

ABSTRACT

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Abstract Geopolitics is about the geographical factors that influence the behavior of states. Analysts of various kinds try to anticipate the geopolitical changes that could take place. One of the more well-known analysts is George Friedman whose geopolitical scenarios have received much attention. The scenarios represent the meeting point of both futures work and geopolitics. The purpose and main research question of this thesis is to examine how Friedman anticipates geopolitical change. This question is motivated by the fact that Friedman's way of doing his work is not well-known. The main question is supported by two sub-questions. The first one is about assessing the correspondence between Friedman's work and the actual geopolitical theory. The second one is about critically examining the track record of the scenarios, that is, how well they were able to foresee the actual geopolitical changes. The central work of this thesis, the analysis of the scenarios to answer the research questions, was conducted by closely reading the scenarios in light of the theories of both geopolitics and strategic intelligence. The theories were utilized to construct a theoretical background against which the analytical work could take place and would be steered by. The result of this analysis was the formulation of a five-stage model which illustrates a way to understand Friedman's anticipatory work. Friedman's scenarios can be understood as strategic intelligence work directed by the principle of geopolitical theory. The way in which he anticipates geopolitical change can be described as a scenario creation process in which the data input, analysis and prospection, and the output are all steered and informed by the principles of geopolitics.					
Key words	Futures studies, geopolitics, strategic intellig	ence, strategic f	ores	sight, George Fried-	

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ANTICIPATING GEOPOLITICAL CHANGE

Analyzing the geopolitical scenarios of George Friedman

Master's Thesis in Futures Studies

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Table of contents

l	INT	RODUCTION	9			
	1.1	The changing geopolitical landscape and its challenges	9			
	1.2	Objective and research questions				
	1.3	Methodology				
	1.4	Structure of the thesis	13			
2	GEO	OPOLITICS	14			
	2.1	Defining geopolitics	14			
	2.2	Methodology of geopolitics	15			
	2.3	Basic assumptions of geopolitics				
	2.4	Key geopolitical concepts and theories				
	2.5					
		2.5.1 Physical factors	21			
		2.5.2 Economic factors	22			
		2.5.3 Demographic factors	23			
3	STR	STRATEGIC INTELLIGENCE AS A FUTURES FRAMEWORK FOR				
	GEO	GEOPOLITICAL ANALYSIS2				
	3.1	What is strategic intelligence?	26			
		3.1.1 An overview	26			
		3.1.2 A changing field	29			
		3.1.3 The process of strategic intelligence	31			
	3.2	Strategic intelligence and strategic foresight	32			
		3.2.1 Foresight	33			
		3.2.2 A general framework of the foresight process	36			
		3.2.3 Strategic foresight	38			
		3.2.4 Concepts of foresight	40			
	3.3	Strategic intelligence as a futures framework for anticipating geopo	litical			
		change	43			
4	AN	ΓΙCIPATING GEOPOLITICAL CHANGE: FRIEDMAN'S SCENAI	RIOS			
	ANA	ALYZED	45			
	4.1	Background for the scenarios	46			
	4.2	The components of Friedman's scenarios: a deconstruction	48			
		4.2.1 Input: Trends, drivers and actors	48			

		4.2.2 The interrelationships of the relevant trends	51
	4.3	The Caucasus	53
		4.3.1 The scenario forecast	53
		4.3.2 A geopolitical assessment of the scenario	54
		4.3.3 Critical analysis of the scenario	55
	4.4	Central Asia	57
		4.4.1 The scenario forecast	57
		4.4.2 A geopolitical assessment of the scenario	58
		4.4.3 A critical analysis of the scenario	59
	4.5	European theatre	51
		4.5.1 The scenario forecast	51
		4.5.2 A geopolitical assessment of the scenario	55
		4.5.3 A critical analysis of the scenario	66
5	DISC	CUSSION	70
	5.1	Some initial remarks	70
	5.2	Discussing the results	
	0.2	5.2.1 Geopolitical theory and Friedman's scenarios	
		5.2.2 How well did Friedman anticipate geopolitical change?	
	5.3	How does Friedman anticipate the geopolitical change?	
	5.4	The weak points of Friedman's geopolitical anticipation: a possibility for	
		learning	76
6	CON	CLUSION	31
	6.1	Voy findings	21
	6.2	Key findings	
	0.2	Suggestions for further research	31
REFI	EREN	CES	33
List	of fig	gures	
Figur	e 1	Strategic intelligence triangle (Kuosa 2014, 15)	
<i>3</i> -			
Figur	re 2	The intelligence cycle (Rolington 2013, 62)	
Figur	e 3	Strategic foresight process (Kuosa 2011a, 22)	
Figur	e 4	Caucasus region (Friedman 2009, 108)	

Figure 5	Central Asia (Friedman 2009, 110).	57
Figure 6	The Eastern Europe (Friedman 2009, 72).	61
Figure 7	How does Friedman anticipate the geopolitical change? A 5-step model. (Adapted and modified from Kuosa's (2011b, 22) strategic foresight process figure.)	75

1 INTRODUCTION

1.1 The changing geopolitical landscape and its challenges

The world is experiencing a profound geopolitical shift of power. The dominance of the West is coming to an end, and new powers are rising. A new geopolitical era is about to emerge. (Wilenius 2017, 5). Given this, it is no wonder leaders as well as common people are looking for guidance and explanations regarding these tectonic changes taking place in the international field.

Even though we are facing a new situation, the essentials will remain the same: change is constant and the world's events keep rolling forward. The desire to understand change, and what it might mean, has always been an interest of the human race: the will to anticipate the coming developments is present in all ages. (Kamppinen, Malaska & Kuusi 2002, 19; Wilenius 2017, 1). Future studies as a field has emerged to help to understand and anticipate the future. It is there to produce visionary knowledge, which is a combination of information regarding the past and present, joined with the current understanding regarding economic, social and technological developments. The aim is to give a view of the future, not a precise one, but a reasoned one. (Wilenius 2017, xxi-xxii, 2).

The desire to know the future is as present today as it was in the ancient times. Especially those in the positions of power have been extremely interested in gaining understanding regarding the future's paths, as by that knowledge they could improve the security and power of their own realm. It is thus no surprise, that when it comes to the interstate relations, the forecasts and scenarios produced by various geopolitical analysts are in great demand. There are various independent and public organizations producing multiple kinds of reports regarding the possible developments of interstate relations. However, some names are more known than others. This thesis is about the work of George Friedman, founder of both Stratfor and Geopolitical Futures, and author of multiple books, whose work is mainly about geopolitical forecasting. Friedman is well-known, attracting readers from wide variety of backgrounds. He promises insights in the geopolitical shifts shaking the world, and also makes forecasts how the world, geopolitically speaking, might turn out to be. Friedman's activity can be considered as futures work. He creates various scenarios in which the future geopolitical changes are described, and what effects these changes will have. He applies geopolitical models to forecast the possible and probable geopolitical futures.

Friedman's scenarios are interesting from the futures studies point of view, since they clearly are delivering a view of the future within the geopolitical context. As futures studies is multidisciplinary in its nature, and it can utilize information from all relevant fields

(see Kuosa 2014, 21; Bell 2009, 71), the geopolitics can also be used within its framework. Indeed, Friedman's scenarios reflect the geopolitical change of the world, already mentioned above, and as futures studies as a field is interested in understanding change (Wilenius 2017, xxv), Friedman's work can be argued to be of interests to it.

It must be made clear that Friedman's scenarios have received criticism that must be taken into account. The criticism is most of all directed towards two things. First of all, his scenario forecasts have been found lacking in accuracy as well as in imagination, repeating the same things over and over again. Second, his methodology, that is, the way he comes to his conclusions based on which his scenarios are build, has remained quite obscure, and, apparently, has never been made public in its entirety. (Dungaciu, Cristea, Dumitrescu & Zaharie 2018).

When examining Friedman's scenarios, the need to categorizes his work arises. The need is based on the fact that in order to make sense of what he is doing, one needs to have a framework through which to analyze it. This is especially true, since his work clearly has two components: geopolitics and the future perspective.

I argue that the correct framework to be used to investigate his work is strategic intelligence. By examining both his work and the ways the two firms founded by him characterize their own work, my point becomes clear. Stratfor, a company founded by Friedman, claims to deliver geopolitical intelligence (Stratfor). Geopolitical Futures, a firm also founded by him, is also in the business of anticipating the geopolitical changes (Geopolitical Futures); work which can be translated to be geopolitical intelligence work as well. I will examine the theory of strategic intelligence, and by reading Friedman's geopolitical scenarios through the theory of strategic intelligence, it becomes apparent that his book (2009) is also, in many ways but not completely, a work of strategic intelligence,

The next natural question of course is, what has strategic intelligence to do with futures studies? Shortly put: quite much. As the theoretical examination of strategic intelligence shows, there are several ways in which strategic intelligence attaches itself to the theory of foresight. This point will be explicated further in the coming chapters.

Strategic intelligence provides the theoretical background for understanding the future elements of Friedman's work. However, it also provides a framework through which the methodology of Friedman becomes more understandable. I do not claim to know exactly the way in which Friedman comes to his geopolitical conclusions, but I think the framework of strategic intelligence helps in making sense of Friedman's forecasting process. This help is vital to be able to see the way he moves from present geopolitical realities to his future predictions.

By examining the theory of geopolitics and strategic intelligence, I build the background necessary for analyzing the way in which Friedman anticipates geopolitical change. Theoretical understanding of geopolitics is necessary to understand the logic behind Friedman's anticipatory work. The theory of strategic intelligence, on the other hand,

allows the introduction of the futures element, which is necessary to move from the present to the scenarios.

1.2 Objective and research questions

The objective, and main research question, of this thesis is: how does Friedman anticipate geopolitical change? There are two things to consider here.

As Friedman's methodological explication regarding his scenarios is rather scant (see Friedman 2009, 10-13) and that fact has received criticism (Dungaciu et al. 2018), there is a need to build a strong theoretical foundation in both geopolitics and strategic intelligence to analyze his work. Geopolitics is necessary to understand the nature of the work in the first place, and strategic intelligence is necessary to introduce the futures framework, its concepts and vocabulary, to make sense of the future orientation of his thought. By doing so, dissecting the scenarios becomes possible and through that process the way in which Friedman anticipates geopolitical change can be deduced.

To support the main research question, two sub-questions are introduced. The first one is, how well do Friedman's scenarios conform to the geopolitical theory? This question related to the criticism of Friedman's methodology. By examining how well his scenarios follow the theory of geopolitics, it can be seen if geopolitical theory is useful in examining his work. If he follows geopolitical theory, then it can used. If he does not, then he is not doing geopolitics in any academic sense, and his methodology remains obscure. Answering the first sub-question is necessary to establish the ground for answering the main question.

The second sub-question is, how well have Friedman's scenarios succeeded in anticipating the actual geopolitical change? This question is answered by critically examining the scenarios in light of historical facts. By doing this, the accuracy of Friedman's method is assessed. Through this, the possible missteps and successes of the scenarios become clear, which shed further light on the process of Friedman's anticipatory work mainly by showing how, where and how well he has applied the geopolitical theory, and does its application has some anticipatory value.

Now, before going any further, I want to stress that the term geopolitics is used extensively in the public discourse, and usually either in totally wrong way or in wrong contexts. The term has been thoroughly vulgarized. Not everything that is said to be geopolitics is such. (Petta Gomes da Costa 2018, 45-48). Geopolitics has a rich and varied tradition, and well-argued theories, albeit the field is somewhat scattered. Because of the term's vulgarization, it is necessary to bring in the real geopolitical theory in order to examine the scenarios at hand.

I stress, that Friedman does not even himself claim to make precise predictions regarding future geopolitical developments, but rather giving broader outlines (Friedman 2009, 9-10). It is true that to predict is impossible. Yet, it makes sense to critically evaluate his scenario forecasts to see how accurate they were in general, and were they able to give at least a remotely accurate view on the wider geopolitical developments. If his scenarios are wildly inaccurate, his claims of at least getting something right about the future are of course very strange.

1.3 Methodology

The research method used in this thesis is qualitative content analysis, meaning that the research process is based on close reading of the source text in order to draw interpretations from it (Julien 2008, 121). The text source used, are the scenarios considering the geopolitical future of Russia as presented by George Friedman in his book "*The next 100 years*" (2009). No other scenarios or works of Friedman are studied here. This approach was chosen for two reasons. First, the scenarios presented in the book are both well-argued and have a broad background presented with them. That means, that there is enough material for the analysis purposes of this work. The second reason is, that as the analysis takes up considerable space, the limits of this study do not allow the inclusion of further source material.

The main research question is answered by closely reading Friedman's scenarios in light of both geopolitical theory and the theory of strategic intelligence. The aim is to deconstruct his work to see how it is built and how his process of anticipation works. The main research question receives support from the two sub-questions, which provide the necessary background information for engaging the main question.

The theory of geopolitics is discussed to construct a theoretical foundation for assessing his work's as geopolitics. Without understanding geopolitics, it is impossible to analyze his scenarios. The analysis work receives additional support from the theory of strategic intelligence, which is introduced to provide a coherent framework to understand the future-element of Friedman's work. The theory of strategic intelligence provides both the concepts and an understanding regarding Friedman's scenarios, which make it possible to explicate his way of working, that is, the process through which he anticipates geopolitical change.

The critical assessment of the scenario accuracy is done by comparing the scenarios to the actual events which have taken place. Due to the recent nature of the events, the main source material for the historical record are the news items published by various news providers.

1.4 Structure of the thesis

This thesis can be divided in four main parts of which two first are about explicating the theoretical basis of this thesis. The last two are about analyzing the material and discussing the findings of that analysis.

At first, the geopolitical theory is introduced. Geopolitical theory forms the foundation on which this thesis is build and as such it must be presented first.

Second, strategic intelligence, its theory and concepts are discussed. In this chapter, the combination of strategic intelligence and geopolitics takes also place. This combination is of great importance for answering the main research question.

Third, Friedman's scenarios are presented and analyzed. The scenarios are presented in the same order of appearance as found in Friedman's book (2009).

Fourth, the findings are discussed. In this chapter, the research questions are answered.

In the last chapter, the key findings are presented in a summarized form. Further research topics are also suggested.

2 GEOPOLITICS

2.1 Defining geopolitics

Geography is a prison which no leader and no state can escape, but within whose confines they must operate (Marshall 2015, 1, 273). Geopolitics, then, studies the effects of geography on international politics (Devetak, Burke & George 2007, 388; Marshall 2015, 2). Geopolitical thinking has existed as long as leaders have pondered the questions related to control and utilization of both space and resources, and how to best use them to improve the economic, military, and political standing of their realms (Tuomi 1996, 11). Indeed, "[t]hroughout history, geography has been the stage on which nations and empires have collided." (Sempa 2002, 5). The term "geopolitics", however, was first formulated at the end of 19th century by a Swedish political scientist, Rudolf Kjellén (Tuathail 1998, 1), who started to place conscious emphasis on the environmental conditions as influencing factors of foreign policy (Holdar 1992, 319).

Geopolitics can be viewed both as a subject of study as well as a methodological approach towards the world of international relations (Sicker 2010, 13; Sempa 2002, 3), and it can further be understood as the utilization of the results of geographic studies as a tool of political decision-making (Vuoristo 1997, 52). Geopolitics is a mode of analysis, which relates the diverse scale and content of geography, the study of patterns and features formed by the interaction of the man-made and natural environments, to exercise of power, and which identifies the spatial structures through which power flows (Cohen 2015, 4, 16). Geopolitics moves back and forth between the complex interplay of human actions and geography, trying to understand how the latter affects the former. The geographical factors mentioned, act as constraints to political actions. Identifying the analyzing these constraints is what geopolitics is mainly about, as the constrains dictate the possibilities and interests of states, which form the basis of the decision-making of the political leaders. Through understanding these constrains, a practitioner of geopolitics seeks to analyze the possibilities and potentialities of the individual states, regions, and those possibilities in relation to other state. (Graziano 2017, 3-4.)

The interest geopolitics has in the relative spatial locations of countries, regions and resources, that is, geography, (Kelly 2016, 2), is explained by the fact that the attributes of geography have a strong and lasting impact on the capacities and foreign policy of states, as those attributes are of the most permanent kind (Spykman 1942, 41; Sprout & Sprout 1960, 145). Geopolitics, then, combines the geographic features, like natural resources, with human activity, which can alter the strategic value of those features (Grygiel 2006, ix-x.) This is the mix that forms the central tension in geopolitics; it is about the facts of geography, which are constant, and on the social, political and economic realities,

which are changing. Thus, geopolitical thinking is dynamic, which makes it contemporary at all times, and makes it helpful in understanding both the past and the present. (Sicker 2010, 21-22.)

Geopolitics is not a synonym for the realist school in international relations. Whereas realism is about the power of states, for geopolitics power is only a possible by product of the spatial positions of various factors affecting a state. (Kelly 2016, 2.) Indeed, the geographic factors facing each country, namely, topography, distance, shape, resource distribution, and such, are of central interest to geopolitics, not power. By examining these factors, geopolitics seeks to understand how they affect the international behavior of nations. Because of the immutable nature of these objects of study, geopolitics tries to offer timeless generalizations, which, however, can be applied in a dynamic and changing world. (Kelly 2016, 1-6.) In a sense, geopolitics can be thought as a vision which incorporates the relationship between politics and geography, and the effect it has one the various policies of a state, e.g., foreign policy, trade policy, economic policy, security/military/defense policy, and so on (Puheloinen 1999, 7). This vision, furthermore, helps the leaders to identify the interests of the state and to distinguish between the enduring interests from the transient ones (Sempa 2002, 4, 6).

