conflict. While the state will likely continue to be a dominant conflict actor, terrorist organizations, super-empowered individuals, private military/security companies and multinational corporations are expected to enter or to remain in the conflict arena. Surprising coalitions across various types of actors may emerge. This will produce new challenges to governments in devising appropriate responses towards either co-opting or countering

these actors and coalitions. The first decade of the 21<sup>st</sup> century already provided ample examples of how states were distinctively uncomfortable shirking the state-on-state conflict paradigm and grappled with the advent of non-state actors as opponents. The issues that came to the fore in the US Global War on Terror with respect to the legal status of non-state actors – e.g. secret renditions, off shore prisons and military tribunals – are just one out of many that states will need to deal with in a more amorphous conflict environment.<sup>186</sup> What are the rules if states would become entangled in conflict with multinational corporations (MNCs)? And what should be an appropriate response of states when MNCs engage in conflict with one another? The greater diversity in actor types begs for a greater understanding of different conceptions of conflict that prevail around the world. But above all, it highlights the fact that as old paradigms are withering away, states will need to come to terms with the fact that their old rule book may not be attuned to new realities.

**What does the expansion of the conflict spectrum mean for security and defense?** A second point that appeared consistently throughout our analysis is that over the next two decades the conflict spectrum is likely to be significantly broadened. Conflicts will take place in and across multiple domains, including non-kinetic domains. The traditional domains sea-land-air are by no means expected to become *terra incognita*, but cyber space and space are increasingly seen as prominent domains for the unfolding of future conflict. Further down the road, the human terrain is likely to become a conflict theatre in itself owing to scientific developments which are as of yet difficult to imagine let alone predict. How this broadening of the conflict spectrum will precisely affect the nature of conflict remains subject of heavy speculation. It is clear though that capabilities and doctrines will likely require fundamental revision in order to deal with the challenges posed by these developments. Establishing robust defenses and creating effective offenses, as well as applying such time tested concepts as deterrence, in this new conflict environment, will require innovative thinking accompanied by forthright doctrinal change.

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<sup>186</sup> On this subject, see also Philip Bobbit, *Terror and Consent: The Wars for the Twenty-First Century*, 1st ed. (New York, NY: Knopf, 2008).

**What does the diversification of the primary means employed in conflict mean for security and defense?** The range of primary means employed in conflict is expected to broaden as well. Kinetic means will not necessarily be the instrument of choice, as it is likely that the use of primary means in the electronic, information and psychological realm in conflict will increase. The utilization of economic and political instruments is also deemed to become more prevalent, as either a substitute or a complement to highly destructive kinetic weaponry. The expansion of the toolset will require governments to build up new capabilities for defense and offense. Governments will need broader toolsets to uphold the wellbeing of their citizens and protect their national security interests. The real challenge will lie in striking the proper balance in the capability set and the division of responsibilities amongst different governmental departments.

**What does the potential indistinctiveness of the future nature of conflicts mean for security and defense?** What constitutes conflict and how to delineate conflict from war is another pertinent issue illustrating the changing rules of the game. While official war declarations have gone out of *vogue* a long time ago,<sup>187</sup> the actual beginnings and endings of conflict generally have been clearly marked. Future conflicts, on the contrary, are expected to become increasingly blurred, with neither a clear ending or beginning, nor a clear understanding of who are the precise opponents in an actual conflict. Actors may even be unaware of the fact that they are involved in conflict. The distinct indistinctiveness of future conflict will raise questions as to what constitutes an act of conflict and when states can and should authorize (military) action. In such a fluid context, states will need to greater anticipatory capabilities in order to unveil the opaqueness of the security environment.

In conclusion, this study has described significant differences between perceptions on future conflict between language (and *ceteris paribus* regional) domains; it has highlighted the general uncertainty that exists with respect to the precise nature of future conflicts; and finally, it has argued that the rules-of-the-game guiding future conflict are changing, something which our governments should be wise to take into account when preparing to partake, whether willingly or unwillingly, in future conflicts.

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# Annex A – Quotes Drivers

## Chinese Language

### Military Technology

*'U.S.-China Conflict 2.0 is ultimately promoted by advanced cyber technology and U.S. promotion of Western values'.<sup>188</sup>*

*'Precision strikes by information weaponries will be able to determine the outcome of a battle within the first few minutes of conflict, and will determine the overall outcome of a war within the first few days'.<sup>189</sup>*

*'[Information technology] drives the transformation of wars from the mechanized wars in the industrial era to informationized wars in the information era. New forms of wars are created as a result: information warfare – characterized by electronic warfare and cyber war – is becoming the main form of wars'.<sup>190</sup>*

*'The key to win informationized wars in the future is to develop and deploy new concept weaponries, kinetic weaponries in particular'.<sup>191</sup>*

*'Because the arms trade across the globe, it is possible that superpowers will be involved in regional armed conflicts. Most of the weapons and military equipments used in Third World conflicts are provided by the two superpowers. One feature of modern warfare is that the consumption of ammunition is very fast. After the*

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188 Wang, 'Zhōng měi chōngtú 2.0: Wōmen zhǔnbèi hǎo le ma?' [Sino-US Conflict 2.0: Are We Ready?].

189 Geng, 'Wèilái zhànzhēng xīn qūshì zhǎnwàng' [New Trends in Future Warfare], 74.

190 Xi Xu and Wenhua Shi, 'Wèilái zhànzhēng de shāshǒujiàn—dòngnéng wǔqì' [Killers in Future Wars: Kinetic Energy Weapons], *Jiǎn chuán diànzǐ gōngchéng* [Ship Electronic Engineering] 30, no. 2 (2010): 45.

191 Qian and Zhou, 'Wèilái zhànzhēng bàofā de fēi jūnshì yīnsù' [Non-Military Factors in the Outbreak of Future Wars], 4.

*war begins, the two sides in the war will soon need further supply of arms and ammunition, otherwise it will be defeated... Therefore, the arms exporter countries have become the protectors of the importers. Arms trade will be a major factor in affecting future international relations. It will affect war and peace in the third world, and may even affect the risks of nuclear war between the superpowers*<sup>192</sup>.

*'Future militaries will no longer rely on massive manpower and firepower to seek for quantitative advantage over the enemy; instead, they will use computer technology to win the wars'*<sup>193</sup>.

## Globalization

*'With the strengthening of economic globalization global economy is binding various countries together. War will be viewed more of an obstacle rather than instrument for economic prosperity'*<sup>194</sup>.

*'As long as there is still difference between different ethnic groups in terms of values, cultures, and ethic standpoints, it will be natural that different nations will try to protect and maintain their own value systems. This has been the key driver of ethnic conflicts since the end of the Cold War. It looks as if ethnic conflicts have various reasons in terms such as religion and territorial claim, but if we look at the root causes, they all point to the impact of globalization... Therefore, the more globalized the world becomes, the more intense ethnic conflicts will be in the future'*<sup>195</sup>.

*'Globalization is enhancing the efficiency of terrorist organizations who are taking advantage of international criminal networks to seek opportunities of cooperation'*<sup>196</sup>.

*'Economic globalization determines that international relations in 21st century will*

192 Ibid., 17.

193 Yang, 'Shijie lishi zhengtí fāzhǎn de qīshì——shijie lishi fāzhǎn qūshì yǔ 21 shìjì zhànzhēng yǔ héping yùcè' [The Overall Development of World History - Trends and Forecast for the 21st Century about War and Peace], 29.

194 Yang, 'Zhànzhēng, héping yǔ dàodé——jiān lùn héping zhǔyì de kěnéng xìng' [War, Peace and Morality: Possibility of the Realization of Pacifism], 98.

195 Zhao, 'Quánqiú huà: 21 Shìjì guójì chōngtú de zhūdǎo yīnsù' [Globalization: The Main Factor in World Conflicts in the 21st Century], 17-18.

196 Qin, 'Cóng zhànzhēng wénhuà zǒuxiàng héping wénhuà' [From a Culture of War to a Culture of Peace], 21.

*be interdependent and conflicting at the same time*'.<sup>197</sup>

*'It seems at the first sight that ethnic conflicts in today's world are driven by factors such as religious confrontation and territorial disputes, but after removing these covers, we will see that globalization is the fundamental driving force behind all of these*'.<sup>198</sup>

### Strategic Orientation

*'countries will become more cautious in considering going to war as a means of resolving inter-state conflicts; whereas 'active defense', 'cooperative security', 'deterrence', and 'preventive diplomacy' will become more popular as strategic options for decision-makers*'.<sup>199</sup>

*'Today, countries no longer seek strategic advantage purely through military means. Instead, they are making efforts to increase their comprehensive power in order to obtain a good strategic position in the new century. This leads to a transformation of national defense strategy – defense strategy that centered on military power will be replaced by new ones that emphasize all aspects of military, politics, economics, technology, and culture*'.<sup>200</sup>

*'The 'dam effect' which is created by the huge gap of power will make the hawkish politicians in the United States more assertive. They will forcefully promote American views and moral standards across the globe under the protection of promoting human rights. 'Those who support me will prosper, and those are against me will die'. Tempted by profits, the ambition of the hegemon to dominate the world will be further enhanced. In an era of peace and development, the ease of spring will be clouded, the danger of war increased*'.<sup>201</sup>

*'The trend of future conflict will... encourage countries to seek the enhancement of military alliance or security cooperation and to increase their capacity of*

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197 Zhang and Wang, '21 Shiji: Shi zhànzhēng, háishi héping' [21st Century: War or Peace?], 7-8.

198 Zhao, 'Quánqiú huà: 21 Shiji guójiè chōngtú de zhǔdǎo yīnsù' [Globalization: The Main Factor in World Conflicts in the 21st Century], 17.

199 Meng, 'Gāo jìshù tiáojiàn xià zhànzhēng yǔ héping de xīn tèdiǎn' [Features of Future War and Peace in a High-Tech Environment], 10.

200 Zhang and Wang, '21 Shiji: Shi zhànzhēng, háishi héping' [21st Century: War or Peace?], 30.

201 Ibid., 7-8.

*deterrence*'.<sup>202</sup>

*'In future conflicts, the role of the military to deter and prevent wars will rise. To win without fighting will be preferred.'*<sup>203</sup>

### Role and Power of the State

*'It is clear that state sovereignty, particularly the sovereignty of developing countries, is being eroded during the process of globalization; the state is no longer an entity with absolute sovereignty. However, the state will not withdraw from the world stage. To the contrary, for international relations, the state will continue to be the main player, and mostly of the countries in the world are still developing countries. It is important to stress that, no matter how seriously the nature of state sovereignty has been eroded, it will continue to maintain a form of sacredness. This is completely contradictory to the trend of globalization. From the standpoint of world politics, such dilemma determines the development trend of international security system. In an anarchical system of world politics, such dilemma will make international conflicts more complicated and intense. Because of the fundamental nature of this dilemma, as long as the status of the state as the basic unit in the international system, such dilemma will not get solved.'*<sup>204</sup>

### Strategic Resource Distribution

*'Fighting for resources is the fundamental driving force of international conflicts. Wars in human society derive from the lack of two things: The first is the lack of resources. Fighting for rare and strategic resources that are critical to national security and economic development is always is the root cause for a country to go to war. The second is the lack of trust... However, between the two factors that may cause wars, the lack of resources plays a more fundamental role.'*<sup>205</sup>

*'A key characteristic of global security environment over the next few decades would be the emergence of a variety of conflicts over oil.'*<sup>206</sup>

*'Caused by the economic crisis, rising unemployment rates, inflation, falling living*

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202 Geng, 'Wèilái zhànzhēng xīn qūshì zhǎnwàng' [New Trends in Future Warfare], 75.

203 Lin, 'Wèilái de zhànzhēng' [Future Warfare], 20.

204 Zhao, 'Quánqiú huà: 21 Shìjì guójiā chōngtú de zhūdǎo yīnsù' [Globalization: The Main Factor in World Conflicts in the 21st Century], 16.

205 Wang, 'Guójiā chōngtú jiāng wéirào zīyuán zhǎnkāi' [Future International Conflicts Will Be over Resources], 57.

206 Ibid.

*standards of workers, the deterioration of the international financial system will lead to instability on national development. Competition for raw materials will become the fuse of war between some countries’.*<sup>207</sup>

## Demographic Factors

*‘The role of the size of population will decrease in future conflicts, whereas the quality of population will be much more decisive in the future’.*<sup>208</sup>

*‘On future battlefields of information, knowledge will become the main element of a military’s fighting potential. Future confrontations will be particularly characterized by a competition of talents and human resources. Therefore, it is critical to nurture and create well-educated and high-quality people’.*<sup>209</sup>

*‘Future wars are not only wars between militaries, but more importantly, are competition for talents and knowledge. The country which has more well-educated people and more advanced technology will win on future battlefields’.*<sup>210</sup>

## Proliferation of WMDs

*‘Proliferation of nuclear weapons is also closely connected with wars. The world will be in an early stage of a new cycle of nuclear proliferation. It is becoming easier and easier to obtain the technology of manufacturing nuclear weapons, which is closely associated with the spread of civilian nuclear technologies. As more countries develop their civilian nuclear programs, more countries will become capable of obtaining the materials and technologies for producing nuclear weapons... As more countries obtain nuclear weapons, the chances of nuclear conflicts will increase accordingly’.*<sup>211</sup>

*‘As more countries carry out nuclear tests, the probability of nuclear proliferation*

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207 Qian and Zhou, ‘Wèilái zhànzhēng bàofā de fēi jūnshì yīnsù’ [Non-Military Factors in the Outbreak of Future Wars], 17.

208 Lin, ‘Guānyú wèilái zhànzhēng zhōng ‘rén de yīnsù’ de sīkǎo’ [Thoughts on the Human Factor in Future Warfare], 19.

209 Liu, ‘Guānyú xīnxī jìshù yǔ wèilái zhànzhēng ruògān wèntí de sīkǎo’ [Some Thoughts on Information Technology and Future War], 51.

210 Qian and Zhou, ‘Wèilái zhànzhēng bàofā de fēi jūnshì yīnsù’ [Non-Military Factors in the Outbreak of Future Wars], 14.

211 Ibid., 17.

*is rising. The chances that terrorists will possess nuclear capability are therefore increasing*'.<sup>212</sup>

## International Institutions

*'The key for a peaceful relationship in the future is to establish new institutions and rules of action*'.<sup>213</sup>

*'The United Nations plays an important role in bringing about world peace. Besides the UN, other international organizations and institutions will also play an important role in helping maintain peace'; 'International institutions will promote an internalization of international norms in national states, therefore being effective in maintaining peace*'.<sup>214</sup>

*'Although some 'international regulations and international organizations are global ones in scope, their establishment and development mostly represent the interests of major Western powers and are a reflection of the needs of developed countries.' Faced with the surging waves of globalization, many developing countries will feel helpless because of their lack of means to protect their own interests*'.<sup>215</sup>

## Public Involvement

*'Countries will need to obtain world-wide support of the public before launching any war in the future*'.<sup>216</sup>

*'In the information era, conflict participants will no longer only be armed personnel. It is possible that ordinary civilians may become warriors on the informationized*

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212 Qin, 'Cóng zhànzhēng wénhuà zǒuxiàng héping wénhuà' [From a Culture of War to a Culture of Peace], 21.

213 Wu, 'Zhōng měi mócā bù huì yǐngxiǎng zhōng měi guānxi de dàjù' [Sino-US Friction Will Not Affect Overall Sino-US Relations], 4.

214 Yang, 'Shìjiè lìshǐ zhēngtǐ fāzhǎn de qīshì——shìjiè lìshǐ fāzhǎn qūshì yǔ 21 shìjì zhànzhēng yǔ héping yùcè' [The Overall Development of World History - Trends and Forecast for the 21st Century about War and Peace], 76.

215 Zhao, 'Quánqiú huà: 21 Shìjì guójì chōngtú de zhūdǎo yīnsù' [Globalization: The Main Factor in World Conflicts in the 21st Century], 17.