In the geopolitical setting, the term geography is to be understood broadly, as it includes, besides the physical features of the surface of the earth, other aspects also (Friedman 2009, 31). Hence, a precise definition of geopolitics in the classical sense, and the one used here, taken from Kelly, is that geopolitics studies "the impact or influence of certain geographic features, positions and locations of regions, states, and resources, plus topography, climate, distance, states' size and shape, demography, and the like, upon states' foreign policies and actions as an aid to statecraft (Kelly 2016, 23)." This strong connection between geopolitics and geography is also reflected in the notion that, through the action of the leaders influenced by the geographical factors, the geography also affects, in turn, the human environment (Tuomi 1996, 22-23).

2.2 Methodology of geopolitics

The methodology of geopolitics, the means to locate the realities impacting the actions of states, is varied. However, it is based on some very basic premises which can be expressed quite succinctly.

In geopolitics, the lessons of history are indispensable. From historical examples, theories can be derived and against historical events they can be tested. History is the provider of empirical material for generalizations which acts as the building blocks for geopolitical understanding. (Kelly 2016, 10-11.) The centrality of historical examples is understandable since geopolitics seeks to identify the factors which have lasting impact on

states' actions, namely those of geography, which means that both recent events as well as those of past can be studied with same principles. However, the when geopolitics is observed from the vantage points of present and future, the role of history is not only that of a sandbox to test theories in. It is also a fountain of genuine understanding. Just looking at a map may tell us something, but knowing the history of that region will take us further. For example, the steppes of Russia have seen many invaders, a fact not forgotten by the Russians, whereas the shores of America have been safe for generations. These memories are powerful and they shape the actions of leaders, in the narrow space they have to maneuver. If one is continually threatened, one is bound to perceive the world differently from someone coming from peace and plenty.

The insights of scholars are also of great importance for geopolitics. Theories of, for example, Halford Mackinder and Zbigniew Brzezinski, have influenced, and still influence, the field immensely. However, unlike the critical geopolitics, the classical variant is merely interested in the theories, not the authors behind them or their motivations. (Kelly 2016, 11-14.) The theories, again, rely on history as their source of data. An appendix gives a brief list and description of the most influential theories of geopolitics.

A third important aspect in the methodology of geopolitics is the use of common sense and logic (Kelly 2016, 11). For example, with common sense one should be able to deduce that a state is more prone to be influenced by what is going to happen to its most populous and industrialized parts, than, say, to its parts with nothing but desert wastelands.

Maps and geographic locations are important in geopolitics. From maps strategic points, patterns, distances and other factors can be studied. (Kelly 2016, 11-12.) By surveying maps, a geopoliticians may learn a great deal of things explaining the actions of a state, for example, by identifying areas of great interest to a state, or areas which form natural protective zones, such as deserts or mountain ranges.

Geopolitics makes a limited use of statistical or quantitative methods, but many topics it studies cannot easily, if at all, be quantified. Indeed, the concepts of buffer states and heartlands are not easily turned into numbers. This aspect of geopolitics is reflected strongly in the discussion whether geopolitics is an art of a science, and even thought the scales may tip to favor of art, it does not release geopolitics from "making its methods as objective as possible in its normal process of theory gathering and in its application of relevant generalizations." (Kelly 2016, 12-15.)

Although the geographical factors play a key part in geopolitics, the state persons cannot be neglected either but must be taken into consideration to some degree. However, their importance in geopolitics is limited as the main interest is paid to strategies and actions of states. (Kelly 2016, 12-13). These actions are always subject to quite impersonal physical factors as Spykman noted in his famous line: "Ministers come and ministers go, even dictators die, but mountain ranges stand unperturbed (Spykman 1938, 29)."

However, geopolitics does not take the world to be predetermined in a strict and comprehensive sense. The reality places limitations and presents opportunities, but there is also room for human deliberation. For this reason, the logic of geopolitics is not perfect, meaning that there are unintended consequences which escape the foresight even of the best of us. The ends pursued by states are rarely achieved, and often the actions result in something else than feared of hoped for. (Friedman 2009, 30.)

Last, the rational-choice assumption, the instinctive choosing of option with greatest benefits and lowest risks, and ranking available options according their desirability, is a critically useful ideal to geopolitics (Kelly 2016, 10-12.) Actors are taken to be rational in the sense that they are aware of their short-term self-interests which they also try to pursue. This makes the behavior of states more or less predictable. Therefore, a situation always exists in which the actors are faced with a limited amount of choices in any given situation. A rational supposition can be held that the self-interest will be pursued, if not systemically and flawlessly in all situations, then not completely randomly either. The leaders of nations know, more or less, the interests of their nations, and the limitations reality sets for them. This leads to a situation in which, most of the time, the only thing there is to do, is to take the logical next step, geniuses and mad men excluded. This leads to a certain kind of predictability of nation's actions and leads not to place too much importance on the individual leader, as their actions often are determined by the circumstances. (Friedman 2009, 10-12.)

2.3 Basic assumptions of geopolitics

The geopolitical thought, besides the methodological factors mentioned above, rests on assumptions about the world, which are simple, abstract statements that help further define the beliefs and foundations of geopolitics, in a word, its essence. These assumptions are to be taken for granted with little possibility to prove their accuracy as they are abstract beliefs underlying the general descriptions of geopolitical concepts and theories. (Kelly 2016, 70-71.) However, we can reasonably assume that they are true in the sense any international relations theory is. In short, they are based on the common sense.

Geopolitics is based on the modernist view of the world. This means that the environment is taken to exist "out there", that is, independently of the observer examining it. The environment is seen as continuous, recognizable and predictable enough, so that theories can be created about it. (Kelly 2016, 75.) This also means, that the facts relating to the geopolitical events are open to meaningful interpretation, which can lead to some sort of predictions of spatial nature (Kelly 2016, 78).

Geopolitics, as mentioned above, is based on the simple truism, that the behavior of states is contingent upon the geographical facts they face (Kelly 2016, 72). These geographical factors, or in short, the environment, places limitations on the possible actions the states can take (Sprout & Sprout 1960, 147). The controlled resources, the state's location and shape, and all such form the parameters within which the state must conduct its operations. These limitations force every state, from the strongest to the weakest, to consider how best use the means at their disposal (Grygiel 2006, x).

Importantly, the states also tend to be single units which stay together, because humans have a tendency to form larger groups and have a sense of loyalty towards them. Geopolitics factors this in and concludes that partly because of these loyalties, war is a pervasive aspect of human history. (Friedman 2009, 31.) Of course, the loyalties are not the only conflict-creating factor but also the struggle for resources and safety play their important role. The key point is, however, that conflict is inherent in geopolitics. It must be taken into consideration. (Kelly 2016, 81.) This does not mean that geopolitics is about war, but the competition between nations, sometimes on the level of diplomacy, sometimes in brutal combat, is a given, which must always be accepted as a central part of all international conduct.

In geopolitics, as the environmental factors are seen conditioning the leaders of nations, not the other way around, the possible ideological leanings are to be disregarded in favor of state's surroundings and settings (Kelly 2016, 74). However, while it is true that geography is unchangeable, it should be noticed that the value assigned to different regions or resources may vary greatly depending on the technological developments (Grygiel 2006, ix-x). Thus, the resources and strategic locations that launched men and ships in aspirations of conquest a thousand years ago, may have little effect on the considerations of the leaders of today.

The natural resources or the size of the state are not the only factors of interest in geopolitics. Also, the relative location of a state within a region is important, as it influences its relations to other states, and through that, its policies and actions. (Kelly 2016, 74.) The ways which geography influences the relationships between countries is major issue in geopolitics (Friedman 2009, 31), as it provides the way to understand the strategies which the states pursue. Indeed, the foreign involvements of states are often conditioned by their relative positions, as it determines the ways in which, or if, the state can have any say in the region's businesses. A small state with a location next to a much larger neighbor is more limited by its possibilities to steer the course of events than its more powerful peer. This does not mean, however, that geopolitics would not be applicable to smaller countries. The central idea of geopolitics is, that it is applicable to all countries at all times. (Kelly 2016, 75.) It is a universal tool which can be used to understand history and the present.

Geopolitics acknowledges the fact that some regions in the world enjoy greater importance than others. This relevance may be due to their beneficial or strategic location, or the resources they possess. The uneven division of these advantages favors some nations over others. The importance of some regions can be of enduring kind, experiencing little change during history, even if technologies change. However, technology can also change the importance of some locations. The main idea is, in any case, that geographic features do have attributes of significance: mountain ranges separate, deserts divide, and major rivers can unite nations (Kelly 2016,76, 80-82).

2.4 Key geopolitical concepts and theories

Geopolitical concepts are passive descriptors of potentially emerging situations, which portray articular events, spaces and other geographically relevant phenomena that relate to foreign policies and actions. However, they differ from assumptions in being less abstract, as they represent concrete definitions of landscape and describers. The geopolitical concepts are derived from history, from scholars, from logic, rationality, maps, and statistics. On the other hand, geopolitical theories are simple statements that show probable associations among geopolitical variables. For this reason, theories provide a certain amount of predictability within the reasonable probability. (Kelly 2016, 84-85.)

The concepts and theories presented here are both, arguably, the most common ones used in geopolitical literature, and they are also the most relevant ones regarding the context and aim of this work. The concepts and theories are presented here in alphabetical order, which does not necessarily follow the order of their relative importance. Neither concepts nor theories will be presented separately, but they exist here in a single list for the sake of brevity and clarity.

Balance of power. Balance of power refers to the equilibrium, or the lack of thereof, of power between states within a region. The concept is often used when talking about the policies of states, which are aimed at matching the power of other competing states. The balance of power can be affected in many ways: by increasing military spending, by creating new alliance, or by acquiring new territory. (Encyclopedia Britannica).

Buffer states. Buffer states are nations positioned between stronger states to avoid direct contact between them and thus lessen the potential for conflict (Kelly 2016, 175). Buffer states, or zones, can either be artificially created or come into existence by greater powers allowing them to emerge (Sicker 2010, 165-166).

Checkerboards. Checkerboards is a theory which refers to a situation in which the neighboring state is perceived as an enemy, but the neighbor of a neighbor as an ally. It is a pattern of rivalry and alliance. (Kelly 2011, 514).

Choke points. A choke point is a strategic or pivotal location, either a land or sea corridor, which offers a passage through some area or body of water. The choke point's impact is felt far outside their actual immediate location, as it is vital to transportation. Choke point's importance is proportional to the availability of alternatives and its degree of usage. (Al-Rodhan 2009, 83-84; Rodrigue 2004, 359-360.)

Core area. All states have something which can be considered to be their core area. This core area can be small or large, usually depending on the size of the state. The capital of the state is located within this area and usually also a considerable portion of its population and productive capacity also. However, the capital can also be located outside of the main industrial and population centers. A state can have multiple important areas, but in all cases, there is one central hub to which at least the political power, and, as stated, usually also the economic power is centralized. (Cohen 2015, 39; Killinen 1964, 181-184.) A state seeks to protect its core area at all costs, because losing that area effectively means that the state can no longer perform any meaningful acts. A favorable position would be to have buffer zone around the core area, so as to prevent any direct attacks against it (Sicker 2010, 164-166).

Gateway states. A theory which suggests that areas that attract outside powers to use them as springboards for their security, economic and other interests in a more expansive and wider region (Vuoristo 1997, 71; Kelly 2016, 175). A gateway region may have a "hinge" state that can be in a key position, be it economic, social, or otherwise, regarding the wider gateway area (Cohen 1991, 572).

Heartland thesis. The most famous of all geopolitical theories, proposed by Halford Mackinder in 1904. The thesis suggests that the control of the heartland, a central strip of land within the Eurasia, would put the entire supercontinent within the reach of the state controlling the heartland. Consequently, the control of the Eurasia, of its massive resources, would mean the effective control of the entire world. (Mackinder 1904; Kelly 2016, 88-89.)

Natural borders. Borders that are defined by natural obstacles such as mountain ranges, rivers and deserts. According to this theory, the clear natural demarcation causes fewer territorial disputes and thus brings stability to the region. (Dumont & Verluise 2016).

Pivotal locations. Pivotal locations refer to those strategic points whose influence and impact is felt far beyond their actual location. The control over a pivotal location may give a state a major strategic advantage over its opponents. (Petta Gomes da Costa 2018, 53.)

Shatterbelts. This theory posits that shatterbelts are strategically important areas which are prone to conflict. The potential, and possibly ubiquitous, conflicts are caused by outside, major powers, who compete for the supremacy of a particular shatterbelt area, and

by the states in the area who ally themselves with either strategic or local friends against their either strategic or local opponents. (Vuoristo 1997, 71; Cohen 2015, 9.)

Sphere of influence. A sphere of influence refers to an area which is under the domination of an adjacent, or nearby outside great power. The sphere of influence is replaced by a shatterbelt structure if a competitor intrudes the area. (Kelly 2016, 185.)

2.5 Key geographical factors of geopolitics

Knowledge of geography is critical to geopolitics, as it as a field is about the interactions of states in a certain geographical setting. Geography is the most permanent factor affecting the international politics, as it places limitations on states on a way wholly unique to itself. (Sempa 2002, 5.) For this reason, it is important to introduce the main geographical factors considered in geopolitics. This is not an exhaustive listing of the factors, but represents the key things important to understanding in this work.

2.5.1 Physical factors

The most important of all physical factors is the location of the state in relation to other states. If a country is favorably positioned, its other features matter far less than they would if the location would be different. (Sempa 2002, 5.) The location of the state dictates its access to resources, its neighbors, whether it is landlocked or not, and what its relation to larger landmasses and oceans is. (Sicker 2010, 99-101.) The trade routes and possible larger neighbor, which may be hostile, are all factors of the state's location (Killinen 1964, 54). A small state favorably positioned may have a far larger influence on the world events than its much larger competitor, which, nevertheless, is far away from the strategically important areas of the globe (Sempa 2002, 5).

Arguably the second most important physical factor influencing the foreign policy is the size of the state. If the state is a unified and coherent whole, the size can give some estimate of its strength. However, a large, but unusable land mass can also be a strain to a nation. In some cases, state's size can directly affect its ability to defend itself: states with much strategic depth are better off than those with only a small territory. However, to be effective, the strategic depth requires the most vital areas of nation be far removed from its immediate border areas. (Sicker 2010, 87-91.; Killinen 1964, 56-57; Organski 1958, 122-123.)

The shape of the state is also intimately tied to its size. An unfortunately shaped state can have a long and difficultly defensible border and areas far removed from its political and economic centers. In such case, the shape of the state can have an effect on its ability

to both defend itself and to its ability to stay together as a coherent whole. (Killinen 1964, 57-59.)

State's geopolitical standing is much configured by its topography. Mountains, rivers, deserts, natural harbors and other formations can either provide solid boundaries between states, act as transportation routes, hinder communication and commerce or facilitate them, and in these and countless other ways form the options available. (Sicker 2010, 91-94.) Also, areas with impassable marshes or forests are to be accounted for. Furthermore, the soil, its fertility and yield are factors which have geopolitical significance. (Killinen 1964, 61, 77-80.)

The role of climate cannot be underestimated in geopolitical calculations. Climate determines the crops, it can act as a hindrance for movement, and it can either foster or prevent human habitation. The role climate plays, is hard to underestimate. (Sicker 2010, 96-101; Killinen 1964, 68-76.) Even with the modern technologies, humankind is still very much subject to the various effects climate has on all our actions.

2.5.2 Economic factors

The economic factors play a great role in geopolitics. Without sufficient raw materials and industry, a state can be quite weak and not in a position to resist the demands of other states.

The first, and most important, geopolitical-economic factor is the ability of a country to produce food for its people (Killinen 1964, 83-94). Without adequate food production, the population cannot sustain itself unless the food is imported from elsewhere, which in a time of crisis can be a great problem. The areas of food production can play an important part in geopolitical analyses.

Raw materials and fuels form a second important economic factor in geopolitics. Raw materials and fuels are vital to the national economy since without them the production machinery would come to a halt. (Killinen 1964, 95-121.) However, all natural resources are not equally important. The technological change can affect their significance, which, in turn, has an impact on the strategic nature of the places they are found (Grygiel 2006, ix-x). What is always true, however, is that the places containing the coveted resources are subject of intense strategic interest.

The third significant geopolitical economic factor is industry. The industrial capacity of a state is very much dependent on its access to raw materials and fuels. Furthermore, industry demands both education and capital, as well as labor. (Killinen 1964, 122-130.) A high productive capacity in itself can provide a state with means to defend itself. However, if the resources critical to production must be imported, the state can be in a precarious position in the times of war.

Infrastructure forms the fourth economic factor which must be considered in geopolitical thinking. Infrastructure here refers to all those human-made structures which make transportation possible. To this category belong highways, railroads, ports, airports and other facilities which directly are tied to business of moving people and goods. (Killinen 1964, 130-135.) The transportation network of a country or a region is a significant geopolitical factor, especially if the area in question is large. Through that network move both raw materials and industrial goods, as well as military hardware and passengers. A good, or poor, infrastructure can be of greatest importance when considering the geopolitical fortunes of a nation.

2.5.3 Demographic factors

People are the most important resource any nation. Without people a nation could not exist. The size of a population is geopolitically significant factor as a great population can be a great source of strength. However, much depends on the quality of the population as uneducated people living in poor conditions can rather be a burden to a state than a source of power. The population of a state forms the pool from which it recruits its soldiers and thus a country with large population and means to form technologically advanced armies is unquestionably a very formidable actor. (Killinen 1964, 141-150.)