216 Geng, 'Wèilái zhànzhēng xīn qūshì zhǎnwàng' [New Trends in Future Warfare], 74-76.

*battlefield*'.<sup>217</sup>

*'Information technology creates opportunities for public participation and integration of the military and the civilian, making it possible for the public to participate in mobilization activities through various channels and means'*.<sup>218</sup>

### Wealth Distribution

*'It is very clear that poverty is the key driving force of terrorism. If we do not take measures to solve the problem of poverty and to deal with the increasing wealth gap between the North and the South, terrorism will be impossible to be eliminated'*.<sup>219</sup>

### Climate Change

*'Across the broad area from Northern Africa to Near East and South Asia, the needs for water is quickly overtaking the current water usage. At the same time, many of the important water sources in these areas are shared by two or more countries. These countries face difficult problems to reach consensus on how to allocate the water sources. As a result, because of the rapid population growth and deterioration of the environment, conflicts over water sources will be more intense over time, and will likely to escalate into wars'*.<sup>220</sup>

### Geographic Factors

*'In the next 10 years or 20 years, among all the energy sources, petroleum will have the greatest impact on international security. Western European countries and the United States' other allies (such as South Korea and Japan, etc.) are using oil mainly from the Persian Gulf. Persian Gulf oil is mainly produced in Iran, Iraq, Kuwait, Saudi Arabia and United Arab Emirates. Recent events in Iran and Afghanistan and the Iran-Iraq war, highlight the unstable situation in the region. Russia is going to become an oil importing country in the future, as a result of which its oil exports to Eastern European countries and the West will not be able to continue. Russia will compete with the West for the Gulf's oil resources. Superpower competition in the Persian Gulf will be more intense. Like the region of Persian*

217 Zhiwei He, 'Xinxī dōngyuán—wèilái zhànzhēng dōngyuán de héxīn' [Information Mobilization - the Core of Future War Mobilization], *Guófāng jìshù jīchǔ* [Defense Technology Base], no. 2 (2006): 31.

218 Xu and Shi, 'Wèilái zhànzhēng de shāshòujiàn—dòngnéng wǔqì' [Killers in Future Wars: Kinetic Energy Weapons], 44.

219 Zhao, 'Quánqiú huà: 21 Shìjì guójì chōngtú de zhǔdǎo yīnsù' [Globalization: The Main Factor in World Conflicts in the 21st Century], 17.

220 Wang, 'Guójì chōngtú jiāng wéirào zīyuán zhānkāi' [Future International Conflicts Will Be over Resources], 17.

*Gulf, future military conflicts in the Third World may be difficult to control*.<sup>221</sup>

## International Arms Control Norms

*‘These studies show that it is possible to solve international disputes through peaceful means; international peace mechanism is playing a practical role and may make peace maintenance possible’*.<sup>222</sup>

*‘The major disadvantages of space-based land-attack weaponries include: they are weapons for static defense and might be easy to get penetrated; ... they will be restricted by international treaties’*.<sup>223</sup>

## English Language Military Technology

*‘Ostensibly, it’s going to change to be more technology oriented than even the recent past. Another wave of technology seems to be coming toward us. It will be a very nonlinear kind of environment that’s causing us headaches. It will be a very urban environment, which I’ve already covered. It will be asymmetric, and that’s already probably happened. The measurements will be micro to nano, even if we don’t have actual applications. We will see a much faster pace. The military cannot exist apart from the civilian structure. The focus will be regional to global instead of local to regional, and I hesitate to use the word ‘meta-physical,’ but maybe there should be more of that’*.<sup>224</sup>

*‘The restoration of the offensive as the dominant form of war will come with the appearance of a fourth cycle of warfare, a cycle defined more by the new revolution in information rather than the stale remnants of the machine age’*.<sup>225</sup>

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221 Qian and Zhou, ‘Wèilái zhànzhēng bàofā de fēi jūnshì yīnsù’ [Non-Military Factors in the Outbreak of Future Wars], 17.

222 Yang, ‘Shìjiè lìshǐ zhēngtǐ fāzhǎn de qīshì——shìjiè lìshǐ fāzhǎn qūshì yǔ 21 shìjǐ zhànzhēng yǔ héping yùcè’ [The Overall Development of World History - Trends and Forecast for the 21st Century about War and Peace], 75.

223 Qian, ‘Wèilái zhànzhēng zhōng de duì dì tàikōng wǔqì’ [Space to Surface Weapons in Future Wars], 37.

224 Robert H. Scales, *Future Warfare: Anthology* (Carlisle, PA: U.S. Army War College, 2000), <http://www.strategicstudiesinstitute.army.mil/pubs/download.cfm?q=228>.

225 Aaron Karp, Regina Karp, and Terry Terriff, *Global Insurgency and the Future of Armed Conflict Debating Fourth-Generation Warfare* (Routledge: Routledge Global Security Studies, 2008).

*'For example, directed energy may permit small elements to destroy targets they could not attack with conventional energy weapons. Directed energy may permit the achievement of EMP (electromagnetic pulse) effects without a nuclear blast. Research in superconductivity suggests the possibility of storing and using large quantities of energy in very small packages. Technologically, it is possible that a very few soldiers could have the same battlefield effect as a current brigade.'*<sup>226</sup>

*'In coming decades, our waging of war is likely to be facilitated by the means to produce bio-enhanced soldiers, by pharmacological abilities to manipulate combat endurance and by the computerized view of war that, in its mediated reality, will create disassociation by distance. These factors and the growing interface between human and machine, the rise of cybernetics and robotics, will pose challenge to the existential and metaphysical dimensions of war.'*<sup>227</sup>

*'Increasingly, modern armies of the future should achieve breakthroughs and victory without resorting to large masses of troops directed at vulnerable points. Instead, the combination of rapidly firing systems, precision weapons of long range, and advanced command and control systems will allow widely dispersed forces to focus their fire on specific points.'*<sup>228</sup>

*'By 2020, real-time responsiveness of sensor-to-shooter systems must become a reality. For the first time in history, this responsiveness will allow the striking force to maneuver fires rather than forces over long ranges, and allow direct and simultaneous attack on many of the enemy's centers of gravity.'*<sup>229</sup>

*'Specifically, the diffusion of advanced technology, from standoff missiles to commercial space systems to weapons of mass destruction, into the hands of smaller armies, paramilitaries, militias, and other armed groups puts a premium on Western*

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226 Christopher Coker, *The Future of War: The Re-Enchantment of War in the Twenty-First Century* (Malden, MA: Wiley-Blackwell, 2004), 16, [http://books.google.com.au/books?id=udAZfc5V6OwC&printsec=frontcover&dq=future+war&hl=ru&ei=4NA9TOLCOsTKjAfsGK35Aw&sa=X&oi=book\\_result&ct=result&resnum=1&ved=0CCcQ6AEwADgK#v=onepage&q&f=false](http://books.google.com.au/books?id=udAZfc5V6OwC&printsec=frontcover&dq=future+war&hl=ru&ei=4NA9TOLCOsTKjAfsGK35Aw&sa=X&oi=book_result&ct=result&resnum=1&ved=0CCcQ6AEwADgK#v=onepage&q&f=false).

227 Barry Schneider and Lawrence Grinter, *Battlefield of the Future: 21st Century Warfare Issues* (Seattle: University Press of the Pacific, 1995), <http://www.airpower.maxwell.af.mil/airchronicles/battle/bftoc.html>.

228 *Ibid.*, 8.

229 Schneider and Grinter, *Battlefield of the Future: 21st Century Warfare Issues*.

*expeditionary warfare*'.<sup>230</sup>

## Globalization

*'But globalisation and the fragmentation of state authority in unstable regions has meant that the reach and impact these non-state groups can have is now global and not limited to a single country or region*'.<sup>231</sup>

*'The increasing globalization of economies will restrain aggression because of the immediate, negative impact on an aggressor's economy. The glare of the Information Age means that any use of force will gain instantaneous world attention and if aggression is involved, will result in the immediate severance of the aggressor's external capital flows and markets. Few regimes can survive economic stagnation*'.<sup>232</sup>

*'Globalisation will accelerate the pace of change in the character of conflict, and create a 'Global Joint Operational Area*'.<sup>233</sup>

*'Globalisation is strengthening the role that politics will play in war by affording it the capability to exert greater real-time control over military operations*'.<sup>234</sup>

## Strategic Orientation

*'Preventative measures also include those long-term relationships that build or sustain strong regional friendships. In many cases, the demonstrated ability and will to deploy forces that are technologically superior and fully capable of decisive victory in a variety of conditions contribute to preventing crises from occurring or from developing into conflicts*'.<sup>235</sup>

*'As their stakes in the international system deepen, so will their ambitions and interests. This will engender instability and imbalance, in the absence of an effective balance of power and multilateral security institution. A realignment process itself*

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230 Evans, 'From Kadesh to Kandahar: Military Theory and the Future of War.'