Another factor directly tied to population is the population density. Areas with high population density must be taken into consideration in geopolitical thinking (Cohen 2015, 4.) Highly populated areas can have strategic importance by their sheer demographic weight. Also, those areas, when mobilized and educated, can be turned into manufacturing power houses, if conditions so permit.

A third important demographic factor is the composition of the population. A state with a large population of young people have a base from which draw both labor, talent and soldiers for the needs of business and military. (Killinen 1964, 145-146.) The composition of the population can by itself have an effect to the way a state conducts its affairs. A state with young men to spare can be more aggressive, as it knows possible wars will not threaten its strength even if it suffered considerable losses in blood. A state with ageing population, on the other hand, can be less accepting of casualties and thus pursues more peaceful policies. (see Heinsohn 2003, 15-17). An ageing population forces a state to find ways to accommodate this fact vis-à-vis its other geopolitical factors, be they economic or otherwise.

The ethnic and national aspects form the fourth demographic-geopolitical factor. People tend to form larger groups, nations, and be loyal to their them (Friedman 2009, 31). A nation with great sense of unity can likely withstand much more external pressure than one which is fragmented along different lines. This means, that where the sense of shared

destiny is found, this tends to give the state much political power by the way of utilizing that sense in mobilizing the nations resources. However, also the opposite can be true. If the nation consists of multiple groups with no shared loyalties, the state can be rather fragile and weak, especially if there is no one dominant group. (Killinen 1964, 154-158.) What this means for geopolitical analysis, is that when considering the geopolitics of any state or region, the internal dynamics of different groups of people, however identified, must be taken into account.

The fifth demographic factor is composed of various religions and ideologies uniting or dividing people. Especially religions can bring together people across the borders and have great political significance either as unifying force or as a source of conflict. Religions can also be used as political tools in order to mobilize national forces for some purpose. Much of this applies to ideologies also. (Killinen 1964, 158-169; Graziano 2017.)

The final demographic factor considered here is that of the political structure and system of a state. Different states have different political systems and they are differently structured in the way of organizing the power in relation to various political bodies. This factor can affect a state in various ways, either increasing or decreasing its options. (Killinen 1964, 169-173.)

It is clear that none of these demographic factors can be considered in separation from others. Also, this listing is hardly comprehensive. However, they represent the bare essentials which must be considered in any geopolitical analysis.

3 STRATEGIC INTELLIGENCE AS A FUTURES FRAME-WORK FOR GEOPOLITICAL ANALYSIS

To practice geopolitical anticipation, there are at least two components that are necessary. First of all, a good grasp of the geopolitical theory is indispensable, as from it flow both the methodology and ability to analyze the situation. Good theoretical understanding prevents the practitioner from falling into the trap of "vulgar geopolitics," which treats issues of little geopolitical significance as geopolitics; in essence, making geopolitics the synonym for, e.g., power politics or realism.

The second component is naturally the futures-aspect. Without it, no real anticipation work could be done, as geopolitics would only remain a tool to understand the present and the past. For this reason, a solid framework in which the futures work can be done is required. Such a framework is provided by the theory of strategic intelligence, which combines foresight with strategic thinking (see e.g. Kuosa 2014). Strategic intelligence includes the necessary conceptual and theoretical background regarding the futures studies, which can be combined with geopolitics to create actual forward-looking information centered around geopolitical change.

However, strategic intelligence was not chosen to act as the futures framework in this thesis solely based on its theoretical merits. I argue that Friedman is in the business of strategic intelligence, which means that the strategic intelligence framework is actually necessitated by the fact that this thesis analyzes his futures work.

The notion that Friedman's work is strategic intelligence inferred from various facts. First of all, as mentioned already in the introduction, the firms founded by him characterize themselves in such a way, that their work should be understood as a form of intelligence. Second, as demonstrated below, Friedman's work, when read through the lens of the theory of strategic intelligence, becomes understandable: what he wants to say and how he says it, in the form of scenarios, and how he works to create foresight, all can be fitted in the strategic intelligence framework. For this reason, it is necessary to delve into the theory of strategic intelligence in order to enable the analysis of Friedman's work.

In this chapter, I will first examine the concept of strategic intelligence: its composition and some of the changes currently taking place in its field. Second, I will examine the theory of strategic foresight, which is a significant part of strategic intelligence. This is done since strategic foresight is the future-oriented component of strategic intelligence work, which makes it especially interesting from futures studies point of view.

Increased understanding regarding strategic intelligence will be used in analyzing Friedman's scenario forecasts. It will provide a future-oriented framework for a holistic and critical analytical work, which aims to asses Friedman's scenarios within their natural intellectual context, as well as the necessary vocabulary and concepts to increase the change of explicating the scenarios further.

3.1 What is strategic intelligence?

3.1.1 An overview

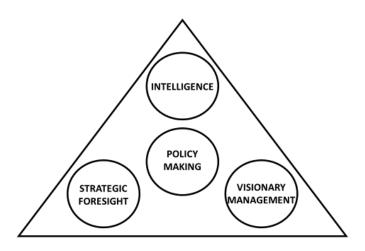


Figure 1 Strategic intelligence triangle (Kuosa 2014, 15).

Strategic intelligence means knowledge and foreknowledge of the world around us. It is a search for useful, even vital, knowledge which relates to the survival and flourishing of an organization. (Kent 1966, 6, vii; Central Intelligence Agency 1999, vii.) According to Kuosa (2011c, 458), strategic intelligence can be summarized as "the collection, processing, analysis, and dissemination of information that has high strategic relevance."

Nowadays, strategic intelligence deals either with national or corporate long-term strategic issues (Kuosa 2014, 15), but its inception is within the realm of the warfare (Rolington 2013, 53-55). Strategic intelligence has been characterized as the knowledge necessary for safeguarding the national, and also organizational, welfare (Kent 1966, vii). It is a part of organizational thinking that concerns itself with the present and the actions related to achieving some specific goals (Rolington 2013, 18-19). Strategic intelligence should not be constricted to some specific use, however, e.g., the business or military, or within the use of a precise set of methods. Rather, any set of tools that helps to make large, complicated and complex issues more understandable, or that helps to reveal unseen information and signals from the noise, or that helps to get the most up-to-date and valid information on time, can be considered strategic intelligence. This means, that strategic intelligence should be understood as a general way of managing knowledge, that

can use various methods to express complex issues in a simplified way. (Kuosa 2011b, 458-459).

There is, strangely, no single widely accepted definition of intelligence (Rolington 2014, 17). One way to characterize it is to say that it looks the history and the present in order to describe and interpret them to produce forward-looking information to policy-makers and others in high positions of power. It applies analysis and various techniques to facts to provide answers to specific questions. (Schmidt 2015, 490.)

The theories of intelligence tend to, in general, despite the lack of a unified definition of the term, explain the process of information gathering and analysis. The information gained through this process is then understood to be prescriptive by its nature, and it can potentially have prescient knowledge, which then is described as intelligence. (Rolington 2013, 17.) Intelligence, then, is an activity, a pursuit of certain kind of knowledge, as well as the resultant of that process (Kent 1966, vii). Strategic intelligence also employs the aspect of strategy, essentially in the form of strategic thinking, which will be discussed in the section that deals with strategic foresight.

The knowledge which merits the name of strategic intelligence essentially serves two purposes. On the one hand, it forewarns of the designs of other actors. On the other, it can offer valuable insights for the formulation of strategies and policies. (Kent 1966, 151.) This is true for both the public and private uses of strategic intelligence.

The intelligence gained through strategic intelligence is then used as part of strategic planning processes for the future, which often make us of forecasts and scenario predictions. For this reason, intelligence includes an understanding of the current reality and incorporates some past knowledge as well, or other validated beliefs, regarding some organization's actions, intentions or potential threats they may represent. (Maccoby 2015, 18.)

According to Maccoby (2001; 2015) and Kuosa (2014), strategic intelligence consists of several components. Maccoby (2015, 20) sees, that strategic intelligence is comprised of foresight, visioning, partnering and motivating. Kuosa (2014, 15), however, sees that strategic intelligence has three distinct parts: intelligence, strategic foresight and visionary management. Maccoby (2001, 58-59) also includes systems thinking to be an important part of strategic intelligence. Systems thinking is characterized by him as the ability to understand how the different elements of a system interact as a whole, without breaking them into parts for the purpose of analysis. This is because he sees that if taken apart, the parts lose their essential properties, which leads to fault analysis of a given system.

According to Maccoby (2001, 58-59), visioning, in the context of strategic intelligence, means the ability to combine foresight and systems thinking to design an ideal future. Motivating, on its part, is the ability to get people engaged to the common purpose

in order to implement the created vision of the future. Partnering, then, is the ability to create strategic alliances to further this goal.

It is easy to see, that strategic intelligence operates on the field of geopolitics also. Geopolitics has traditionally been associated with the military matters, although its applications can be more varied. However, geopolitics always is concerned with the means of the state as dictated by geography. Strategic intelligence, then, moving on the plane of important, even vital, events and information, is, by its nature, tied to the geopolitics in the sense that it is strategic, meaning, directed to the leaders of the highest levels, who are in charge of strategy. Without a doubt it can be argued, that geopolitics is very much strategic in its orientation, seeking to provide answer to questions which interest both the geopolitician and the national leader alike. In a sense, strategic geopolitical intelligence is intelligence of the highest order, since its basis is on a holistic picture of all geographic factors relating to the issues, thus giving a good view on the present, and enabling a forward view that is can draw from the theoretical understanding of geopolitical mechanics.

Naturally, producing geopolitical intelligence does not differ from any other form of intelligence in the sense, that it follows the same pattern, which will be explained below, and relies on the same theoretical principles of foresight. However, it is strengthened by the geopolitical theory, which not only provides the necessary guidelines for which information to look for, but also the framework in which the analysis can be performed, and the future-related information, visionary knowledge (Wilenius 2017, xxi-xxii), created.

Regarding the justification of use of strategic intelligence theory in this work, it can be said that it is clear, that Friedman is engaged in some form of intelligence work (cf. Dungaciu et al. 2018, 169). He produces explorative scenarios, which map the possible, perhaps in his view probable, geopolitical development of various regions. In this sense, he provides broad and sweeping views on the possible geopolitical futures of the world, which means, that he is in the business of delivering strategic intelligence (cf. Rolington 2013, 156).

Furthermore, the view that Friedman's work should be considered from the strategic intelligence point of view is that it is based on the subjective interpretations of his own. As it will be seen below, intelligence work always combines the subjective interpretation of the analyst, who then, based on the facts at hand and his or her own judgement, produces future-related forecasts and scenarios (Central Intelligence Agency 1999, 3). This is exactly what Friedman is doing. He collects information, analyzes it, and produces scenario forecasts. His collection and analysis take place within the context of geopolitical theory. He also includes to the background of his analyses historical information and validated beliefs, all which go well with the strategic intelligence paradigm (cf. Maccoby 2015, 18).

In the following chapter, I will say some something about the current state of intelligence work. I do this to highlight both the possibilities and potential consequences of the new technological advances if employed in foresight work. There is a lot of hype about machine learning and artificial intelligence, but it seems, that the role of humans will long persist both in intelligence analysis work as well as in futures studies.

3.1.2 A changing field

Intelligence has traditionally been centered around the analyst, who evaluates and works with the information provided (Central Intelligence Agency 1999, 3). This means, that the work is very human intelligence intensive. However, with introduction of the new information technologies, the stream of information is constant and even overwhelming. This makes the work of the analyst more and more challenging, as analyzing and verifying huge amounts of information can lead to an overload of work. At the same time, interestingly, the theoretical models of intelligence creation have seen relatively little change as of yet, even though there is a real need for renewing them. (Rolington 2013, 18, 42-43, 50, 36).

It is no wonder, then, that with the advent of various technological advances, most notably those related to artificial intelligence (AI) and machine learning capabilities, the intelligence work is bound to see changes (cf. Rolington 2013, 1). Indeed, the new technologies offer intelligence gathering and processing entirely novel possibilities. Artificial intelligence and machine learning will help, and without doubt already do help, the intelligence communicates to make sense of the ever-growing amount of data at their disposal. Machines can be trained to enhance the foresight capabilities by being trained to detect things within the data that humans would not find. This development can upgrade the foresight capabilities to a whole new level. (Boysen 2019).

It is little surprise that the artificial intelligence has found its way to various surveillance, military, and espionage applications. There is a heated race, especially between the US and China, towards more and more sophisticated uses of AI, which is believed to be central to the national power and security in future. (Vincent 2018; Allen 2019). The use of artificial intelligence and machine learning methods combined with increasing computing power creates opportunities to forecast occurrences of various kinds in an unprecedented way. This is proven by the predictive policing programs around the world, which aim to foresee and prevent crime through surveillance and pattern recognition. (see e.g. Perrot 2017; Mozur 2018; Smith 2018). The police intelligence operations are but a one example of the foresight-related abilities of the new technologies. Also, the military intelligence and espionage applications are becoming increasingly wide-spread and effective (Sayler 2019, 9-10).

The use of AI will play an growing role within the strategic intelligence work of various organizations. It will reduce the amount of human intelligence intensive work in the basic analysis tasks, at least initially. Perhaps it will even be used to create more elaborate scenario forecasts to help in the high-level strategy work. The new technological advances will gradually become dispersed to all areas of intelligence work, be it military, espionage, or business-related. What seems clear is that the country leading the race towards more and more sophisticated technological solutions will wield enormous power (cf. Snyder 2019; Miles 2019), as those solutions can most likely be turned into intelligence applications that can provide forward-looking, foresight-related information for better decision-making.

In the context of geopolitics, it is certain that the new information and artificial intelligence technologies will be increasingly employed to make sense of the changing world. Through raw calculation power on the one hand, and with the growing abilities of machine learning and artificial intelligence on the other, the analysis of geopolitical events can possibly be elevated on a whole new level. In some sense, it could even be argued, that artificial intelligence-powered foresight and intelligence-creation could become in itself a new form of soft power, and a source of great power competition. Through better foresight, the states would try to anticipate in an unprecedented way each other's moves, constantly seeking to outmaneuver one another rather than resorting to arms, leading to a situation resembling Sun Tzu's (Sunzi 2005, 73) famous line that says that "to subdue the enemy without fighting is the supreme art of war."

In any case, it is very difficult to obtain information regarding the usage of the new technology in the intelligence communities, as such knowledge tends to be a secret. Nevertheless, it is certain that all means that can be used to gain an advantage, will be used. However, much remains to be seen regarding machine's ability to actually provide usable intelligence. It will take a long time, or never come to pass, that a machine actually replaces the analyst. Still, an analyst can greatly benefit from the use of various modern possibilities, but the human element is still crucial, as it also is, and will be, in the futures work in general (see Wilenius 2017, xxii).

The hype around the new technologies needs to translate to actual applications in fore-sight work before any great transformation can actually happen. Geopolitical scenarios will be produced by humans, assisted by machines, for a long time to come. They will still rather be products of the expertise of their creators than actual predictions. But even if they were produced by machines they would still not amount to predictions. However, their accuracy might increase. But that remains to be seen.

3.1.3 The process of strategic intelligence

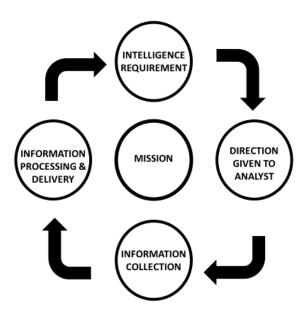


Figure 2 The intelligence cycle (Rolington 2013, 62).

The process of intelligence has traditionally been described as a cycle in which information on a particular topic is requested and then the analyst provide the relevant intelligence. This process is described as "cycle" and originates from the 1920s US military intelligence, which operated by the steps of requirement, collection, utilization (analysis) and dissemination. (Rolington 2013, 62.)

Intelligence gathering can appear in various types. First, there are the daily briefings, based on previous day's and night's work, delivered to those in high positions. The second type is the intelligence cycle, driven by the mission and the superior's orders, and which has been discussed above. The third type, and most relevant here, are the scenario forecasts. An analyst creates a forecast by combining the present facts of, e.g., geography, political information and demography, with his or her subjective interpretations. The fourth type of intelligence, also relevant here, is strategic intelligence which aims to give foresight to policymakers in a broad and wholistic manner, and to provide them with clearer view on the current and future trends, threats and opportunities. (Rolington 2013, 156.)

Strategic intelligence can utilize various sources and methods in its information gathering; however, five basic intelligence sources can be distinguished. Signals intelligence derives information from intercepted communications. Imagery intelligence comes from overhead and ground imagery. Measurement and signature intelligence is based on technically derived information regarding identification, location and description of targets. Human-source intelligence is about clandestine and over collection techniques which are

based on human operators. Open-source information is publicly available information which appears on newspapers, television, internet and so on. (Central Intelligence Agency 1999, 2.)

The information is then handled by an analyst, whose task is to produce intelligence. First, the analyst absorbs the information and evaluates it. Then the analyst produces an assessment of the current situation. That is followed by the production of a future forecast regarding the possible trends and outcomes of the given situation or area under scrutiny. (Central Intelligence Agency 1999, 3.) From this follows that the analyst is engaged in a process of foresight creation. As Kuosa writes, strategic foresight plays a key role within the strategic intelligence. Indeed, foresight is very much embedded to strategic intelligence (Kuosa 2014, 17) and represents the future-oriented part of the intelligence product.

As this work examines scenarios, there is a heightened interest for the part of the strategic intelligence process that actually deals with the future and produces visions and scenarios of it. For this reason, strategic foresight, and no the other components, will receive a through treatment in this work. Furthermore, although Friedman's work can be a for a good reason be called strategic intelligence, it lacks the supervisor element which means that there is no one giving directions about the direction the work should take. However, this is only a minor issue, as the actual intelligence creation takes place as does the delivery, albeit not in the form of reports or briefings, but in the form of a book.

Next, I move to discuss the foresight aspects of strategic intelligence. Foresight and strategic intelligence are very much intertwined, as it will be shown.

3.2 Strategic intelligence and strategic foresight

As it was stated, strategic foresight is one of the key components of strategic intelligence. Strategic foresight is the part of the strategic intelligence process that gives it its future-oriented nature. For this reason, it is necessary to examine the theory of strategic foresight to understand strategic intelligence's foresight-related capacity.

In here, I will examine and explicate the theory of strategic foresight. However, first, a little detour must be taken. This is because of the fact that strategic foresight relies on the general theory of foresight, even though the two are separate entities, as it will be shown below. For this reason, at first the general theory of foresight is scrutinized. After that, the general process of foresight is examined in order to provide a wholistic view on the way how foresight works. Third, the theory of strategic foresight is presented. Lastly, relevant concepts of strategic foresight are presented.

3.2.1 Foresight

The term foresight has a long etymology but as a more systematic practice foresight traces its roots back to the technological forecasting taking place in the USA from the late 1930s onwards (Miles 2010, 1449; Rohrbeck, Battistella & Huizingh 2015, 3; Andersen & Rasmussen 2014, 4). However, it was only in the 1980s when foresight gained its current meaning as a term referring to approaches used to inform decision-making (Keenan, Loveridge, Miles & Kaivo-oja, 22).

Foresight arises from the fact that decision-making requires knowledge about the future (Dufva 2015, 26). It can be seen as a way to relate to the future in an active and qualified way (Adersen & Rasmussen 2014, 4), which means a foresight process is in its essence about the application of a certain set of methods in an organized and planned way to gain understanding on the possible consequences of future developments (Dufva & Ahlqvist 2015, 112).

Over the last decades, foresight as a field has undergone development and morphed into a collection of processes and methods. For this reason, there are several definitions for it (Andersen & Rasmussen 2014, 4). On the one hand, foresight refers to the act or power of foreseeing (Slaughter 1999a,151). On the other hand, it has also been defined as capacity to systematically think about the future in order to provide information for the present-day decision-making (Conway 2015, 2). Furthermore, it has been described as a process, which allows the participants to develop views of the ways the future could develop to make choices for a preferred future (Horton 1999, 5). The working definition in this thesis is that, "[f]oresight is a systematic, participatory, future-intelligence-gathering and medium-to-long-term vision-building process aimed at present-day decisions and mobilizing joint actions." (Gavigan et al. 2001, v) In other words, foresight is not predicting but a way of showing the whole spectrum of alternative futures and asking "what if"questions related to each alternative (Kuosa 2014, 17).

In foresight the key philosophical assumption is that the future is contingent on human action (Renn & Thomas, 2002, 11). From this follows that there is no single predetermined future, but multiple possible futures which are influenced by todays decisions. (Andersen & Rasmussen 2014, 4). Foresight seeks to expand the understanding of future by assessing the possible consequences of those actions and decisions, by anticipating problems that might arise, and by considering the possible implications of coming events (Slaughter 1990, 801-802). For this reason, foresight often adopts a rather holistic approach towards the system or context of its application (Renn & Thomas, 2002, 11), since the objects of study rarely are simple or without ambiguities.

In its conviction regarding multiple futures, foresight comes close to futures studies. The two are very much intertwined in multiple ways: both share the conviction that the future cannot be foretold. Rather, probabilities and alternative scenarios are the tools available to deal with it. However, the future is already present in the present drivers, values and trends. Both futures studies and foresight are focused on the long-term issues, which means, their look is at least 10 years into the future. They are also both concerned of alternative development paths, trying to challenge what is perceived currently as most likely or normal (Kuosa 2012, 5-6). However, there are significant differences also. Foresight aims to be more systematic, management oriented and logical than futures studies. Furthermore, foresight, unlike futures studies, aspires to not be value rational (Kuosa 2011a, 10).

Geared towards anticipating changes in order to identify the possible emerging opportunities or threats (Maccoby 2015, 20), foresight always entails an effort to clarify the dynamics of emerging situations (Slaughter 1990, 801). This is accomplished by identifying future events, either random, pseudo-random or specific, that are not widely acknowledged once recognized (Loveridge 2009, 14). However, this process of recognition requires openness towards reception and interpretation of signals which have a high information content but low probability, (Loveridge 2009, 23) and being able to see their consequences as multiple possible outcomes in order to pro-vide information for decision-making (Fuerth 2009, 16-17). Future being in constant flux, a constant scanning of the environment for various changes is a key component of foresight (Fuerth 2009, 17-18.), since only through this the main task of foresight, that of attempting to grasp the diversity of different potential futures, can be accomplished. (Durand 2008, 281)

A distinction is often made, and should be made, between foresight and forecasting. Forecasting makes linear estimations, extrapolations and predictions of highly probable future events (Kuosa 2014, 17). Indeed, whereas forecasting is seen as an attempt to predict the future, foresight is understood as an attempt to explore the future. Forecasting is often linked with time series and trend extrapolation, producing claims about some particular indicator on a particular future moment. Thus, it is a quantitative approach, relying on continuity and the assumption that the mechanisms of change are known. Foresight, on the other hand, is much more unsure about the future, as it sees it as inherently uncertain. (Asselt, Klooster, Not-ten & Smits 2010, 23-24.) Thus, it relies more on scenarios: exploring the possibilities, the thinkable futures. (Asselt et al. 2010, 38) Indeed, foresight is qualitative and often focuses on discontinuities. It challenges the mindsets and works from the present to the future, exploring the various possibilities through the use of scenarios. (Poli 2017, 67.) This should not mean, that foresight does not make use of extrapolations while imagining the future, or that they do not present probabilistic assertions. (Poli 2017, 266.)

However, it should be noted that foresight should not be downgraded as a mere scenario exercise. Foresight is anticipation, that is informed by systemic thinking, but that essentially remains practical and qualitative. It is not random guessing, but aspires to identify the different kinds of futures that may take place. Foresight depends on pattern

recognition: the ability to interpret the new situation through old experience. (Loveridge 2009, 7-23.) Foresight is gained by perceiving patterns that either indicate threats or opportunities. Subject matter knowledge, environmental scanning and interpretation of social and demographic trends form the basis on which foresight is founded. This means that foresight helps to be attuned to the changes taking place in the world, in other words, to see the future in the present., in order to plan for contingencies. (Maccoby 2015, 23.)

The ways and scopes foresight of foresight's application vary greatly. Indeed, the main unifying theme of foresight done in various contexts seems to mainly be its diversity (Aaltonen & Noorkõiv 2003, 12). Foresight can be used in various areas from business to politics (Horton 1999, 6). In a way, foresight is "common-sense" which means that preparing for future eventualities has its obvious merits. (Slaughter 1999a, 151) There hardly is any field of human activity in which preparedness is considered a negative thing. Rather, it perhaps could be argued, taking a view on the future which enables to make plans for different contingencies is a very much innate activity for humans.

In the deepest sense, foresight is rooted to plausible reasoning meaning that it is about constructing from what is currently known a path leading to the various future conditions. This means that the conceptual linkages between the issues and suggested developments must remain plausible by not contradicting what is known. Otherwise the foresight exercise has little intellectual value. (Coates 2010, 1436). For this reason, foresight requires insight: a deep understanding of concerned subject (Kuosa 2011a, 10). Here the fact is highlighted that foresight always ultimately relies on human reasoning, not on some unfailing mechanical tool. Actually, foresight is not even reducible to some single technique but rises from the balance between innate human capacities and the tools used to explore the future (Slaughter 1990, 802). Therefore, foresight must remain an art, drawing from several fields (Coates 2010, 1430) but relying, in the end, on the human factor deciding what is important and should be included in the foresight process and what is not. Thus, foresight is about practitioners combining the "blocks of knowledge" into representations of plausible futures highlighting the challenges, opportunities, events and alike ahead (Durand 2008, 280-281). This work of combination is where the human factor is decisive. As Slaughter argues, "[f]oregisht is primary part of the rich world of understanding and perception made possible by the human brain/mind system." (Slaughter 1999a, 151) Indeed, foresight is about invention, about generating ideas and hypotheses (Loveridge 2009, 49).

Since foresight is an art form, (Loveridge 2009, 80) and it greatly depends on expert opinion, (Loveridge 2009, 74) it many times makes little use of formal methods, but is reliant on intuition, logical inferences and induction to recognize the issues of importance (Loveridge 2009, 131). This is true to such an extent, that foresight is something which seems to be inherent to the human nature: it is done both consciously and unconsciously. Because of this, foresight can appear both simple, perhaps even too simple, and complex

at the same time. (Loveridge 209, 3.) Furthermore, because of its embeddedness in the human nature, foresight cannot be seen as a mechanical tool: it is a human capacity (Slaughter 1999a, 289). For this reason, foresight, not lending itself to be equated with some precise tool, should rather be understood as an insight regarding some future condition or state (Coates 2010, 1428).

Foresight as a process makes the boundaries of perception wider through scanning the futures and clarifying situations. It is strongly grounded in the human capacities and needs. (Slaughter 1999a, 151-152.) Thus, foresight is, as Conway puts it, primarily a state of mind that determines the way one thinks about the future. This state of mind is strategic in nature: it is a strategic thinking capacity. (Conway 2015, 3). Hence Voros argues, that the place of foresight is within the realm of strategic thinking, which, in turn, is about the exploration of strategic options for wiser strategy-making (Voros 2003, 12-13). Strategic thinking has to do with gaining a more profound understanding regarding the future environments in order to create more for mapping the available options (Conway 2015, 12).

The end result of strategic thinking is an integrated view of the situation and a general vision regarding the direction it is developing towards. This is, naturally, is reflected in foresight also. However, as the information regarding the future is always incomplete at best, foresight necessitates a synthetic approach, which relies on inductive, rather than deductive, reasoning. (Voros 2003, 12.; Mintzberg 1994, 108.)

These remarks do not mean, that foresight is a game of guessing, but they highlight the fact that the realm of future, albeit very much present in the minds of the contemporary individuals, has not yet materialized, and is thus subject only to hunches and opinions, some better informed than others. Thus, foresight is by necessity of the object of its interest separated from objective truth claims. Yet, it is an activity which must be done to anticipate the future.

3.2.2 A general framework of the foresight process

The general foresight process can be described as a three-step framework in which every stage adds to the value of the product (Horton 1999, 6).

The first phase is about collecting information on different trends, early signs, wild cards and so on. The sources can vary and the volume of the information is most likely large. In the first phase the information deemed relevant is summarized and put in an understandable form. (Horton 1999, 6-7.) This documentation of the current state of the environment and the forces in play there, and their internal dynamics, is essential for creating and formulating the representations regarding the possible future states of the given system (Durand 2008, 280-281).

On this stage, the environment is scanned extensively for various change drivers and trends which could affect the situation in the future. The system and context in consideration should be understood properly in order to be able to deem what information is relevant and what is not. An important, part of this scanning process is to look into the history of the issue also, as some new, and interesting insights might emerge from there. Merely staying in the present might cause undue narrowness of view or lead to missing some insights generated already by previous thinkers. (Hines & Bishop 2006, 55-80.)

Having collected the data, the second phase has to do with interpreting it. This is the stage where most value is created. The information is transformed into understanding. The essential questions to be asked at this stage are: "What does all this mean to my organization?", "What are the implications for us?" and "What can we do about it today?" (Horton 1999, 8.) The various objects of study are identified here from the data, and they are examined in order to understand either their implications, or if they are players in the game themselves, their goals and aims (Caillol 2016, 382). The driving forces and trends are defined, and the complex dynamics of their interplay is examined. The potential future opportunities and problems are mapped as the analysis moves around the focus area and its strategic surroundings. Being explorative, this stage is about analyzing the sources and drawing conclusions based on them. (Andersen & Rasmussen 2014, 14). Even though a wide variety of tools of analysis are available for the second stage, analyses must ultimately be seen more as an art than science (Andersen & Rasmussen 2014, 14-20).

The second stage should be a platform to study how the different trends and drivers develop. It is important to try to find and understand possible turning points, colliding trajectories, peaks and lows, deviations, and shifts which could affect stakeholders and other trends as well. (Bishop & Hines 2006, 85-139). Furthermore, the relevant players and should be identified and their relationships recognized, and the factors related to stability of the current situation assessed (Caillol 2012, 80). Here, the trends are decoded, meaning that they are analyzed from the viewpoint of whether their nature requires the stakeholders to take actions. This is closely combined with the anticipation of future problems, which might arise if some actions are taken or not taken (Caillol 2012, 78).

The challenge of the second stage is the presumption that things will either change very slowly, or not at all. However, the possibilities of trend breaks, a major characteristic of any dynamic process, pose a problem, as they can emerge quite "unexpectedly", in the sense that the situation was not understood very well, or that there was an overriding belief in the permanence of the current trends. On the second stage, several question regarding the different factors and trends must be asked: when will this trend come to an end? Could it reverse itself? Are there alternatives for this trend? (Caillol 2012, 79-80.)

The core issues behind the changes require understanding, since of those issues disappear, or start to strengthen, the change process in question might either vanish, get accel-

erate, or start even create tension with some other process, leading to problems. By studying different trends, weak signals, and so forth, the possible breaks in their development, be they collisions, accelerations, or collapses, should be seen as of issues of high importance (Caillol 2012, 80-81). In the foresight process, those points of divergence, where the change happens, are the key to formulation of any kinds of images of future.

Based on the understanding regarding the analysis of the data, different and alternative scenarios and forecasts are prepared. (Bishop & Hines 2006, 85-139)

The third phase is to assimilate the gained understanding to the organization so that it will filter through to the actions and decisions it makes. This stage is mainly about communicating and assimilating the results gained to the organizational decision-making (Horton 1999, 7-8).

3.2.3 Strategic foresight

Strategic foresight refers to foresight regarding strategic issues (Kuosa 2012, 54). It helps the organizations to understand major, "big picture", changes and their implications, which do not necessarily immediately touch their day-to-day activities (Slaughter 1999a, 287). Strategic foresight is process that enhances the abilities to understand emerging risks and opportunities, drivers, resources, motivations, causalities, probable futures and path-dependencies, and how these issues relate to the long-term plans and strategies (Kuosa 2011a, 18). The aim of strategic foresight is to understand the entire landscape of a particular situations and the possibilities the decision-maker has within it (Kuosa 2011a, vii). It is a process of anticipation, attempting to articulate something about the probabilities regarding the future (Kuosa 2011a, 10).

Strategic foresight is described as "the ability to create and maintain a high-quality, coherent and functional forward view, and to use the insights arising in useful organizational ways." (Slaughter 1999a, 287) The rapid global changes, which seem to be accelerating, make the use of strategic foresight indispensable, as it helps to avoid dangers and see opportunities which presently are only looming in the horizon (Slaughter 1999a, 288).

Like foresight, also strategic foresight is part of strategic thinking. It has a long and rich history spanning through generations and different areas: military, politics and business. Strategic foresight is about understanding the available options based on one's resources and preferences on one hand, and the probable actions of the opponent on the other. In short, strategic foresight is about situational awareness, but at the same time it says something about the future as well. (Kuosa 2012, xi.)

Foresight and strategic foresight share many similarities, but there are also some important differences between them. Whereas foresight could be described as participatory, at least in principle, and, in some cases, about the grass-roots level, (Kuosa 2012, 6-9, 17)

the strategic foresight puts clearly far less emphasis on the participatory element, and its mode of operation has to do with the leaders, not with those in the lower ranks. (Kuosa 2012, 12) Indeed, strategic foresight is aimed at decision-makers in power, "who want to stay in power, and who want to win political, military or economic battles." (Kuosa 2012, 12)

Strategic foresight is understood as a process that visions various alternative futures by combining hindsight (understanding the past), insight (understanding the present) and forecasting (understanding the future). Its aim is to express views about the future options, possibilities and probabilities. (Kuosa 2012, 54.) Strategic foresight should challenge the assumptions of the present, creating new ways of thinking which help to cope with and react to the unexpected (Coates 2010, 1431). Helping to make strategic decision, the time range taken within the strategic foresight is that of a mid-long-range futures, meaning between 3 and 15 years. (Kuosa 2012, 17.)

The strategic foresight process can be presented as follows:

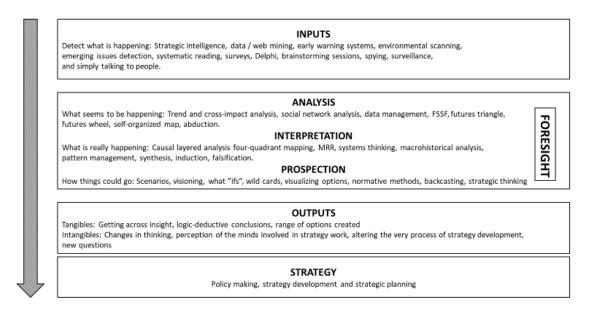


Figure 3 Strategic foresight process (Kuosa 2011a, 22)

However, strategic foresight does not act as substitute for any kind of decision-making. Rather, it allows those in charge to better understand the drivers of change and thus deliberate on the possible alternative futures. (Burrows and Gnad 2018, 9.) This is highlighted by the fact that strategic thinking is about exploring the options, however, it is the job of strategy development to make decision and set direction and strategic planning to implement actions. And as foresight is part of strategic thinking, it is part of the input process in the strategy work, thus not responsible for crafting, but rather informing and enriching, the strategy. (Voros 2003, 13.)

In the next chapter, I will introduce the necessary concepts of strategic foresight that allow to better understand and interpret Friedman's work.