231 Dannatt, 'A Perspective on the Nature of Future Conflict.'

232 'The Future Character of Conflict.'

233 Ibid.

234 Gordon R. Sullivan and James M. Dubik, 'Land Warfare in the 21st Century' (Strategic Studies Institute, 1993), <http://www.strategicstudiesinstitute.army.mil/pubs/download.cfm?q=247>.

235 Malik, 'The Sources and Nature of Future Conflicts in the Asia-Pacific Region.'

*could generate conflict as rival powers move in to assert their spheres of influence and jockey for positions of comparative advantage’.*<sup>236</sup>

*‘Deterrence is, and will remain, fundamental to the UK’s approach to conflict; if it fails, containment or even coercion may be required. These strategies rely upon clear signalling and mutual understanding of escalation and risk’.*<sup>237</sup>

*‘Until strategic defenses become as strong as strategic offenses, there will be great premiums associated with the ability to expand conflicts geographically in order to deny an attacker sanctuary. Moreover, a number of recent high-technology conflicts have demonstrated that the outcomes of early battles of major conflicts most often determine the success of entire campaigns. Under these circumstances, military experts believe preemption is likely to appear necessary for strategic success’.*<sup>238</sup>

*‘More generally, defense, aggrandizement and security will focus on preserving, expanding and protecting access to resources, as states struggle to meet the needs of their populations and to defend their places in the global economic system’.*<sup>239</sup>

## Role and Power of the State

*‘The world will remain one of states. The demise of state through the corrosive influence of globalization has been much over-anticipated. The decline in the occurrence of inter-state warfare does not speak to any alleged growing irrelevance of state affiliation. Those who discern in the European Union (EU) a new kind of political entity, one enabled by a decline in atavistic national affiliation, will have to temper their idealism in recognition of the growth of the EU’s statelike characteristics’.*<sup>240</sup>

*‘Realignment of large-scale social grouping will have profound impact on our*

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236 Ibid.

237 ‘The Future Character of Conflict.’

238 Jeremy Black, *War and the New Disorder in the 21st Century* (New York: Continuum, 2004), [http://books.google.com/books?id=j4C4Ge05\\_5YC&printsec=frontcover&dq=War+and+the+New+Disorder+in+the+21st+Century&source=bl&ots=25mEmcN8si&sig=C0OL72ZjwLY7RAadkqzht9KmhR4&hl=en&ei=DYoKTc2EKJSu8QOuwOwr&sa=X&oi=book\\_result&ct=result&resnum=1&ved=0CBYQ6AEwAA#v=onepage&q&f=false](http://books.google.com/books?id=j4C4Ge05_5YC&printsec=frontcover&dq=War+and+the+New+Disorder+in+the+21st+Century&source=bl&ots=25mEmcN8si&sig=C0OL72ZjwLY7RAadkqzht9KmhR4&hl=en&ei=DYoKTc2EKJSu8QOuwOwr&sa=X&oi=book_result&ct=result&resnum=1&ved=0CBYQ6AEwAA#v=onepage&q&f=false).

239 Gray, *Another Bloody Century: Future Warfare*, 72.

240 Ibid., 63-64.

*concepts of war. If national interests are no longer preeminent, then the need and means to defend them will change. Physical violence will never disappear entirely as it seems to be part of the human condition. While competition will remain omnipresent, the manner in which groups impose their will on other individuals or groups will change’.*<sup>241</sup>

*‘In the period of accelerated globalization the nation-state can be expected to decline and become somewhat irrelevant, but it will not disappear in the foreseeable future as it will continue to play an important role in global capital accumulation []. The nation-state will continue to protect and legitimate private property rights, and to have a monopoly on law and force, domestically and internationally. It will also remain a somewhat important actor in controlling the movement of goods (clearly some goods cannot be controlled, i.e. those of high value and low bulk, such as gems and drugs) and, less significantly, of people migrating across national boundaries’.*

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*‘What defines 4GW: the loss of the state’s monopoly on war and on the first loyalty of its citizens and the rise of non-state entities that command people’s primary loyalty and that wage war. These entities may be gangs, religions, races and ethnic groups within races, localities, tribes, business enterprises, ideologies—the variety is almost limitless. A return to a world of cultures, not, merely states, in conflict; and the manifestation of both developments—the decline of the state and the rise of alternate, often cultural, primary loyalties—not only ‘over there,’ but in America itself’.*<sup>243</sup>

*‘Nation-states may no longer be the dominant players or primary actors in international economic relations, but that does not mean the end of the nation-state system or of the nation-state’s role as the primary unit in international politics. Military force is the ultimate manifestation of a nation-state. That is what distinguishes nation-states from nonstate actors. The trappings of nationhood remain attractive to ethnic groups fighting for political self-determination all over the world’.*<sup>244</sup>

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241 Volker Bornschier and Chris Chase-Dunn, eds., *The Future of Global Conflict* (SAGE Publications Ltd, 1999).

242 Chet Richards, *Conflict in the Years Ahead* (Addams & Partners, Inc, 2005), 186, [http://www.cdi.org/pdfs/4GW\\_and\\_grand\\_strategy.ppt](http://www.cdi.org/pdfs/4GW_and_grand_strategy.ppt).

243 Malik, ‘The Sources and Nature of Future Conflicts in the Asia-Pacific Region.’

244 Ibid.

## Strategic Resource Distribution

*'The access to resources (energy, food or water) will drive states' security interests; control over these resources and their methods of distribution through the global commons will be a critical feature of conflict in the international system. It may dictate why we fight, where we fight and thus how we fight'.<sup>245</sup>*

*'Basic resources will prove inadequate for populations exploding beyond natural limits, and we may discover truths about ourselves that we do not wish to know'.<sup>246</sup>*

*'The struggle to maintain access to critical resources will spark local and regional conflicts that will evolve into the most frequent conventional wars of the next century'.<sup>247</sup>*

*'Water wars, predicted for more than a decade, are a threat in places like the Kashmir: much of Pakistan's water comes from areas of Kashmir now controlled by India... Other present and future water conflicts involve Turkey, Syria, and Iraq over the Tigris and Euphrates; Israel, Jordan, Syria, and Palestine over water from the Jordan River and the aquifers under the Golan Heights; India and Bangladesh, over the Ganges and Brahmaputra; China, Indochina, and Thailand, over the Mekong; Kyrgyzstan, Tajikistan, and Uzbekistan over the Oxus and Jaxartes rivers; and Ethiopia, Sudan, and at least six East African countries, including Egypt, over the Nile'.<sup>248</sup>*

*'Space warfare will likely become its own warfare area only when there is need to conduct military operations in space to obtain solely space-related goals (not missions that are conducted to support earth-based operations). For example, if the United States becomes dependent on resources unique to space (such as He3 on the moon), it may be forced to develop technologies and operational concepts to support/defend space-based industries, command and control nodes, or colonies that are entirely non-earth dependent'.<sup>249</sup>*

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245 'The Future Character of Conflict.'

246 Peters, 'The Culture of Future Conflict.'

247 Ibid.

248 Schneider and Grinter, *Battlefield of the Future: 21st Century Warfare Issues*.

249 Ibid.

## Demographic Factors

*‘Several factors will dramatically alter the global social structure tapestry. These include continued devolution of old states, globalization of economic interests, continued widespread immigration, and formation of social groups based on common ideology that is ubiquitously communicated around the world. Ascendances of powerful groups that are not geographically defined have already begun to alter large-scale social interactions. They also will impact contests of will between such groups thus leading to a change the nature of warfare. Specifically, these conflicts may be dominated by non-violent, but imposing means, such as information or economic intimidation’.*<sup>250</sup>

*‘Low population growth will have several effects with long-term political and strategic implications, including a rapid aging of the population in nearly all European countries and the decline of Europe’s population relative to other parts of the world. Immigration, which is partly a consequence of these demographic trends, will result in more diverse populations in many countries and is associated with political and social tensions and the rise of extreme-right parties’.*<sup>251</sup>

*‘At one end is the view that the trend towards a ‘world of warriors-in which much of the youthful population of the less economically-developed world is involved in ethnic, religious or tribal conflict-naturally creates more brutal forms of warfare in which the international laws of war are rarely observed’.*<sup>252</sup>

*‘The future portends an even more lethal strain of perturbation. A study sponsored by the National Intelligence Council argued that ‘lagging economies, ethnic affiliations, intense religious convictions and youth bulges will align to create a ‘perfect storm ‘ for internal conflict’ in the near future. Other analysts point out that Iraq’s insurgents and jihadist foreign fighters will benefit from their education in Iraq, and will SOOII return home or to alternative battle space with greater motivation, lethal skills and credibility’.*<sup>253</sup>

*‘Populations increase geometrically as behavior lags technology. These population*

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250 Alexander, ‘The Changing Nature of Warfare, the Factors Mediating Future Conflict, and Implications for Sof.’