3.2.4 Concepts of foresight

In this chapter I will present some of the more important concepts of foresight. This listing is not exhaustive, but includes the concepts which are important regarding this work.

Trends. Trends are gradual factors, patterns and forces which are causing pervasive change in society. The speed of a trend can be slow or fast, depending on one's point of view, but the main attribute of trend is not the pace of change, but its pervasive continuity. They usually have a global reach and even large organizations are usually unable to change their direction. Trends can be proven to exist by the means of statistics or collective agreement. In relation to environmental scanning, the first step is the identify the present trends and their direction. (Saritas & Smith 2011, 293-294; Kuosa 2014, 19.)

Trends can be divided into mega-trends, potential trends and branching trends. Mega-trends extend over multiple generations and represent a complex web of interrelated change factors, which can have a huge potential for change. Potential trends are related to innovations, beliefs and actions that can grow to become mainstream in the future. Branching trends refers to the relation trends have with each other, much like a tree and its twigs. (Saritas & Smith 2011, 293-294.)

Drivers of change. A driver of change, or a driving force, is a factor or agent pushing the change further. Drivers are not as pervasive as trends, but a are subject to quicker changes, which means that there is always some level of uncertainty associated with a driver. In the foresight process, it is essential to identify the key drivers and assess their impact potential. (Saritas & Smith 2011, 294-295; Kuosa 2014, 18.)

There are two types of drivers: pulling and pushing. A pulling driver is a grass-roots level of demand of something. A pushing driver, on the other hand, is a active decision to make something happen. (Kuosa 2014, 18.)

Environmental scanning. Foresight depends on intelligence gathering. Without it, foresight activities could not be conducted. It is the basic input of the entire foresight activity. (Loveridge 2009, 125-127) Thus, from the strategic foresight's point of view, the environmental scanning, i.e., knowledge acquisition, is the first step in a successful foresight process (Hiltunen 2010, 23).

Environmental scanning is a subjective, but structured, process of identifying information which is taken out of its immediate context and pairing it with other information to discover possible future changes (Loveridge 2009, 127). It is about acquiring information regarding trends, events and relationships in the external environment. This is done to enhance the understanding of the forces which shape the future. (Choo 1999, 21.)

Environmental scanning is focused on identifying trends, emerging issues, contingencies, situations and potential risks, in order to carry that information to the process of decision-making to make it better (Albright 2004, 40; Fuerth 2009, 17-18).

Being in the crossroads between foresight and strategy, environmental scanning establishes the relevant criteria that allow to discern information from the meaningless noise (Slaughter 1999b, 442). Environmental scanning moves from finding various pieces of information deemed useful for the organization, to making sense of them. The sensemaking is achieved through analyzing the data by synthesizing it into appropriate units of analysis. (Hines & Bishop 2006, 70-71.)

Scenarios. A scenario may be described as a vivid portrait of a future world, which is plausible enough so that the planner may see its problems and opportunities clearly, and comprehend the challenges involved with the environment conjured (Maness 2012, 46). A scenario is "a story with plausible cause and effect links that connects a future condition with the present, while illustrating key decisions, events, and consequences throughout the narrative[,]" being a way to organize the many statements concerning the future (Glenn 2009a, 2). Being strategic representations, which are built through foresight (Durand 2008, 285), scenarios can also be viewed as thought experiments which let the practitioner to embrace uncertainty in his or her thinking in order to bring to the surface events and trends which otherwise would remain submerged (Loveridge 2009 150). This is highlighted by the fact that scenarios mediate the uncertainty of future and the dynamic complexity of the knowledge base regarding it (Durand 2008, 294.)

Scenarios are not to be taken as predictions of the future, but rather as descriptions of what might come to pass, resembling stories with plots and events. Assisting in strategy selection, possible future identification and helping the participants to become aware of the factors related to their future, scenarios may be seen as learning processes, influencing and improving the thinking of those involved. (Maness 2012, 46.) Since scenarios are future and action oriented, the combination of both qualitative and quantitative information in their creation is often the case (Tapio, Paloniemi, Varha, Vinnari, 2011, 1618).

A good scenario is characterized by 1) plausibility ("a rational route from here to there that make causal processes and decisions explicit"); 2) internal consistency ("alternative scenarios should address similar issues so that they can be compared") and 3) it provoke sufficient interest to evoke responses (Glenn 2009a, 2-3).

The general outline for crafting scenario is given by Glenn.: First, the scenario space is defined: this means, that a domain of interest is outlined and the key drivers identified. On the second stage, the key measures are selected and described first. The selection process needs to be conducted with care, since they should be relevant to the outcome of the scenario. Second, the scenario shaping events are defined. Third, the key measures are projected. Lastly, the descriptions are prepared. The third, and last, stage involves the reporting and utilization of the obtained product. (Glenn 2009a, 10-12.)

Scenario-building is dependent on the anticipation of trends, discontinuities and events; it cannot exist without it, that is, without foresight. However, the process of scenario creation is more of an art form than a process with a robust theoretical base. (Loveridge 2009, 148.) Indeed, it has even been argued that it is impossible that that scenarios could have some kind of a theoretical basis (Loveridge 2009, 155). As the cascade of events related within a scenario is tied to its boundaries, the question of defining them is related to the person of designing the scenario; that is, it is subjective. Similarly, the probabilities which often relate to scenarios, or some parts of them, must also be acknowledged, ultimately, to be of subjective estimates. (Loveridge 2009, 152, 155.)

Essential for this work are the explorative scenarios, which forecast the possible and probable futures regardless of the desires of the users. The explorative scenarios often make use of trend extrapolation and must heavily be grounded in the empirical evidence, to find a logical path from present to the possible future. Explorative scenarios begin usually by identifying an analyzing all present trends, drivers, actors and objects that are relevant for the future transformation. After that it explains how the drivers and issues could perhaps lead to particular developments. (Kuosa 2014, 28-29).

Weak signals. Weak signal is an observed anomaly in the anticipated or known path of transformation that surprises the observer. The detection of a weak signal is based on subjective interpretation, meaning that it, as an entity, is a subjective construction. One of a weak signal's main attributes is, that it is difficult connect it to any known trend, but it can be useful in identifying potential emerging issues and phenomena. (Kuosa 2012, 33; Kuosa 2014, 22.) A weak signal may represent the first sign of some significant future trend, discontinuity or paradigm shift (Saritas & Smith 2011, 297).

Weak signals can be characterized as observations to which someone has attributed special foresight value. They may be valuable in discerning new patterns of change, which tend to give out signals in various ways. (Kuosa 2012, 34.) For this reason, weak signals are means for anticipation, as they help strategic decision-making in a dynamic environment which necessitates recognizing things early (Lesca & Lesca 2011, vi).

Picked up normally during scanning the environment, weak signals may constitute an early warning of development of some kind. In this context, early warning is to be understood as an event or phenomenon which is thought to be an indicator of some potential future event of significance. (Lesca & Lesca 2011, xi.) However, the search of weak signals is difficult as it is not known beforehand what one is looking for (Lesca & Lesca 2011, 12). Once identified, a weak signal is interpreted through a process of holistic reasoning and searching for additional information, but the process is complemented by the use of imagination (Lesca & Lesca 2011, 19) as all the data and its connections are not known. Those connections need to be done by the analyst.

Forecasting. Forecasting refers to making linear systematic estimations, extrapolations or predictions of highly probable future events. It is not the same as predicting,

which does not deal with estimations of probabilities, since a forecast is always a probabilistic statement. Forecasts can be very precise but highly inaccurate. (Kuosa 2014, 17-18).

Wild cards. Wild cards are improbable events with high impact potential. These include risks, shocks, hazards and threats that could come to pass. A wild card event tends to alter the fundamentals of a status quo and creates new trajectories, which, in turn, can act as new bases for additional changes. It important to include wild cards into a foresight process as they can open entirely new views on future events, as well as the opportunities and challenges those events present. (Saritas & Smith 2011, 295; Kuosa 2014, 18).

Discontinuity. As trends cannot last indefinitely, they are going to break at some point. The breaking point creates a discontinuity in the trend, leading to an alteration in its path. Such discontinuities are often caused by other trends that collide with the trend and force it to change its direction, leading to a significant and rapid shift in its trajectory which often goes unanticipated. Discontinuities in trends are a normal sign of any dynamic system. The discontinuity can take many forms: reversal, abrupt end, strong upward swing or a complete breakdown. (Caillol 2010, 21, 24-25; Saritas & Smith 2011, 296-297).

3.3 Strategic intelligence as a futures framework for anticipating geopolitical change

Strategic intelligence framework, as presented above, can be used, I argue, to anticipate geopolitical change. Geopolitics, as well as strategic intelligence, deal with strategic matters. They are both part of strategic thinking, which is about the grand scheme of things, geared towards and for the leaders to aid them in making wiser decisions regarding the decisions of strategic scale. Strategic intelligence's attention is on various change drivers and on their impact on the long-term strategies. As geopolitics also studies strategic-level issues by examining the geographic factors and their influence on the state's behavior, the similarities in the interests of strategic intelligence and geopolitics become quite clear. Their main audience is similar, their approach as well, as they both eschew the lower levels of operation and short-termism, and in contrast try to see the larger picture.

From the futures studies point of view, the understanding change is paramount (Wilenius 2017, xxv). In the world, there are various factors at play, and anticipating the internal dynamism of those factors and their external effects on the world and each other, is of great importance. Geopolitics is a way of understanding the world, through which the interstate relations can be viewed, more or less, as the result of the states' geography. Providing both a tool of analysis and a methodology, geopolitics is in good position to be of great use for the futures studies practitioners: geopolitics can explain change, and more than that. It can explain the internal dynamism of change in its field, i.e., what is causing

it, since it can map out the drivers of change. Furthermore, it provides analytical tools to make sense of the current situation in order to study the mechanics of it to provide some foresight related information.

Strategic intelligence, on the other hand, provides a good framework in which the geopolitical future-oriented analysis can take place. Strategic intelligence has both the future-outlook and the concepts necessary for anticipating change in any field. However, it is lacking in the analytical tools in the sense that it provides no clear way in itself regarding the way the information should be analyzed. True, every analyst brings with him- or herself the personal expertise, but that expertise could be augmented with geopolitical theory. In this way, the results would become understandable in the sense, that there is a clear context in which they have been constructed, both theoretically and methodologically.

By combining these two views, a useful tool of geopolitical anticipation can be created. This tool does not make the personal input of the analyst unnecessary but it augments the possibilities of both individual and group work, as the theoretical underpinnings would be known to all. Furthermore, as the methodology is clear, the intelligence products can be evaluated more impartially, since there would be no personal "crystal ball" or hunches behind the geopolitical scenarios. Naturally, the human factor will be presented which means that the interpretations will vary, but at least the variations can be understood behind the background of solid theory, and the differences can be studied to develop the craft further.

Because of their similarities, I argue that geopolitics and strategic intelligence can be combined with little difficulty. In essence, this means that the geopolitical theory is introduced to the framework and process of strategic intelligence. Geopolitical theory would steer and direct the process of strategic intelligence: geopolitical principles would guide the intelligence work's mission in holistic manner and geopolitics would determine the intelligence interests.

On a more practical level, the geopolitical theory would be introduced to the strategic intelligence framework through the component of strategic foresight. This would mean that strategic foresight work would be directed by the theory of geopolitics. It would dictate what the relevant inputs are and how they should be analyzed. The interpretation would take place within the geopolitical understanding regarding the mechanics of state behavior. The foresight creation, prospection, would take the form of visioning various geopolitical scenarios, directed by the geopolitical theory.

Essentially, this unification of theories could be utilized to answer the question regarding Friedman's way of anticipating geopolitical change. As it will be discussed in the coming chapters, it seems that such a combination be a powerful way of explicating, how Friedman does his work.

4 ANTICIPATING GEOPOLITICAL CHANGE: FRIEDMAN'S SCENARIOS ANALYZED

10 years has passed since Friedman formulated his scenario forecasts. Now, with the benefit of hindsight, it is possible to evaluate Friedman's work to see, how well he was able to anticipate the future geopolitical changes.

I will first present the background information, delivered by Friedman, for the scenarios. This is done in order to let the reader better comprehend the context within which Friedman's work operates. Without this information, some of his views, when taken out of this context, might appear confusing.

In the second part, I will disassemble the scenarios to their constitutive pieces. This helps to clarify the way Friedman has constructed his forecasts. By clearly laying out the actors, drivers and so on, the structure of Friedman's thought becomes more understandable.

Third, I will present both the scenarios and my critical analysis of them. However, before the critical analysis, I will look at the scenarios from the point of view of geopolitical theory. This is done to illuminate how Friedman has arrived to his conclusions. Indeed, it makes little sense only to criticize if the will to understand how the results were obtained in the first place is missing. By assessing the scenario forecasts from a geopolitical perspective, I can better show how Friedman's scenario work developed, and more importantly, why it developed the way it did. Also, by assessing the scenarios geopolitically, I can hopefully show, that his work is not arbitrary, but follows the geopolitical theory and can, thus, be appraised as geopolitical work rather than as, say, pure fiction. This will also serve as a proof that geopolitical theory can be valuable for futures work. Most importantly, of course, the work on this stage answer the second sub-question of this work.

The geopolitical assessment is followed by a critical examination of the scenarios. The critical analysis will see whether the scenario forecasts actually told us something about the future or not; that is, whether they became reality, either partly or fully. This part answers to my second sub-question.

The order of presentation of scenarios follows here the same path as used by Friedman: Caucasus, Central Asia, and the European theater. In the spirit of Dungaciu et al. (2018), I will present relevant, direct quotes from Friedman's book to better portray the findings and to give an immediate access to the forecasts in question.

4.1 Background for the scenarios

For the latter part of the twentieth century, Soviet Union controlled much of Eurasia. The soviet collapse led to the western frontier of Russia moving east considerable. Furthermore, Central Asia also broke off from the Russian domination. Russia is now smaller than in centuries. (Friedman 2009, 70.)

The fall of Soviet Union was followed by deep economic troubles in Russia. Much of what once was considered Russian sphere of influence in Europe was integrated into NATO and the EU. Furthermore, the United States anchored itself in the Caucasus region and Central Asia by befriending Georgia and various "stans". The most important development of all this, however, was that Ukraine started to move away from Russia. (Friedman 2009, 70.)

Ukraine, having faced the Orange Revolution, was courted by the United States, who, in Russia's view at least, aspired to make Ukraine a NATO member, thus paving the way for Russia's disintegration. Had the US succeeded in its plans, Russia would have faced a situation where its western border would have become indefensible. There would have been no barriers between foreign armies and Russia's heartland. The make things worse, Ukraine in the hands of a hostile power would have made the narrow gap between it and Kazakhstan vulnerable, making Russia's control over her southern lands, and Caucasus, potentially much weaker. In effect, Russia would have been forced to abandon part of its lands, losing the southern flank. This could have caused actual fragmentation of the Russian federation. And the fragmentation of Russia would have been something the US would have welcomed. After all, it is the grand strategy of the United States to fragment the Eurasia in order to prevent a large Eurasian empire form emerging. (Friedman 2009, 70-71.)

Feeling that the United States wanted to harm it, Russia recognized the need to recreate her sphere of influence in the areas of former Soviet Union in order to protect itself from further fragmentation. This means, that Russia's influence is growing in three directions: Central Asia, Caucasus and in the Eastern Europe. The most important of these directions, and the most prone to create conflict, is in Europe. (Friedman 2009, 66, 71-73.)

Historically, in the area from the Baltics to Romania, the borders have been fluid. In the north, there is the North European Plain which has been the highway for invading armies as there are no natural barriers making movement of troops difficult. For this reason, Russia has an interest to push the border as far west as possible to create strategic depth. This creates a problem with both the Baltic states and Poland, which needs to be solved, and solving the problem is likely to bring about a confrontation between Russia and the US. Furthermore, if the Russian borders move closer to the NATO countries of the Central Europe, they will become nervous, which is a problem to the United States.

What all of this means, is that Russia needs to become a regional power to secure its borders, but this is done with a risk of a conflict. (Friedman 2009, 73-74.)

To put it succinctly, Russia's main problem are its borders, especially in the northwest. Even when Ukraine and Belarus were under Russian control, there were little natural barrier between Russia and the European powers. Besides the Carpathians and the Pripet marshes, Russia has little protection. The only defense left, thus, is strategic depth, which bleeds the potential invaders dry. That depth, of course, has now evaporated. (Friedman 2009, 102-103.)

Besides its European border, the other regions offer more hope. The Black Sea separates Russia form the Turks, and mountains and desert from Iran. Furthermore, the expanse of Siberia is an effective barrier towards the Chinese, who have little hope of reaching the Russian core areas. (Friedman 2009, 103.)

Russia now faces the reality that the NATO troops, which it perceives to be hostile, are right next to its core area. Furthermore, in the south, thanks to the independence of Ukraine, Russia's grip on the Black Sea has become tenuous at best. In the Caucasus, Russia has been forced almost out of it, holding only the northern extreme. What this effectively means, is that Russia is almost indefensible if it faced a large-scale invasion. 103-104.)

However, at the same time Russia has been able to position itself as a major energy supplier of Europe, which gives it some leverage regarding, e.g., Germany. (Friedman 2009, 104-105). Despite this, Russia has remained considerable poorer than the rest of Europe (Friedman 2009, 101).

Traditionally, the Russian answer to the protection of its vast territory has been to maintain a large army. This was due to the fact that moving troops between theaters would be difficult as Russia's transportation systems has historically been less than satisfactory. However, fielding a massive army is expensive, even cripplingly so, as the Soviet examples showed. (Friedman 2009, 104) This is a problem.