251 Coker, *The Future of War: The Re-Enchantment of War in the Twenty-First Century*.

252 Schneider and Grinter, *Battlefield of the Future: 21st Century Warfare Issues*, 126.

253 Coker, *The Future of War: The Re-Enchantment of War in the Twenty-First Century*, 177-178.

*increases lead to greater urbanization, as the countryside and traditional structures cannot support the additional surviving offspring and the city appears to offer economic opportunity and a more attractive lifestyle. But few economies outside of the West-plus can create jobs as quickly as they are creating job-seekers. Even rates of economic growth that sound remarkable leave Third World countries with ever-greater unemployed and underemployed masses. The result is an even further breakdown of traditional structures and values. In the end, the only outlet for a lifetime's frustration is violence'.<sup>254</sup>*

### Proliferation of WMDs

*'Proliferation control is failing and there is little reason to think that this trend will reverse in the future. The threat of retaliation and the consequences of near universal condemnation remain restraints on the employment of nuclear weapons by any state, no matter how rogue or how ideologically motivated, but the provision of weapons to proxies willing and able to use them could achieve the same ends while maintaining plausible deniability. As a result, the use of nuclear weapons by non-state actors becomes more likely with each passing day'.<sup>255</sup>*

*'The wave of increasing non-state threats will likely be closely followed by a wave of technologies to defeat them. But it must be admitted that this does not solve the near-term problems of terrorism, particularly if terrorist groups come in possession of WMD'.<sup>256</sup>*

*'Many technical barriers that once limited the effective use of biological warfare (BW) are gone. A country or group with modest pharmaceutical expertise can develop BW for terrorist or military use. As the United States prepares itself for the national security challenges of the twenty-first century, it must grasp the implications of this silent revolution'.<sup>257</sup>*

*'WMD proliferation will constrain states from conventional war because of the increased risks and decreased benefits. To ensure the nuclear threshold is not crossed, states will engage in quick incursions with limited objectives'.<sup>258</sup>*

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254 Peters, 'The Culture of Future Conflict.'

255 Kelly, 'Future War – Future Warfare.'

256 Schneider and Grinter, *Battlefield of the Future: 21st Century Warfare Issues*, 87.

257 Schneider and Grinter, *Battlefield of the Future: 21st Century Warfare Issues*.

258 'The Future Character of Conflict.'

## International Institutions

*'Efforts to control, limit, and regulate war, and therefore warfare, by international political, legal, and normative-ethical measures and attitudes are well worth pursuing. However, the benefits from such endeavours will always be fragile, vulnerable to overturn by the commands of perceived belligerent necessity'.<sup>259</sup>*

*'What would such a global A-to-Z rule set look like? I can—in a very cursory fashion— describe it as follows: the existing United Nations Security Council functions primarily as a sort of global 'grand jury' that is able to indict parties within the global community for acts of egregious behavior ...What is needed next in the process is a sort of functioning executive body, made up of the world's advanced nations, to issue effect 'warrants' for the arrest of the offending party. This body is logically located within the existing community of the G-8 (or better yet, G-20) states, because not only do these states wield the majority of the world's military power, but their financial resources are required for the successful implementation of the 'back half' effort of nation-building'.<sup>260</sup>*

*'Increased pressures on international institutions will incapacitate many, unless and until they can be radically adapted to accommodate new actors and new priorities. Regionally based institutions will be particularly challenged to meet the complex transnational threats posed by economic upheavals, terrorism, organized crime, and WMD proliferation'.<sup>261</sup>*

*'While assorted regional blood-baths (as in the Persian Gulf, the Balkans, Somalia, Rwanda, and Chechenya) will, of course, continue to occur, unrivalled US military dominance, the strengthening of international institutions, and the continuing consolidation of a unified world capitalist class are all seen as promoting peace and stability within the core of the world-system. For many contemporary analysts, therefore, it appears to be increasingly unlikely that an all-out shooting war among core states will occur in the future'.<sup>262</sup>*

*Instead, the post Second World War institutions such as the United Nations, NATO, GAIT, and the IMF are seen to be gradually amassing autonomous legitimacy which*

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<sup>259</sup> Gray, *Another Bloody Century: Future Warfare*, 25.

<sup>260</sup> Bornschier and Chase-Dunn, *The Future of Global Conflict*.

<sup>261</sup> Black, *War and the New Disorder in the 21st Century*.

<sup>262</sup> Richards, *Conflict in the Years Ahead*, 40.

*will be utilized to regulate core conflict in the future’.*<sup>263</sup>

*‘Multilateral institutions exist, and can be expanded, that can prevent or repress many lower-level kinds of warfare. They can supply mediation, conflict resolution, and peace building. They can also provide the deterrence and enforcement needed to prevent some wars’.*<sup>264</sup>

## Public Involvement

*‘And the complexity of the information environment can only increase. In operations where we compete for influence of the people, we must invert our current understanding and view these operations first and foremost as information campaigns and supported by wider military operations, rather than the other way round’.*<sup>265</sup>

*‘The loss of the state’s monopoly on war and on the first loyalty of its citizens and the rise of non-state entities that command people’s primary loyalty and that wage war. These entities may be gangs, religions, races and ethnic groups within races, localities, tribes, business enterprises, ideologies—the variety is almost limitless’.*<sup>266</sup>

*‘In these unhappy struggles, the developed democracies typically will seek reasons not to intervene. But as we have seen already, media-generated public revulsion may compel intervention. The visual horrors of genocide may be intolerable’.*<sup>267</sup>

*‘Forth is a goal of collapsing the enemy internally rather than physically destroying him. Targets will include such things as the population’s support for the war and the enemy’s culture. Correct identification of enemy strategic centers of gravity will be highly important’.*<sup>268</sup>

*‘It is also even more important nowadays to take into account a global opposition, since the information revolution has made it possible for nearly everyone to acquire*

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263 Ibid., 40-41.

264 Dannatt, ‘A Perspective on the Nature of Future Conflict,’ 180.

265 Dannatt, ‘A Perspective on the Nature of Future Conflict.’

266 Malik, ‘The Sources and Nature of Future Conflicts in the Asia-Pacific Region.’

267 Karp, Karp, and Terriff, *Global Insurgency and the Future of Armed Conflict Debating Fourth-Generation Warfare*.

268 Coker, *The Future of War: The Re-Enchantment of War in the Twenty-First Century*, 15.

*information about what is happening at any given time or place’.*<sup>269</sup>

## Wealth Distribution

*‘Future wars and violent conflicts will be shaped by the inability of governments to function as effective systems of resource distribution and control, and by the failure of entire cultures to compete in the post-modern age. The worldwide polarization of wealth, afflicting continents and countries, as well as individuals in all countries, will prove insurmountable, and social divisions will spark various forms of class warfare more brutal than anything imagined by Karl Marx’.*<sup>270</sup>

*‘Among the most significant consequences of country-level poverty is heightened risk of conflict. Poor countries are much more likely than rich countries to experience civil war. Recent statistical research on poverty and conflict suggests that for a country at the 50th percentile for income (like Iran today), the risk of experiencing civil conflict within five years is 7- 11 percent; for countries at the 10th percentile (like Ghana or Uganda today), the risk rises to 15- 18 percent’.*<sup>271</sup>

*‘Growing environmental risks, such as water shortages, increasing desertification and rising sea levels; a greater global inequality in the distribution of consumer goods, in educational opportunities and in living conditions; the imbalance in demographic rates and the related waves of migration; the instability of the international financial markets and the dwindling ability of States to control their own currency and economy; and, finally, in some parts of the world, the rapid disintegration of States — all these are sufficient grounds for assuming that many people will see violent change rather than peaceful development as a better chance to assure their future’.*<sup>272</sup>

## Climate Change

*‘I suspect strongly that the political context for future warfare is going to be impacted massively, perhaps dominated, by the multidimensional negative consequences of climate change’.*<sup>273</sup>

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269 Duyvesteyn and Angstrom, *Rethinking the Nature of War (Contemporary Security Studies)*.