A further problem Russia needs to deal with is that it is facing a demographic crisis. Its population is projected to fall rapidly. What this means, is that Russia will have difficulties filling the ranks of its armies. (Friedman 2009, 104.)

The situation of Russia is challenging. Having a hostile alliance right next to its core area, experiencing a demographic crisis, and having to pay for the maintenance of a large army, it seems that Russia is marching towards a disaster. It needs to act soon, if it wants to create a secure buffer between itself and the powers it perceives as hostile (Friedman 2009, 105.)

4.2 The components of Friedman's scenarios: a deconstruction

In this chapter, I will take a part Friedman's scenarios to their constitutive components: internal trends and drivers, as well as the scenario-relevant actors. This is done to make the scenarios clearer, to increase the understanding regarding the thought process behind the scenario-construction, and to facilitate both the geopolitical and critical analyses which take place further below. The deconstruction process follows the general strategic foresight process in order to better illustrate the nature of Friedman's work as a strategic intelligence product.

The first part is about the input and it corresponds to the first stage of strategic fore-sight. In here, the trends, drivers and events guiding the scenario work of Friedman are identified as far as possible, as those are the basic building blocks of them (see Glenn 2009a, 5; see Bishop & Hines 2006, 87-88). The examination of the basis material of the scenarios forms a solid background for the further analysis of the actual content of the scenarios. Indeed, a basic understanding regarding any scenario requires at least some knowledge about the change factors in play within it.

The second part corresponds with the second phase of strategic foresight, which is the part where foresight analysis is conducted. In here, the ways in which the identified drivers, trends and so forth relate with one another, their dynamics in short, are examined (see Lindgren & Bandhold 2009, 65, 67). The actual foresight part in the foresight process necessitates some technique through which the conclusions are reached (see Hines & Bishop 2006, 99-100). In the case of Friedman's scenarios, that method is geopolitics, as it can also be utilized as an analytical tool and method to study various issues and it is fit for forecasting. (Sicker 2010, 13; Sempa 2002, 3; Friedman 2009, 10). Hence, in this part, the scenarios are scrutinized through the geopolitical theory to see the dynamic-logic behind Friedman's predictions.

The analysis does not make use of the third and fourth phases of strategic foresight process, as these parts are about the changes the foresight work affects in the organizations it is made for. That change is important, and it is necessary to ask how Friedman's scenarios affect the views of those reading them. However, that question is outside of the scope of this work.

4.2.1 Input: Trends, drivers and actors

The approach this work takes, as stated at the beginning, is that Friedman's work can most fruitfully be studied from the futures studies perspective as a form of strategic intel-

ligence. The theory of strategic intelligence, as well as its concepts, were discussed earlier, and now it is time to see how its framework can be applied to open Friedman's methodology.

As it was made clear, any foresight work is dependent on environmental scanning, which is the basic input mechanism in it (Loveridge 2009, 125-127; Hiltunen 2010, 23). This is the first step towards building the knowledge base on which the foresight work relies. On this stage, information regarding relevant trends, drivers and relationships is gathered, thus helping to understand the forces shaping the future (Choo 1999, 21).

This stage should also make the practitioner aware of the relevant actors considering the situation. Actors are all those who by their decisions can affect the situation or system that is under consideration. (Kamppinen, Malaska & Kuusi 2002, 31-33). The actors are acting as the agents of change, which channel the drivers and trends into their changing patterns of action.

Friedman's process of creating the scenarios begins by a wider introduction to the history and present state of Russia and its relationship with Europe (Friedman 2009, 70-74, 101-106). Here, he identifies the most important trends and drivers affecting the future of Russia and its foreign relationships and policies. He draws his information from history, demography, topography and military thinking, adding to the mix his own conclusions; in sum, he uses the geopolitical perspective to identify the relevant drivers and trends.

Next, I will list and discuss the most important drivers Friedman's uses to craft his scenarios, as well as the most important actors. The relevant trends and drivers of Friedman's scenarios involving Russia can broadly be dived in two groups: internal and external. Internal drivers and trends are those, which arise from within the Russian state and itself and its geography. The external ones have their origin outside of the Russian borders.

This division, however, is not clear-cut, but it serves the purpose of categorization here, which is meant to make understanding Friedman's methodology easier. Furthermore, these lists could possibly be augmented. However, that would most likely only lead to the inclusion of drivers, and perhaps trends, that are consequences of those mentioned here. Thus, they can be seen as implicitly incorporated here, as the effects of these trends and drivers are further studied below.

Another remark must be made. The trends and drivers mentioned here, are in close connection with the geopolitical framework. This means that the drivers and trends are relevant because they can be interpreted as relevant from the geopolitical perspective. Furthermore, it is geopolitics, in Friedman's work, that lends these developments their meaning. This results in an interpretation loop in which the driver and the geopolitical theory refer to each other back and forth, gaining their content and meaning from each other. The consequence of this is, that the drivers and trends mentioned here, implicitly contain the geopolitical theoretical assumptions relevant to them.

Internal trends and drivers

As mentioned above, the trends and drivers contained in Friedman's Russia scenarios can be divided to internal and external variants. The internal ones can be summed up as follows:

- Demographic crisis (Friedman 2009, 104).
- Perceived external thereat (NATO and the United States) (Friedman 2009, 103).
- Indefensible borders and poor infrastructure (Friedman 2009, 104).
- Weak economic position, excluding the raw materials (Friedman 2009, 104-105).

Only one of these is actually a trend: the demographic decline. Others are drivers in the sense, that they push the Russia's political aims forward. The second driver, the perception of external threat, is here listed as an internal driver, since Russia perceives the Western alliance, and its leader in particular, the US, as a threat to itself. This perception rises from Russia itself, and thus it is listed here. However, the actual external threat potential posed by NATO is listed in the external drivers.

External trends and drivers

The listing of external drivers and trends is as follows:

- The power of the United States is on the rise (Friedman 2009, 18).
- The US tries to get Russia to fragment (Friedman 2009, 71).
- NATO has expanded right to the Russian border (Friedman 2009, 70, 103-104).
- The United States tries to expand NATO into Ukraine (Friedman 2009, 70).

Again, from this listing we can actually only find one trend: the rising global power of the United States. This trend has been ongoing since the end of the Second World War and it was accelerated by the fall of the Soviet Union. The other three factors act as drivers of change in the Russian foreign and defense policy in Friedman's scenario. The second driver is based on the thought of Halford Mackinder, who was mentioned earlier. The US tries to ensure that no single power rises to dominate the Eurasian landmass. Should this happen, the Western hemisphere would be turned into a second-rate region in strategic importance. Fragmentation of Russia would be pleasing to America, as it would bring to an end the tale of the single largest Eurasian political entity. The thirds and fourth point are tied to each other. The expansion of NATO is historical fact, and given that Russia perceives the alliance as a threat, largely, presumably thanks to the second point on the

list, Russia feels insecure. This feeling is further driven by the fourth point, the risk of losing Ukraine to the Western alliance; an option that is unacceptable to whomever occupying the Kremlin at any given time.

Actors

The most important actors in Friedman's scenarios regarding Russia are all of the countries somehow involved in the development of his scenarios.

In the scenario considering the Caucasus, the relevant actors are Russia, the United States, Turkey, Iran, Georgia, Armenia and Azerbaijan.

In the scenario considering the Central Asia, the relevant actors are Russia and the United States, China to a lesser extent, and the local states: Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Turkmenistan.

The European scenario involves the following actors: Russia, the United States, the Baltic states, Poland, Germany, France, Ukraine, Belarus, Hungary, Slovakia and Romania.

4.2.2 The interrelationships of the relevant trends

The situation of Russia, in Friedman's view can be summed up as follows:

Russia is facing a reality of rapidly declining population (Friedman 2009, 6, 104). Thus, it finds itself in a position which grows weaker every passing year, since declining demographics translate into declining national power (Friedman 2009 52). However, at the same time, the power of the United States is growing (Friedman 2009, 18), and the US has been using that power to expand its influence by enlarging NATO, which has spread right to the Russian border. Thanks to this, the core areas of Russia are now open to assault, as its borders have virtually become indefensible. (Friedman 2009, 103-104.)

The defense of Russia has traditionally been relying on a large army as its territory is vast and the infrastructure relatively poor, making the movements of troops difficult and defense of the entire state both challenging and expensive. (Friedman 2009, 104), However, the declining number of its inhabitants makes fielding large armies increasingly difficult, which means that the strategic needs of Russia will be unmet at some point in the future (Friedman 2009, 104).

This situation is exacerbated by the fact that European border of Russia is largely characterized by the North European plain, which offers little natural barriers and defenses. (Friedman 2009, 103). Given the fact that NATO is positioned on that plain, the road to the heart of Russia lies open. The only real defense Russia has ever had vis-à-vis Europe,

strategic depth (Friedman 2009, 103), evaporated with the collapse of the Soviet Union and the Warsaw Pact.

The United States is in favorable position, from Russia's point of view, to undermine the state of Russia. Both Poland and the Baltic states are within the structure of NATO, and Ukraine underwent the color revolution in 2004-2005, meaning that it showed that Ukraine can, possibly, be swayed into the western camp. Should Ukraine be absorbed by the west, the western border of Russia would become totally defenseless, and the little grip Russia has on the Black Sea, would essentially become non-existent. Furthermore, the gap between Ukraine and Kazakhstan, separating the Russian core areas from its southern territories, would be a danger-zone, since it could be used to ban Russia's access to Caucasus. If Caucasus is lost, or at least becomes highly vulnerable, Russia would effectively lose her southern territory, causing a possible fragmentation, that could continue further. (Friedman 2009, 70-71, 103.) And as stated above, the fragmentation of Russia is something that is not necessarily an unwelcome event from the American perspective.

The situation necessitates Russia to maintain a large army, as indicated above. However, that demands large financial resources and it places a great strain on Russia's economy. (Friedman 2009, 104). Additionally, the shrinking population can make finding recruits for those armies impossible; there won't be enough men to fill the ranks. Given the fact that Russia's economy is mainly based on raw material extraction and exports to detriment of the development of a manufacturing industry (Friedman, 2009 104-105), the economic outlook of Russia is also weak. Thus, Russia window of opportunity to secure its borders before the inevitable collapse in her capability to defend her territorial integrity is closing fast. Russia needs to act.

4.3 The Caucasus

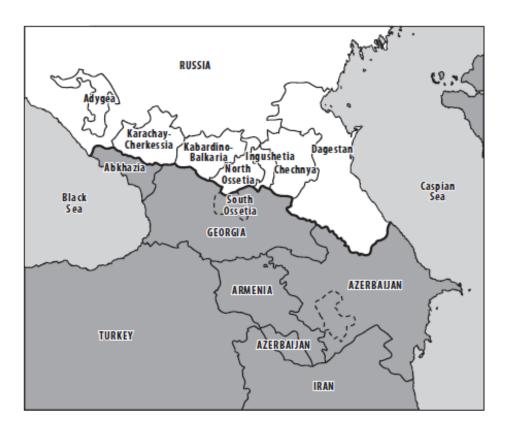


Figure 4 Caucasus region (Friedman 2009, 108).

4.3.1 The scenario forecast

The Caucasus is region where the interests of two major power, Russia and Turkey, meet. Where the exact boundaries of influence between these two states lie is not important. However, what is important is that Russia has a position in the Caucasus mountain range, since this a position well-suited for defense. Should Russia lose its grip on the mountains, especially considering the gap between Ukraine and Kazakhstan, Russia would be in trouble in its southern territory. (Friedman 2009, 108.)

Following from that fact, Russians are unwilling to give up on Chechnya. If they did so, their position in the Caucasus would collapse. In fact, Russia would likely reach even deeper into the Caucasus, to Georgia. Controlling it would consolidate Russia's position in the region significantly. However, Georgia knows Russia's interests and has for that reason been trying to build a closer relationship with the US. This situation is further complicated by the complicated relationships between the states located in the Caucasus; Armenians are against Turkey and seek Russian protection, Georgians are hostile towards

Armenia, whereas Azerbaijan, on the other hand, is hostile to Armenia and friends with both Turkey and Iran. (Friedman 2009, 107-109.)

Friedman (2009, 109) proposes a scenario, which suggest that

"the Russians are indeed going to reassert their position, starting with Georgia. Since the United States sees Georgia as a strategic asset, Russia's reassertion there will lead to confrontation with the United States. Unless the Chechen rebellion completely disappears, the Russians will have to move south, then isolate the rebellion and nail down their position in the mountains. There are two powers that will not want this to happen. The United States is one, and the other is Turkey. Americans will see Russian domination of Georgia as undermining their position in the region. The Turks will see this as energizing the Armenians and returning the Russian army in force to their borders. The Russians will become more convinced of the need to act because of this resistance. A duel in the Caucasus will result."

4.3.2 A geopolitical assessment of the scenario

In here, I will first observe Friedman's scenario from the geopolitical perspective to demonstrate, how he likely came to his conclusion. After that, I will critically evaluate the accuracy of hist forecast to see, whether it has any merit or not.

The general situation in the Caucasus is centered around the fact of its most notable geographic feature: the mountains. Mountains are a natural barrier and easily defensible border (Sicker 2010, 92-93), which means the Russians have a clear interest to anchor themselves into them to provide the best possible defensive positions in a potential future conflict. Caucasus has become for Russia a pivotal location (Kelly 2016, 108, 184), whose control will give a decisive advantage to the controller. Good defensive positions are vital to Russia in this region for three reasons.

First, there are two local and one global power present in the region who can threaten Russian southern territory: Turkey, Iran, and the United States. As Russia's territory north of the Caucasus is relatively flat, which means it is not easily defended (Killinen 1964, 68), Russia cannot afford to lose its grip in the Caucasus.

This imperative is made more urgent by the second reason, which is the declining demography of Russia. Defending flat plains takes up a lot of manpower, which Russia will soon not be in possession of. This trend further increases the importance of retaining their presence in the mountainous region.

The third reason has to do with Friedman's observation that without positions on the Caucasus, Russia's southern flank would become so vulnerable, that its hold on its south-

ern territory could be completely lost. This could lead to a further fragmentation of Russia's territory. (Friedman 2009, 71.) Quite simply put, if Russia loses the Caucasus, it loses its southern territory, roughly up to the gap between Ukraine and Kazakhstan, which means also that Russia's access to the Black Sea and Caspian Sea would come to an end, with all the military and economic consequences it causes.

In light of these geopolitical observations, Friedman's scenario (2009, 109) forecasting a confrontation in this region is understandable. None of the powers wants to back down; for Russia, Iran and Turkey it is a matter of national security; for the US, a matter of their policy of weakening Russia to fragment the Eurasia (Friedman 2009, 71). Thus, the region will become a shatterbelt (see Kelly 2016, 185) for the foreseeable future. The situation is exacerbated by the checkerboard (see Kelly 2016, 176) configuration caused by the foreign policies of the minor states in the region, which lead them to seek the protection of either side.

4.3.3 Critical analysis of the scenario

Even though Friedman's train of thought may be understandable from the position of geopolitics, the question still remains, was he right? I will turn to this question next.

The scenario description is in many ways ambiguous. First of all, Friedman does not specify what he means by stating that the Russians are going to reassert their power in the region. Apparently, in reference to the Chechen rebellion, it can be understood to signify a military build-up in the region. Second, his forecast regarding a duel in the region is also quite unclear. Does a duel here mean a military confrontation or rather a spiral of deploying stronger and stronger military formations on both sides? The questions remain unanswered.

To be clear, Friedman actually only forecasts two things: the Russians will try to bring their power to bear in the Caucasus region and this will result in tension between Russia on the one side and the US and Turkey on the other. The reason for Russian reassertion of power is ostensibly the Chechen rebellion, but other geopolitical reasons can be seen behind it as well, as it was shown above.

In the region, there still are conflicts which have not been resolved completely, but the situation in the Caucasus has been more peaceful in the recent years, thanks to Moscow's policies. (Hegenskog, Holmqvist & Norberg 2018, 15, 35). Even though potential for conflict still remains (Hegenskog, Holmqvist & Norberg 2018, 26), the region has not exactly become a hotspot for great power duel as Friedman predicted. There are some significant reasons for this.

First of all, Georgia has been effectively blocked from all western institutions, most notably the NATO, by the Russo-Georgian war of 2008 (Hegenskog, Holmqvist & Norberg 2018, 15). This means, that even though Russia is not in full control of the territory of Georgia, it can remain assured that it is highly unlikely that some foreign power would give substantial security guarantees for the small nation. Essentially, Russia, thanks to its position, does not have to go into a confrontation over Georgia, as the situation already is in its favor.

A second, and more important geopolitical change, quite unanticipated by Friedman, has been the rapprochement between Russia and Turkey (see e.g. Ulgen 2019). Turkey' interest in purchasing Russian military hardware and cooperation in Syria have brought the two states together. Significant differences do remain between the interests and aims of the two nations, yet their warming relationship is clearly causing concern in Washington. (Kirişci & Köstem 2018). Even though the two powers remain geopolitical rivals in many ways, the situation is far from a confrontation over the Caucasus region.

In general, the situation in Caucasus seems to be heading to an entirely different direction than what Friedman forecasted. Turkey and the United States are, at least for now, to some extent parting their ways, which means that they will not form a unified front against Russia in the near future. The situation in Chechnya seems to have stabilized due to Kremlin's policies (Hegenskog, Holmqvist & Norberg 2018, 22). This means, that the position of Russia is stronger than in the region than it otherwise would be.

The situation in Caucasus is far from tensionless and peaceful, but it is also far from a great power duel. The main problems have to do with local ethnic conflicts (see Hegenskog, Holmqvist & Norberg 2018), not great power competition. It seems, that the crystal ball of Friedman did not work regarding the Caucasus

In general, it could be discussed how Friedman got it wrong here. Geopolitical theory was directing him towards a certain direction but wild card events, most notably the war in Syria, changed the situation significantly, causing a discontinuity to the then present trend between the competition between Russia on the one side, and Turkey and the US on the other in the Caucasus. It is, however, out of the scope of this work to explore how the situation developed, and how it diverged from Friedman's scenario.

Suffice to say, that Friedman's forecast regarding the Caucasus was quite vaguely worded and alluded to some kind of competition in the region involving the three powers. The more peaceful-than-anticipated situation in Chechnya and the Syrian civil war made Friedman's scenario redundant quite quickly. It does not mean that in the future the geopolitical rivalry could not return, but at least the decade that separates the present from the time the scenario was formulated, has shown that this part of the world has not developed according to Friedman's vision.

4.4 Central Asia



Figure 5 Central Asia (Friedman 2009, 110).

4.4.1 The scenario forecast

Central Asia is a large region with relatively little strategic importance to Russia. However, should another power try to dominate the region, Russia would be forced to react. Whoever controls the enormous state of Kazakhstan, is within a striking distance from Russia's vital waterway, Volga. (Friedman 2009, 109.)

The war in Afghanistan brought the Americans into the various stans of the region. Initially, Russia had no problem with that, as it perceived the stay to be only temporary. However, as the war dragged on, the US showed no signs of leaving. Russia was not ready to see its main adversary controlling an area so close to its vital areas, and by political manipulation in the local countries, ousted the Americans. Americans, not able and willing to wield their military power, most importantly deprived from the use of their navy due to the landlocked location of the region, could not resist. (Friedman 2009, 110-111.)

Friedman's (2009, 111) scenario regarding Russia's future vis-à-vis Central Asia tells us that

"Central Asia is an area where the United States can't remain under Russian pressure. It is a place where the Chinese could potentially cause problems, but as we've seen, that is unlikely to happen. China has economic influence there, but the Russians, in the end, have both military and financial capabilities that can outduel them. The Russians might offer China access to Central Asia, but the arrangements created in the nineteenth century and maintained by the Soviet Union will reassert themselves. Therefore, it is my view that Central Asia will be back in the Russian sphere of influence by the early 2010s, long before the major confrontation begins in the west, in Europe."

4.4.2 A geopolitical assessment of the scenario

Central Asia is a vast space of land right south of Russia. It is relatively even until the Himalayas and has some desert regions. Central Asia has historically been dominated by the Russian Empire and the USSR. As Friedman states, Central Asia is of lesser importance to Russia unless some foreign power tries to get control of it since it lies quite near to Russia's core areas (Friedman 2009, 109). Essentially, Central Asia is currently a buffer zone (see Sicker 2010, 165-166) between Russia and Iran, China, India and the United States.

Friedman predicts in his scenario a renewed Russian domination over Central Asia. That does not mean, that the area would be annexed by Russia, but merely that it returns to Russia's sphere of influence (see Kelly 2016, 185). This is made possible by the inability of the US to project naval power in Central Asia because of its landlocked position (Friedman 2009, 111), and so contest Russia's power and create a shatterbelt (see Kelly 2016, 185).

This is area receive relatively little attention from Friedman, presumably because of the fact of that it is unlikely to become a site of confrontation between Russia and the US. Since the Americans cannot effectively project power in the region due to natural barriers, there exist no potential for conflict here. Russia's power is too close and too strong for any other nation to invade this part of the world. Furthermore, the local states themselves are in no position to really resist Russia. Their flat topography (see Killinen 1964, 68) combined with their weaker national power bases in comparison to their strong northern neighbor, gives them no real chance to resist Russia. Hence their destiny, in Friedman's mind, lies in the Russia's sphere of influence.

4.4.3 A critical analysis of the scenario

The key point of Friedman in this scenario is that the Central Asia will become more clearly a part of Russia's sphere of influence. What that means in specific terms is open for debate, but apparently it is to be understood as a state of affairs in which Russia will not allow any other major power to dominate the Central Asian states militarily or economically. In a sense, the Central Asia would become, yet again, Russia's "backyard."

It is true that Russia considers the Central Asia to be within its sphere of influence and this is also, to a certain extent admitted by China. In the region, Russia is the main security provider, who also has military bases in the region. However, China is more privileged in Central Asia in the economic matters, as it has invested in the Central Asian countries within the context of its Belt and Road Initiative (BRI). This has led Russia and China to cooperate in preventing the spreading of terrorism in the local states, as both of the great powers have something to lose: Russia is afraid of the threat of local instability could have on its Eurasian Union ambitions, and China, on the other hand, wishes to protect Xinjiang from destabilizing forces, as they could affect the Chinese geo-economic plans for the region namely, the economic corridors travelling through the Central Asia to Europe. (Indeo 2018.)

At least for now, Russia is the main military hegemon in the region. However, it seems that as China has grown its investments in Central Asia, its willingness to interfere militarily, which is clearly against the wishes of Russia, has also increased. Indeed, already now China has bilateral military cooperation with all five Central Asian countries. Russia is suspicious about China's military activity, but that activity is quite clearly necessitated by the Chinese regional economic investments which hardly can function within some level of physical security guaranteed by the Chinese state. This means, that China's military involvement in the region is likely to grow in the future, as its economic plans unfold. It is very likely, that China's increasing military presence in Central Asia will be perceived as a threat by Moscow. However, Russia is not strong enough anymore to prevent the Chinese regional initiatives. (Indeo 2018.) It is believed that China is making Russia its junior partner, even replacing it as the main hegemon, in the region, both economically and politically (Suslov 2018; Wasserman & Saltskog 2019).

The United States' involvement in the region has remained rather limited (Laruelle 2018). However, there remains a chance that the US will return to the region, either spurred by economic or military interests, or both. Indeed, the local states might even find the US a favorable partner in contrast to either Russia or China. (Sanghera & Satybaldieva 2018.) Thus, it is very likely, that even though the US is not right now strongly present in Central Asia, its activity will likely increase in the future (Suslov 2018; Starr & Wimbush 2019).

Friedman seems to have gotten right the part of the US in the region, namely, that its influence and presence will remain limited there. The United States is not currently threatening Russia's interests in the Central Asia, but this is not likely to remain so in the coming years. Yet, Friedman's forecast is correct, at least for now.

When it comes to China, Friedman's scenario seems to falter somewhat. China has economic influence in Central Asia, but it seems that it is slowly also turning into military presence. Russia's economic capabilities pale in comparison to those of China, which means that Russia's financial abilities to keep China in check in Central Asia are rather limited. Indeed, China is building its massive BRI infrastructure, which will connect the Central Asian countries to Beijing more closely, drawing them away from Moscow. Militarily the situation is also changing: China is clearly increasing its military presence, as mentioned, in the region, albeit slowly. Russia is the main military power in the region, but for how long? Sinking economic fortunes might force Russia to withdraw its presence.

Regarding China, Friedman seems to have been half-right. Russia has remained the military power dominating Central Asia, but China's role is growing. It seems, that China is moving to control the Central Asia because of its BRI investments, which Russia cannot outbid. Economic realities are not in the favor of Russia.

Friedman's assertion concerning the return of Central Asia to Russian sphere of influence by early 2010s seems to also have been rather correct. In the early 2010s, the region was very much Russia's backyard, however, now it seems to be slipping away. Friedman was writing in 2009 when early 2010s were just a few years away. China's BRI has altered the situation, something not anticipated by Friedman. True, his forecast has a specific timing, the early 2010s, but still China's regional geo-economic policies and plans carry such a weight, that they should have at least appeared as a passion mention in Friedman's scenario.

In sum, Friedman's scenario regarding Central Asia was quite right, but it was only oriented a couple of years into the future. It is significant how the role of the region has changed since the early 2010s thanks to the Chinese activities, something that almost completely escaped Friedman. In truth, the scenario almost appears trivial in retrospect, as it was covering a time just before significant changes. It could be, in a tongue-in-cheek fashion, compared to a 1930s forecast, that covers a timeframe from 1937 to August 1939 and tells us that peace will reign in Europe.

4.5 European theatre



Figure 6 The Eastern Europe (Friedman 2009, 72).

4.5.1 The scenario forecast

West of Russia lies its former empire: the Baltic States, Belarus, Ukraine, and beyond theme the former communist satellite states. Both Belarus and Ukraine are critical to Russian security; they must be dominated. The Baltics are also important, but not as important as the two previously mentioned countries. Furthermore, the eastern Europe can be overlooked if Russia is firmly anchored in the Carpathians and can field powerful forces on the north European plain. (Friedman 2009, 112.)

However, if either Belarus or Ukraine, or both, join NATO, Russia's capital and other vital areas would be only a few hundred kilometers away from the border. The depth, that was necessary to defeat the former opponents, is gone. For this reason, Russia has been extremely anxious as it has followed NATO's expansion in the eastern Europe. With the same concern, it watched as the Orange Revolution unfolded, but at that time it was forced to act, albeit, by covert means. (Friedman 2009, 112-113.)

With Belarus the situation is easier. Belarus has largely remained friendly towards Russia, perhaps thanks to its authoritarian regime. (Friedman 2009, 113.)

Based on these remarks Friedman (2009, 113) concludes that

"The reabsorption of Belarus and Ukraine into the Russian sphere of influence is a given in the next five years."

When this comes to pass, Russia will have acquired, more or less, its interwar borders. However, the question regarding the Baltic states will remain open still. The Baltics are in key position along the north European plain, the route a possible invader aiming for St Petersburg or Moscow will take. Russia do not want to take the risk that now peaceful NATO may turn hostile in the future and be in possession of staging area just next door of Russia's heartland. The last two hundred years have taught Russia that in a hard way. Indeed, in Russia's perspective the route of invasion is not only wide open but controlled by countries which are hostile to Russia. (Friedman 2009, 113-114.)

Beyond the Baltic states and Poland lies Germany, which is distrusted by the Russians (Friedman 2009, 114). Germany has a comfortable buffer between itself and Russia. Whether Germany is up to protect its eastern neighbors is an open question. Military adventurism has not served Germany well, historically speaking. (Friedman 2009, 77-78.) Friedman (2009, 78) forecasts that

"The German analysis is that engaging in politico- military maneuvers outside of a broad coalition exposes Germany to tremendous danger. Atlantic Europe sees Germany as a buffer against Russia and will see any threat in the Baltics as being irrelevant to their interests. Therefore, they will not join the coalition Germany needs to face the Russians. So the most likely outcome will be German inaction, limited American involvement, and a gradual return of Russian power into the borderland between Europe and Russia.

But there is another scenario. In this scenario Germany will recognize the imminent danger to Poland in Russian domination of the Baltics. Seeing Poland as a necessary part of German national security, it will thus exercise a forward policy, designed to protect Poland by protecting the Baltics. Germany will move to dominate the Baltic basin. Since the Russians will not simply abandon the field, the Germans will find themselves in an extended confrontation with the Russians, competing for influence in Poland and in the Carpathian region."

However, the latter scenario is unlikely, but much depends on Germany's internal situation at that time (Friedman 2009, 78).

Friedman states that the Baltic states and Poland will be the most likely point of any future confrontation between NATO and Russia. The US cannot afford to compromise

over any NATO member or the whole alliance, at least in the eastern Europe, might unravel, which would increase Russia's power in the region. (Friedman 2009, 114.)

Friedman (2009, 113) writes that

"Russia's next move likely will be an agreement with Belarus for an integrated defense system. Belarus and Russia have been linked for a very long time, so this will be a natural reversion. And that will bring the Russian army to the Baltic frontier. It will also bring the army to the Polish frontier—and that will start the confrontation in its full intensity."

This will put Poland in a troublesome situation as it finds itself trapped between the Russians and the Germans, and right in the middle of the ever-dangerous north European plain. However, Poland is not a small country and, more importantly, it enjoys the support of the US. (Friedman 2009, 114-115.)

"Polish support will be thrown behind the Balts. The Russians will pull the Ukrainians into their alliance with Belarus and will have Russian forces all along the Polish border, and as far south as the Black Sea. At this point the Russians will begin the process of trying to neutralize the Balts." (Friedman 2009, 115.)

The Russians have three basic options regarding the Baltic states. Covert operations, economic sanctions and military pressure. It faces NATO countries that can defend themselves only with the support of the United States, which, on the other hand, has an interest of keeping any one country from the dominant position in the Eurasia. (Friedman 2009, 115.)

"The United States will use its traditional method for supporting these countries: technology transfer. As we approach 2020, this method will be much more effective. The new technology for warfare will require smaller, more efficient military forces, meaning that lesser countries can wield military power disproportionately if they have access to advanced technologies. The United States will be eager to increase the power of Poland and the Baltic countries and have them tie down the Russians." (Friedman 2009, 116.)

Neither Russia nor the US want to resort to an all-out war. Russia will rather seek to bring pressure on the US in parts of the globe by destabilizing some countries. This in congruent with Russia's strategy of trying to break up NATO and isolate the eastern Europe. Germany, not wanting a war with Russia, will play the key role. Russia will try to argue that the US only wants to use Germany to contain Russia, and that both the Germans and the Russians have shared interest in maintaining an independent Poland as a buffer between the two. However, the only reasons, the Russians will say, the US protects the

Baltics is that they can be used in an aggression against Russia. Russia will thus guarantee the Baltic autonomy, and Polish independence in exchange for their neutrality. Otherwise there could be war. (Friedman 2009, 116.)

Friedman believes that the argument will work, however,

"The United States, always excessively aggressive from the European point of view, will be stirring up unnecessary trouble in Eastern Europe as a threat to the Russians. If the Germans allow NATO to do this, they will be drawn into a conflict they don't want. Therefore, I believe they will block NATO support for Poland, the Baltics, and the rest of Eastern Europe—NATO requires unanimity to function, and Germany is a major power. The Russian expectation will be that the shock of the withdrawal of NATO support would cause the Poles and others to buckle.

The opposite happens. Poland, caught in its historic nightmare between Russia and Germany, will become even more dependent on the United States. The United States, seeing a low-cost opportunity to tie down the Russians and split Europe down the middle, weakening the European Union in the process, will increase its support for Eastern Europe. Around 2015 a new bloc of nations, primarily the old Soviet satellites coupled with the Baltic states, will emerge. Far more energetic than the Western Europeans, with far more to lose, and backed by the United States, this bloc will develop a surprising dynamism." (Friedman 2009, 117.)

The Russians will try to counter this by increasing pressure on the Americans elsewhere in the world. The confrontation will become a global issue, but Russia can actually only really threat the US interests on a regional level. The confrontation will involve the Russian energy exports, which will become a strategic issue. (Friedman 2009, 117.)

For this reason,

"[t]he American strategy will be to de-emphasize the focus on hydrocarbon energy sources. This will kick into high gear the American interest in developing alternative sources of energy. Russia, as before, will focus on its existing industries rather than on the development of new ones. That will mean increased oil and natural gas production rather than new energy sources. As a result, Russia is not going to be in the forefront of the technological developments that will dominate the later portions of the century.

Instead, Russia will need to develop its military capabilities. Thus, as it has over the past two centuries, Russia will devote the bulk of its research and development money to applying new technologies toward military ends and expanding existing industries, causing it to fall behind the United States and the rest of the world in nonmilitary but valuable

technology. It will be particularly hurt, paradoxically, by its hydrocarbon riches—because it will not be motivated to develop new technologies and will be burdened by military spending." (Friedman 2009, 118.)

In the end, however, the confrontation with the US will be too much for Russia's economy. Russia will break, as it did in 1917 and 1991, and its military will collapse. (Friedman 2009, 119.)

4.5.2 A geopolitical assessment of the scenario

The scenario regarding the European theater is most extensive of Friedman's Russia-related scenarios. This scenario is characterized by three main points. First, the expansion of NATO and the influence of the US to the Russian borders. Second, Russia's urgency to act to secure its national security based on its internal drivers and the external threats. Third, the friction the two former points create.

As stated before, Russia is facing a demographic crisis, which eventually will make a large army an impossibility. The situation is further made worse by Russia's poor infrastructure combined with its large size, making troop movements difficult, and borders, especially vis-à-vis west, which cannot properly be defended because of the lack of any natural defensive positions. In other words, time is running out and Russia needs to act sooner than later to secure itself a defensive buffer zone in the eastern Europe (Friedman 2009, 104.) to protect its core area (see Cohen 2015, 39; Killinen 1964, 181-184). Indeed, if Russia is unable to create a proper sphere of influence beyond its western borders, it could fall apart itself (Friedman 2009, 66).

Considering these facts, it is no surprise that Friedman (2009, 113) forecasts in his scenario that both Belarus and Ukraine will be reabsorbed into the Russian sphere of influence. By doing so, Russia gain strategic depth, needed considering the dangerous nature of plains (Killinen 1964 68).

Having secured both Belarus and Ukraine, the Baltic states and Poland are Russia's next problem. The key to their neutralization is held by Germany. In effect, Poland and the Baltics are sandwiched between two great powers. (Friedman 2009, 78, 114-115.) Both Poland and the Baltic states are in NATO, following the checkerboard pattern (see Kelly 2016, 102) where they have been forced to search for an outside backer in face of stronger, and potentially aggressive, neighbors. Essentially, this has turned Poland-Baltics region into a potential shatterbelt only waiting to turn into a conflict zone. For this reason, this is the place Friedman sees as the most potential point of confrontation (Friedman 2009 114).