270 Peters, ‘The Culture of Future Conflict.’

271 Herfried Munkler, ‘The Wars of the 21st Century,’ *International Review of the Red Cross* 85, no. 849 (2003): 37.

272 Gray, *Another Bloody Century: Future Warfare*.

273 *Ibid.*, 82.

*'For example, an acceleration in deleterious climate change is likely to spur a renewed focus on territorial issues, as states compete violently to control scarce resources in a context of demographic expansion'.<sup>274</sup>*

*'As with the loss of soil through deforestation and inappropriate agricultural regimes it will cause enforced migrations which will in turn interact with volatile domestic divisions. For example, concern about water supplies will exacerbate relations between groups practicing different forms of agriculture. There will be claims that minority groups are responsible for the contamination or depletion of environmental resources, as with the high rates of water use by Jewish settlements on the West Bank of the Jordan'.<sup>275</sup>*

*'Such transnational environmental problems cannot be solved by traditional national military means, but certainly will become new sources of tension and interstate armed conflicts. Just as environment has the potential to trigger conflicts, it also will be used as a weapon in future conflicts, to wage a kind of 'environmental warfare'.<sup>276</sup>*

## Geographic Factors

*'A number of key trends on the regional and global level will also drive the nature of conflict and the strategic environment toward the year 2025. These key drivers include the search for strategic weight through new military technologies and strategies, growing economic dimensions of security and regional geo-politics, the erosion of traditional distinctions between the Middle Eastern and adjacent security environments as a result of 'reach' and spillovers, unresolved regional frictions and threats to the territorial status quo, new security geometries (alignments), and the role of extra regional powers—above all the United States'.<sup>277</sup>*

*'In large part, potential enemies no longer strive to match American military power symmetrically. Instead they are building military and paramilitary capabilities to enable them to fight asymmetrically. They might take advantage of seams between components, counter mass with agility, and hide in urban areas, difficult terrain, or*

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<sup>274</sup> Ibid., 178.

<sup>275</sup> Ibid., 40-41.

<sup>276</sup> Malik, 'The Sources and Nature of Future Conflicts in the Asia-Pacific Region.'

<sup>277</sup> William A. Owens, 'The Once and Future Revolution in Military Affairs' (JFQ, 2002), [http://www.dtic.mil/doctrine/jel/jfq\\_pubs/1131.pdf](http://www.dtic.mil/doctrine/jel/jfq_pubs/1131.pdf).

*locales where mass becomes a liability*.<sup>278</sup>

*‘The United States and Taiwan may confront an even more fundamental strategic dilemma, one inherent in the basic geography of the situation. This geographic asymmetry—Taiwan lies close to China and very far from the United States—combined with China’s growing capabilities and the lack of basing options for U.S. forces in the vicinity of the strait, call into question Washington’s ability to credibly serve as guarantor of Taiwan’s security in the future’.*<sup>279</sup>

## Urbanization

*‘Today, dense urban terrain provides similar safe-havens to the urban guerrilla or terrorist where the density of population, transportation networks, public services and infrastructure, and structures gives him multiple avenues of escape and the ability to hide while planning and rehearsing operations. The density of the urban complex provides sufficient cover and ‘noise’ to mask the adversary’s preparation and attack position’.*<sup>280</sup>

*‘Urbanization also continues unabated. By 2030 over three fifths of the world’s people will live in cities. This growth is accompanied by degradation of the physical environment. The mounting stress on the world’s water supplies, deforestation, desertification and the erosion of farmland are particularly troubling. These, in turn, fuel further urbanization and migrations. So far, attempts by governments to control and manage the adverse effects of these trends have proven ineffective. 17 Should this continue—and everything suggests it will—the competition for resources, whether arable land, water, or capital, can provide a foundation for future conflicts’.*<sup>281</sup>

*The World’s population is predicted to rise to over 8.3 billion by 2029, driving increased demands for resources, with 60% urbanised and six billion living*

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278 David A. Shlapak, ‘A Question of Balance Political Context and Military Aspects of the China-Taiwan Dispute’ (RAND, 2009), [http://www.rand.org/pubs/monographs/2009/RAND\\_MG888.pdf](http://www.rand.org/pubs/monographs/2009/RAND_MG888.pdf).

279 Frank G. Hoffman, *Conflict in the 21st Century: The Rise of Hybrid Wars* (Arlington, VA: Potomac Institute for Policy Studies, 2007), [https://dde.carlisle.army.mil/documents/sis/docs/Hybrid\\_Wars.pdf](https://dde.carlisle.army.mil/documents/sis/docs/Hybrid_Wars.pdf).

280 Steven Metz and Raymond A. Millen, ‘Future War/Future Battlespace: The Strategic Role of American Landpower’ (Strategic Studies Institute, 2003), <http://www.comw.org/rma/fulltext/0303metz.pdf>.

281 ‘The Future Character of Conflict.’

*within 100 km of the coast. The UK's population will grow to 70 million, and its demographic balance is changing with growing ethnic communities and large British diasporas overseas. Within UK, a changing demographic balance towards a more multi-ethnic society means that some conflicts will create risks, including extremism, within our own communities. There will be an imperative to tackle threats at source, and the military instrument must be sufficiently flexible to provide choice. The global environment will be characterised by congested and constrained communication routes, environmental stress, inequality, governance problems and crime, thus leading to increased tensions'.<sup>282</sup>*

## Fragmentation

*'Interconnectedness also means that future enemies will have a potential constituency within the United States. This is not to imply that émigré communities are automatic breeding grounds for 'third columnists.' But immigrants or even native-born children or grandchildren of immigrants can, in some cases, retain a tie to their ethnic homeland which can lead them to lobby for or against American military involvement, as did Serbian Americans during the first stages of the 1999 air campaign. This increases the pressure on American policymakers and military leaders to minimize casualties if the use of force becomes necessary. Émigré communities can also provide logistics and intelligence support for terrorists. Interconnectedness will make protection against terrorism more difficult'.<sup>283</sup>*

*'Looking at the future, Taiwan's independence is the sole factor that will put or force China into a war'.<sup>284</sup>*

*'Failed-state environments may be conducive to the growth of successor forms of social and political organization to the nation-state. New warring entities which evolve in these environments and are allowed to grow and expand to create vast global 'criminal' networks may represent an emergent threat to our national security'.<sup>285</sup>*

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282 Ibid.

283 Metz, *Armed Conflict in the 21st Century: The Information Revolution and Post-Modern Warfare*.

284 Robert J. Bunker, 'Five-Dimensional (Cyber) Warfighting: Can the Army After Next Be Defeated Through Complex Concepts and Technologies?' (Strategic Studies Institute, 1998), <http://www.strategicstudiesinstitute.army.mil/pubs/download.cfm?q=233>.

285 Scales, 'Future Warfare. Anthology.'

*'The proliferation of information, while increasing knowledge and understanding among nations, also galvanizes ethnic groups and contributes to cultural friction within troubled regions. Some states may disintegrate into smaller, ethnically based units. This fragmentation will cause both inter-state and intra-state conflict.'*<sup>286</sup>

*'The new type of war economy is almost totally the opposite. The new wars are 'globalized' wars. They involve the fragmentation and decentralization of the state. Participation is low relative to the population both because of lack of pay and because of lack of legitimacy on the part of the warring parties. There is very little domestic production, so the war effort is heavily dependent on local predation and external support. Battles are rare, most violence is directed against civilians, and cooperation between warring factions is common.'*<sup>287</sup>

*'Far from moving towards a few large blocs, however loose, the trend in the world seems to be towards more fragmentation, not less. Some post-colonial and post-Cold War frontiers are increasingly under threat as rival ethnic, tribal and religious communities challenge the existence of 'artificial' states. This is evident in much of Asia (Central Asian border disputes, Kashmir, Indonesian and Sri Lankan separatists, for example) and Africa (Eritrea's escape from and subsequent war with Ethiopia, separatist movements in Nigeria and Sudan for instance). Even Europe has seen the bloody break up of former Yugoslavia, a trend which has probably not run its course, Armenia's seizure of Nagorno-Karabakh and Russia's struggle with Chechen rebels. There are likely to be more than the current 190 states in 2020.'*<sup>288</sup>

## International Arms Control

*'The prospects for proliferation in the post-Cold War era create a highly appropriate issue area for the application of netwar techniques, since suasion will be much preferred to the use of preventive force in dealing with most nation-state actors (including Germany and Japan, should either ever desire its own nuclear weapons).'*<sup>289</sup>

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<sup>286</sup> Karp, Karp, and Terriff, *Global Insurgency and the Future of Armed Conflict Debating Fourth-Generation Warfare*.

<sup>287</sup> C. J. Dick, *The Future of Conflict: Looking Out to 2020*, Research & Assessment Branch Special Series (Swindon, UK: Research & Assessment Branch (R&AB), 2003), 95, <http://www.isn.ethz.ch/isn/Digital-Library/Publications/Detail/?ots591=0C54E3B3-1E9C-BE1E-2C24-A6A8C7060233&lng=en&id=43802>.

<sup>288</sup> John Arquilla and David Ronfeld, 'Cyberwar is Coming!', *Comparative Strategy* 12, no. 2 (1993): 141-165.

<sup>289</sup> Gray, 'The 21st Century Security Environment and the Future of War.'

*'By all means let us try to slow, arrest, and occasionally reverse nuclear proliferation. But do not place substantial bets on the prospect of a reduced number of nuclear-equipped parties in the future. Also, we need to recognize that our current conventional superiority obliges our enemies to seek asymmetrical offsets'.<sup>290</sup>*

## Slavic Language

### Military Technology

*'We are entering an era not only of high-tech wars, but also of depreciation of the role of nuclear weapons, a significant liberation of mankind and living force in general from participation in armed struggle'.<sup>291</sup>*

*'The result blurs the lines between defensive and offensive types of weapons and methods of their use: a defending party with precision weapons can inflict irreparable damage to the attackers before they come close to the distance required for entry into a fight with conventional weapons'.<sup>292</sup>*

*'Fundamentally new in the military art of contactless wars may be a gradual shift of the functions of strategic nuclear deterrence to strategic non-nuclear deterrence. Unlike nuclear deterrence, precision weapons can not only threaten the application of inevitable unacceptable damage, but they can also carry out a pre-emptive strike on them. The deterrent effect of the threat of use of precision weapons will be incomparably higher than that of unrealistic threats involving nuclear weapons. Given their considerable legitimacy in comparison with nuclear weapons, we should expect that that precision weapons will assume ever on real deterrent functions against any adversary anywhere in the world'.<sup>293</sup>*

## Globalization

*'Growing prosperity and integration can even increase political instability, as they lead to greater economic dependence, which in turn creates sense of danger'.<sup>294</sup>*

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290 Ibid.

291 Slipchenko, 'K kakoj vojne dolzhny gotovit'sja vooruzhenye sily' [What Kind of War Should the Armed Forces Be Preparing for].

292 Turonok, 'Informacionno-kommunikativnaja revoljucija i novyj spektr voenno-politicheskikh konfliktov' [Information-and-Communication Revolution and the New Spectrum of Military and Political Conflicts].

293 Maslov, 'Globalizacija i ee osnovnye protivorechija' [Globalization and its Main Controversies].

294 Vidoevich, 'Globalizacija, haotizacija i konflikty v sovremennom mire' [Globalization, Chaotization and Conflicts in the Modern World].

*‘There are serious fears that the rampant and uncontrolled globalization process based on the selfish collective interests of the richest countries in the world will undermine a sustainable world order and will confront the world community with a state of chaos not seen since the Middle Ages’.*<sup>295</sup>

*‘Globalization brings with it the subordination of the majority minority, it leads to inevitable conflict – at the local, regional and even planetary scales’.*<sup>296</sup>

*‘The financial crisis against the background of an ever accelerating globalization gives rise to a crisis in several areas: economic, social, political and geopolitical, cultural value and others. The emergence of multiple crises in the most vulnerable countries and regions of the world will cause conflicts, including armed ones. The escalation of armed clashes will not only adversely affect the status and progress of a world permeated with global ties, but is also fraught with global conflict’.*<sup>297</sup>

### Strategic Orientation

*‘The containment strategy in the short term until 2010-2015 is likely to have a combined character: militarily strong States will deter aggression with precision weapons, even though they will also have nuclear weapons and weak states – with nuclear and other weapons of mass destruction’.*<sup>298</sup>

### Role and Power of the State

*‘The state no longer controls anything and everything on its own territory, and its monopoly on legitimate violence is increasingly questioned. However, this does not allow us to conclude that the state and its sovereignty have completely lost or will lose their significance in the near future’.*<sup>299</sup>

*‘As the old model of nation-state is experiencing serious difficulties, it becomes less attractive for minorities seeking to secede’.*<sup>300</sup>

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295 Maslov, ‘Globalizacija i ee osnovnye protivorechija’ [Globalization and its Main Controversies].

296 Videovich, ‘Globalizacija, haotizacija i konflikti v sovremennom mire’ [Globalization, Chaotization and Conflicts in the Modern World].

297 Slipchenko, ‘K kakoj vojne dolzhny gotovit’sja vooruzhenye sily’ [What Kind of War Should the Armed Forces Be Preparing for].

298 Ibid.

299 Bazhanov and Bazhanova, ‘Kuda idet chelovechestvo? O tendenciyah mezhdunarodnyh otnosheniy v XX veke.’ [Where Is Mankind Headed? Trends in International Relations in the XXI Century].

300 ‘Prognozy dlja XXI veka’ [Prognoses for the XXI Century].

*'In reality, nation states remain the principal actors in the XXI century, and if one wants to try to understand trends in world development, one should proceed from the fact that it is the behavior of states that will determine the future course of history. States will also continue to compete, including for leadership on a global scale'.<sup>301</sup>*

*'The third wave of change will fall upon mankind because of the weakening of the disciplined players in the international arena - the states whose sovereignty would be undermined by transnational corporations, nongovernmental organizations, ethnic groups, separatist regions and mafia structures'.<sup>302</sup>*

### Strategic Resource Distribution

*'In reality, the projected path of movement of mankind in the XXI century will most likely run through the struggle for raw materials and resources'.<sup>303</sup>*

*'Control over water supplies could become one of the causes of international conflicts, especially where there are historically feuding neighbors, and one country is able to restrict water flow reservoirs'.<sup>304</sup>*

### Demographic Factors

*'By 2015 the world's population will increase from 6.1 billion to 7.2 billion people. In some countries, such growth may contribute to urbanization and create additional volatility'.<sup>305</sup>*

*'Population pressure and environmental pressures can lead to three first-order (lack of renewable resources, economic marginalization and shifts in demographics) and two second-order effects (increasing social conflicts and weak states). As a result, these effects lead to two potential presuppositions of civil conflict'.<sup>306</sup>*

*'By mid-century, many nations and civilizations, according to UN forecasts, will find*

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301 Sadovnichiy, 'Znanie i mudrost' v globalizirujushhemsja mire' [Knowledge and Wisdom in the Globalizing World].

302 'Prognozy dlja XXI veka' [Prognoses for the XXI Century].

303 Sadovnichiy, 'Znanie i mudrost' v globalizirujushhemsja mire' [Knowledge and Wisdom in the Globalizing World].

304 Kaganov, *Mir vokrug Rossii: 2017. Kontury nedalekogo budushhego* [The World Around Russia: 2017. Contours of the Nearest Future].

305 Kolobov, *Bezopasnost' lichnosti, obshhestva, gosudarstva* [Security of the Person, Society and the State], I:.

306 Ibid.

*themselves in a state of depopulation and of rapid aging of the population, while others will continue with rapid population growth, leading to increased migration flows and exacerbated conflicts between civilizations*'.<sup>307</sup>

### Proliferation of WMDs

*'A number of military policy-makers believe that the shape of future wars will be characterized not only by the spatial scale, rates and other parameters of operations, but also by an alarming extent material and human losses. Priority role in this belongs to the system of weapons of mass destruction (WMD), which will be further developed. In this context, wars of the future pose a much greater threat than the wars of the past. Even regional wars are a threat to all humanity*'.<sup>308</sup>

*'In this regard, nuclear weapons were an important guarantor of international stability in the second half of XX century and are expected to retain their significance beyond 2030*'.<sup>309</sup>

*'Under conditions of a 'creeping' proliferation of nuclear weapons the probability of a limited nuclear war increases*'.<sup>310</sup>

### International Institutions

*'Most likely we will see a further consolidation in the near future of conflict resolution efforts by the UN and all its divisions, OSCE, NATO and other international organizations. This, of course, will allow all future peacekeeping operations to become more productive in the process of creating peace and stability in today's changing world, but it will be hardly be possible to circumvent the active participation of Russia in the collective actions of the international community to resolve the armed conflicts on the regional and global levels*'.<sup>311</sup>

*'Since the role of international organizations (UN Security Council, OSCE, etc.) has*

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307 Granberg, Kuzyk, and Yakovets, *Budushhee civilizacii* [The Future of Civilizations].

308 M. Panov and V. Manevych, 'Voennye konflikty na rubezhe 2030 goda (chast' 2)' [Military Conflicts on the Eve of 2030 (Part 2)], 2008, <http://pentagonus.ucoz.ru/publ/19-1-0-582>.

309 Dmitriy Trenin, 'Vojny XXI veka' [Wars of the XXI Century], *Otechestvennye zapiski*, no. 5, Novaja real'nost' (2005), <http://www.strana-oz.ru/?numid=26&article=1132>.

310 Kolobov, *Bezopasnost' lichnosti, obshchestva, gosudarstva* [Security of the Person, Society and the State], 1:.

311 Ibid.

*strengthened in recent years , it is possible that parties may – often under the guise of the decisions of these bodies and even against their decisions – resort to methods of force to solve their national problems (as has already been: U.S. - Iraq, Germany - Bosnia and Herzegovina, Turkey - Cyprus, Turkey, Iraqi Kurds, U.S. (NATO) - Yugoslavia, U.S. (part of NATO) - Afghanistan, etc.)’.*<sup>312</sup>

### Public Involvement

*‘Unlike in past wars, in which the proverbial ‘population’ was united under a single agenda, mainly in the role of executor, this will not be enough in future wars: we need a broad intellectual support of a nation for a new generation of military operations at all levels, including the adoption of key decisions on their local level. The level of general and political education of citizens, their level of socio-political activity are therefore key factors in determining national security’.*<sup>313</sup>

*‘The habit of a high standard of quality of life that has emerged over several decades of well-being, triggers residents of post-industrial countries to overreact to the slightest reduction in consumption. With this in mind, the military-political leadership in the US, and especially in Western Europe, can only in extreme circumstances afford to transfer the entire state on a wartime footing to safeguard the national interest’.*<sup>314</sup>

### Wealth Distribution

*‘The most likely and inevitable separatist, religious wars and conflicts, wars are triggered by the confrontation between the rich North and poor South’.*<sup>315</sup>

*‘The threat to the establishment of a globally unjust world order that benefits some countries in comparison with others will be the source of a growing gap between’ rich ‘and’ poor ‘- a key threat to global peace in this century. That sense of global*

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312 Slipchenko, *Vojny shestogo pokolenija: oruzhie i voennoe iskusstvo budushhego* [Sixth Generation Wars: Armaments and Military Art in the Future].

313 Panov and Manevych, ‘Voennye konflikty na rubezhe 2030 goda (chast’ 1)’ [Military Conflicts on the Eve of 2030 (Part 1)].

314 Ibid.

315 Slipchenko, *Vojny shestogo pokolenija: oruzhie i voennoe iskusstvo budushhego* [Sixth Generation Wars: Armaments and Military Art in the Future].

*injustice has caused and continues to cause new acts of terror across the planet’.*<sup>316</sup>

*‘The second important circumstance is the growing gap between the rich and the suffering billions of the world. The figures are as follows: the three richest people on earth have wealth that exceeds that of more than 47 of the poorest countries; the world’s 475 richest people control more wealth than more than half of mankind. A social explosion is not far off’.*<sup>317</sup>

## Climate Change

*‘A new factor is the climate. The melting of Arctic ice opens the Arctic Ocean for development and the next round in the struggle for resources, transportation routes and waters’.*

*‘The next crisis will be determined by environmental factors such as global warming-related carbon emissions, deforestation and insufficient water on the planet’.*<sup>318</sup>

*‘The next crisis will be determined by even bigger disagreements over what course the world should follow (politics, economics and ethics), as well as by the struggle for natural resources. A number of new factors that will have a profound impact on most countries may play the role of a catalyst, according to some experts. These experts included factors like the problems of environmental pollution, global warming, the energy deficit (due to consumption growth), technological stagnation and the planet’s aging population’.*<sup>319</sup>

## Geographic Factors

*‘The global system becomes polycentric, the world becomes multipolar, and the Euro-Atlantic center is becoming just one of the many poles and forces in the*

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316 Oleg Arin, ‘Prognoz razvitiya mirovyh otnoshenij v XXI veke’ [A Prognosis for Trends in International Relations in the XXI Century], in *Космонавтика XXI века* (RTSoft, 2010), 483-555, <http://olegarin.com/olegarin/PDF/OA2.PDF>.

317 *Modeli postkrizisnogo razvitiya: global’naja vojna ili novyj konsensus* [Models of Post Crisis Development: Global War or a New Consensus] (Institute of Post-Crisis World, 2010), [http://uisrussia.msu.ru/docs/nov/insor/Model\\_post\\_krizis.pdf](http://uisrussia.msu.ru/docs/nov/insor/Model_post_krizis.pdf).

318 Slipchenko, ‘K kakoj vojne dolzhny gotovit’sja vooruzhenye sily’ [What Kind of War Should the Armed Forces Be Preparing for].

319 Ibid.

*world system. Such state of things cannot but be perceived by the West, primary the USA, as a threat if not to the existence, then at least to its influence possibility and power*'.<sup>320</sup>

### Urbanization

*'The urbanization of the population gives rise to a number of serious problems, one of which is poverty. It will increase drastically in the cities. In such conditions especially the younger population becomes an easy target for ideological manipulation, a 'natural habitat' for extremism*'.<sup>321</sup>

### Fragmentation

*'But the development of information also engenders a set of negative international political implications. First of all, it is accelerating the polarization of the world, the widening gap between rich and poor, technologically backward and advanced countries in all fields, increasing the number of marginal countries, as well as so-called 'failed states'. Polarization is the main source of instability, both current and future conflicts*'.<sup>322</sup>

### International Arms Control

*'I do not exclude the possibility of strategic stability being undermined in the world as a result of violations of international agreements on arms limitation and reduction, or of a qualitative and quantitative arms build-up in other countries*'.<sup>323</sup>

*'In addition to the problems surrounding the technical re-equipment and reorganization of the armies of various countries for waging the wars of the future, there are legal problems. Now all the international treaty agreements are concluded for the conventional arms of fourth-generation and the nuclear weapons of fifth-generation warfare. But there are absolutely no agreements relating to weapons of the contactless wars of the sixth generation. And yet, these weapons can destroy the entire existing treaty framework. Therefore, the development of new weapons should go hand in hand with the improvement of the international legal basis for their use*'.<sup>324</sup>

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320 Arin, 'Prognoz razvitiya mirovnyh otnoshenij v XXI veke' [A Prognosis for Trends in International Relations in the XXI Century].

321 Trenin, 'Vojny XXI veka' [Wars of the XXI Century].

322 Slipchenko, *Vojny shestogo pokolenija: oruzhie i voennoe iskusstvo budushhego* [Sixth Generation Wars: Armaments and Military Art in the Future].

323 Ibid.

324 'Kak budut prohodit' vojny budushhego' [How Future Wars Will Be Conducted], 2006, [http://bio.fizteh.ru/student/diff\\_articles/war\\_future.html](http://bio.fizteh.ru/student/diff_articles/war_future.html).



# Annex B – List of Studies Included in the Meta-Analysis

## Chinese Studies

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