The United States has an important interest at play in the Baltic countries and Poland. As the US is a maritime power (see Kelly 2016, 184-185) and its power projection capability depends on foreign bases, it cannot risk appearing weak in the face of the Russian threat, since this could bring about the unraveling of NATO, at least in the eastern Europe (Friedman 2009, 114), which would reduce the US influence in that region. This, in turn, would hinder the US policy, based on Mackinder's work (1904), of preventing a Eurasian power from rising. This means, that the US must counter the Russian attempt to tip the balance of power (see Kelly 2016, 174) in their favor.

In Friedman's scenario Poles will support the Baltic countries since they share a common enemy right next to their borders. However, he posits that NATO as a whole will not come to the aid of those countries, but rather stays out of the possible conflict. The United States, on the other hand, cannot entertain that option but supports those countries. Russia will try to divert America's interest by pressuring it elsewhere in the world. (Friedman 2009, 115-117).

Russia is driven forward to the conflict by its desire to see its sphere of influence covering the lands which will provide it with the necessary buffer zone (Friedman 2009, 77, 105). This is sound geopolitical thinking, since soon Russia will no longer be able to amass armies which could fight off hostile armies just outside its core areas. However, the conflict never comes, and in the end, the weapons procurements Russia has been forced to make to keep up with the Americans, will lead to its demise (Friedman 2009, 119). Russia's geopolitical imperatives outstrip its economic and demographic potential. In other words, Russia does no longer, in Friedman's view, possess what it takes to control and defend the area it has.

4.5.3 A critical analysis of the scenario

The first forecast Friedman makes concerns the reabsorption of both Belarus and Ukraine to the Russian sphere of influence. Again, what he exactly means by the sphere of influence, remains ambiguous. Some clarification is delivered by the lines that follow the forecast, which indicate that when the forecasted state of affairs has come to pass, Russia will have returned to its interwar borders. This seems to implicate that the Russian influence in those two countries is so complete, that they either can treat them as a secured buffer zone, or they can even deploy their military units in those states. Indeed, a bit later Friedman indicates that Belarus will enter to some kind of close military cooperation with Russia. However, whichever way Friedman has envisioned the situation to be, it seems to imply quite an extensive Russian domination.

How well has Friedman's scenario converged with the reality? First of all, the relationship between Russia and Belorussia has fluctuated, but remained close. However, the

crisis in Ukraine sparked worries in Minsk and led to a deterioration of the relationship with Russia (Kozlovsky 2017), but the deterioration proved to be short-lived, as the countries soon held to together a joint military exercise (Filipov 2017). The Russian cultural domination of the country is strong, that there are even articles and analyses are circulating about the possibility of Belorussia becoming part of Russia (see e.g. Liakhovich 2019). Although there is a lot of cooperation between the militaries of Belorussia and Russia, Belarus is still hesitant in letting the Russian armed forces stay in the country indefinitely (Radio Free Europe 2018).

All things considered, Belorussia is very much part of Russia sphere of influence and has been so for a long time. However, Friedman's forecast regarding the Russian army returning to the Polish border via Belarus has not come to pass. The two countries do hold military exercises together, yet the Russian units have not been stationed permanently in the country. It seems that Friedman got it right, that he predicted that Russian influence over its small neighbor would continue, yet he did not correctly estimate the unwillingness of the Belarusians to become a full Russian vassal in military matters also.

When it comes to Ukraine, Friedman's scenario has falls apart completely. If anything, Ukraine has tried to escape Russian sphere of influence at least since 2014, as has been evidenced by the events of the last few years. The Crimean annexation, war in the eastern Ukraine and the tensions following them have driven Ukraine to actually seek help from the West, wishing even to join the western institutions of the EU and the NATO. (Graham 2018; Pifer 2017).

Russia has not been able to win Ukraine to its side, let alone to an alliance, as Friedman forecasted, but at least it is trying to keep it out of the western camp thorough its aggressive actions (Gricius 2019; Grossman 2018, 52). It is highly debatable, thought, can one consider Ukraine to be within the Russian sphere of influence. The west has not offered to guarantee the sovereignty of Ukraine, but the western influence has increased in Kiev nevertheless. Russia, on the other hand, is not in control of the Ukrainian territory, and neither does it steer its policies. One can clearly see that the territory of Ukraine is in many ways contested; the interests of the West and Russia collide there, not to mention those of Ukraine. All in all, it is clear that Ukraine has not been absorbed within the Russian sphere of influence; a fact which undermines Friedman's analysis.

Next, Friedman basically forecasts two different paths for Germany regarding the Russian attempt to dominate the Baltic states. The scenario is one of German inaction, resulting in the return of Russian influence to the region between the two great powers. The second scenario is one where Germany clearly moves in to protect the small Baltic republics in order to protect Poland, and through Poland, Germany itself.

It could be said, that Friedman essentially covers here all options: whatever happens, he can say that he was right. That, of course, is not the whole truth, as the world is a very

complex web of many kinds of relations, but in rough terms, the verdict holds: when Russia moves to get the Baltics, the Germans either do something, or they do nothing.

Be that as it may, Friedman himself states that the scenario of German inaction is more probable. In this scenario, Russia will reassert its interests in the region between itself and Germany, and the Americans will involve themselves only in a limited fashion. The way the Americans will mainly support the Poles and the Baltic states are to be technology transfers.

Friedman's scenario does not fully correspond to the reality as it has happened. The Germans, within the context of the NATO, have committed themselves to the defense of the Baltic states (NATO 2019; Brzozowski 2018). Furthermore, the US operations have not limited themselves to technology transfers, but have deployed troops on Polish soil in order to deter the potential Russian aggression (Vandiver 2019). Friedman's scenario relies more on the actions of Germany and the US, but the western response to the Russian machinations has been more unified than he forecasted. This essentially makes his scenario problematic, almost redundant, since the Poles can now rely on the NATO as a whole, not only just on the US. It is true, that the current NATO troop commitment is not sufficient to defend against an all-out Russian assault, but it acts as tripwire, as a deterrent, that is a promise of more help to come.

Friedman, however, is right on two things. First, the Russians will try to bring pressure on the US in other places than only Europe. Second, the Russian try to undermine the unity of NATO. Both of these things have happened and are currently happening. Russia has most notably challenged the United States in Syria (Salter 2018), even with some success. Furthermore, Russia has, with various means, tried to create division within the western institutions, the NATO and the EU (Cohen & Radin 2019; Welna 2019; National Public Radio 2018).

Friedman further forecasts an American drive to develop renewable energy sources to rid themselves, and their allies, of the Russian hydrocarbons. The US is investing in renewables (Smart Energy 2018) but it has neither been able to replace the hydrocarbons in its own economy (U.S. Energy Information Administration 2018), or eliminate the European imports of Russian gas and oil (Sondland 2019; Eurostat 2018). The US and the EU still use hydrocarbons which means that Russia still gets revenues and holds some influence over its energy customers. Friedman's forecast seems to not have been accurate in this regard.

In his scenario, Friedman anticipates that Russia will mostly focus on developing its military technology, but will lag behind in civilian technologies, which are necessary for a functional economy. It is true that Russia is still very much reliant on its vast natural resource reserves, but it tries to diversify its economy. However, military innovation is still the top priority, even though there are attempts to advance on the civilian fields as

well. (Echos 2018). It still remains to be seen, whether the Russians can rid themselves from their reliance on cheap energy exports.

Friedman's scenario ends with the collapse of Russia that happens without war, mainly because of economic and demographic factors. The shrinking population combined with heavy military spending will prove to be too much. Obviously, however, Russia has not collapsed, at least not at the time of writing this. Friedman's scenario can be given more time: in the middle of 2020s, for example, the situation might be different. Indeed, there are those who are quite sure that either a collapse, or a decline of some kind, will happen (see e.g. The Jamestown Foundation 2017) However, the situation is still developing. Friedman's timing might not be correct, but perhaps his ultimate analysis of the fate of Russia is. It remains to be seen.

5 DISCUSSION

5.1 Some initial remarks

Having analyzed the scenarios, it is now time to discuss the results. Before going any further, it is good to remember what Dungaciu et al (2018, 169) wrote: "It should be a truth universally acknowledged that strategic intelligence analysis and associated forecasting attempts cannot be precise. Political systems and forecast variables are difficult to encompass in a mere overview, as the data employed is both complex and extensive, spanning over various geographical areas, political systems and variables."

This is very true. Friedman himself acknowledged this and did not make any claims to get the specifics right. However, he stated that it would be possible to say something about the broad outlines of future geopolitical developments. (Friedman 2009, 9-10).

Given all this, it may seem unfair to critically evaluate something that never was meant to be taken as an exact prediction. It can be argued otherwise also, however. The examination of the scenarios has an important function that, on the one hand, helps to see whether, and perhaps to what extent, the geopolitical theory has predictive power. On the hand, the examination shows where Friedman got it wrong, which is to facilitate a more successful geopolitical scenario forecast work in the future through learning from previous mistakes.

First, I will discuss how well Friedman's work corresponds with the current geopolitical theory. This is done to answer the first sub-research question regarding the possibility to equate Friedman's work with geopolitics. This question was asked to see whether the geopolitical theory is useful in trying to understand the way in which Friedman anticipates geopolitical change.

Second, I will discuss the results of the critical examination. In here, the ways the scenarios diverge from the reality receive a treatment that seeks to show where Friedman went wrong. This part answers the second sub-research question.

In the third part, I answer to the main research question regarding the way in which Friedman anticipates geopolitical change. I will discuss there how the work of Friedman can be presented as a 5-stage model.

In last part, I will briefly analyze some of the failures of Friedman's scenarios. By examining two geopolitical events which he did not foresee but were of significant importance, I show the main weakness in Friedman's scenario work. This analysis serves to identify learning opportunities for a more successful future-related geopolitical scenario building.

5.2 Discussing the results

5.2.1 Geopolitical theory and Friedman's scenarios

As the analysis of Friedman's scenarios has shown, they adhere, quite well to the theoretical framework of geopolitics as developed by various scholars. This is something that can be seen as both surprising and unsurprising at the same time. It is surprising, since Friedman does not explain his methodology very clearly (Friedman 2009, 12-13), but rather gives some basic principles which he claims to be following. The analysis clearly shows, however, that he has also other principles in mind when he creates his scenarios. As it was shown, for example, such geopolitical concepts as shatterbelts and checkerboard are implicitly present in his work; he does not call them by that name but the mechanics of these theoretical concepts are guiding his thought. In other words, the geopolitical theory guides his thinking in more ways than what he lets the reader know.

This poses the question: is Friedman well versed in geopolitical theory or is his thinking merely common sense? It is likely that he has an extensive knowledge of geopolitics. However, he does not want to display too much of his knowledge, perhaps for reasons of business; why tell to your potential competitors what your trade secrets are.

There is also the possibility that he follows his own instincts and logical thinking. In such case, there is no real methodology behind his geopolitical thought, other than that of his intuitive feelings and prior experience. This would make his work akin to genius forecasting (see Glenn 2009b, 3), which means that nothing specific about Friedman's methodology can be said. It is all in his head. This means, that the critique presented by Dungaciu et al. (2018) is such, that it cannot be answered. Effectively, this would leave the reader of Friedman's work in the position, where the responsibility is solely on the reader, as nothing of what has been written can be taken any more seriously than any other expert opinion based purely on subjective reasoning.

However, this leads us to the part of which is unsurprising in Friedman's work, namely that it adheres well to the geopolitical theory. The reason is unsurprising is simply that if it did not, it would make little sense to anyone. As geopolitics is very much based on logical and common sense (Kelly 2016, 11), Friedman's positions and scenarios would be incomprehensible, or at least implausible, should they not be congruent with geopolitical theory. A deduction can be made from this; Friedman's work, indeed, can be seen and interpreted as faithful to the classical geopolitical theory. His methodology is geopolitical theory, through and through, or it can at least be very fruitfully studied in its theoretical framework. His work, at least in the scenarios studied, does not contradict the theory. Rather, it follows its premises well.

In conclusion, the methodological critique of Friedman's work can be, at least in most parts, be answered by referring the critics to the theory of classical geopolitics. It is true that Friedman does not explicate his theoretical background well, or at all practically, but his work reveals it to anyone to see. Friedman makes geopolitical scenarios, and forecasts within those scenarios, based on the geopolitical theory and the deductions one can make with that theory. However, the timing Friedman does can only be seen as his own subjective opinion, but his work in other aspects is supported by the geopolitical thought.

Therefore, a critique of Friedman's geopolitical thinking is also, at the same time, in many respects critique of classical geopolitics. It is true, that the views of the practitioner do affect the analysis, but still the guidelines geopolitics offers are rather strong and binding; if they are crossed, the analytical train of thought becomes incomprehensible. This means, that any practitioner following the tenets of classical geopolitics will come to reasonably similar conclusions with the others. Of course, the lack of information or differing opinions on the importance of some factors do have their impact, but that is something in common with all human intellectual enterprises.

To put shortly, Friedman seems to follow rather closely the classical geopolitical theory. This is an important finding as it demonstrates the way his thinking runs can be understood through the assumptions and theories of geopolitics. Indeed, what he does is geopolitics and should be understood as such. Geopolitical theory can be used in trying to understand how Friedman anticipates geopolitical change.

5.2.2 How well did Friedman anticipate geopolitical change?

The critical assessments of the scenarios showed quite clearly that Friedman's scenarios were, as forecasts, not very accurate in predicting the specific geopolitical events which have happened in the respective regions. However, the real question perhaps is, has he been able to anticipate the broader outlines of geopolitical change? After all, this is exactly what he claimed to do.

Naturally, one needs to ask, what are those broader outlines? Perhaps those outlines could be summarized as follows: Russia will remain insecure, it will try to get back its geopolitical buffers zone which will lead to a confrontation with the West, but in the end its resources will not allow it to prevail in this competition.

There are some things one needs to consider here. First is naturally the fact, that in many ways this is exactly what has happened. Russia is currently at odds with the West, geopolitically and politically speaking, and much of it has to do with its aspirations regarding Ukraine and other neighboring countries. It remains to be seen, however, whether Russia is able to somehow cope with its dwindling population and insufficient economic base. Russia's potential fragmentation is still only one of the possible scenarios.

The second thing to consider, is that even though Friedman got some broader outlines right, one needs to consider what he got wrong. There were, as it was shown, many things that did not turn out as Friedman anticipated. Most striking examples of these are the cases of Ukraine, which turned towards the West instead of being pulled to the Russian orbit, of Caucasus, which did not end in confrontation but in cooperation, for the time being, between Russia and Turkey, and of Central Asia, where China is very quickly asserting its dominance and replacing Russia as the primary regional power.

Considering all this, it is necessary to say that the scenarios are flawed in the sense that they were not able to anticipate major geopolitical changes. The cases of Ukraine and Central Asia especially are of great importance, as both represent massive shifts in geopolitical configurations which have been rather solid for a long time.

But on the other hand, what else are those changes but signs of a weakening Russia? Indeed, in the heart of the scenarios is the fact that Russia is gradually getting weaker and weaker. From that perspective the cases of Ukraine and Central Asia are understandable in the sense that they fit the larger picture Friedman had in mind. Then, the question remains, however, why did Friedman not anticipate these changes?

Answering that question would require an in-depth survey of the history both of Europe and of China from the last ten years, and of course, multiple explanations could be found, ranging from political to economic and social reasons. Still, especially the case of Ukraine is such a glaring mistake that it greatly undermines the possible insights Friedman might have had. Ukraine only did not become part of Russia's sphere of influence, but actively sought to escape it. Given the long common history with Russia, Ukraine's desire, shared at least by a large portion of its population, to ally itself with the West rather than with Russia, the geopolitical change in question has such significance and impact, that its omission raises many questions regarding Friedman's methodology and its value and accuracy. If Friedman only paints with an exceedingly broad brush when constructing his scenarios, what possible value can they have? After all, Russia's demographic and economic weaknesses have been well-known for a long time, so forecasting Russia's demise does not really require much geopolitical or foresight-related understanding.

Yet, it does not do any good to be overly critical. Friedman build his scenarios with the information he has at hand and based on the expertise accumulated during his long career. Intelligence is not a precise discipline, but rather reflects both the strengths and shortcomings of human understanding and intellect. As it was shown, Friedman's work does indeed follow the geopolitical theory, which means that the scenarios are a reflection of the anticipative possibilities of geopolitics. Had Friedman studied his subject even more closely, perhaps his conclusions would have been different.

The value of the scenarios is in highlighting the fact that a weakening Russia will be aggressive. This Friedman got right and he should receive praise for it. He was not able

to anticipate the animosity the majority of Ukrainians, or at least its leadership, felt towards Moscow. Also, he could not foresee that China would try to bolster its economy by building a massive trade network which would force China to become the local hegemon in the Central Asia. However, he was able to anticipate that Russia would be active in Europe, and that it would try to gain, by hook or by crook, back at least some of its former buffer zone. This fact aligns well with the geopolitical theory, and does speak well of some of its abilities regarding the future.

The question remains, how well did Friedman' anticipate the geopolitical changes? As it has been shown, his scenarios have both their merits and their shortcomings. They got right the large picture, that Russia would become aggressive and try to establish a buffer zone. Yet, they failed in foreseeing major geopolitical changes which have been instrumental to the development of the recent geopolitical shifts regarding Russia. In general, it can be said, that the scenarios contain value, and deserve to be studied. However, their failures should be acknowledged, and those failures should serve as remainders and cautionary examples for the geopolitically oriented futures studies practitioners. From them, one can learn what to study and what to look for, but they also show that even the experts can get things wrong.

5.3 How does Friedman anticipate the geopolitical change?

As it was shown by the analysis, Friedman does follow the geopolitical theory quite closely. However, he failed to anticipate significant geopolitical events, but managed to get some important aspects right.

To answer the main research question, one needs to look at the results of the analysis. The analysis clearly shows two things. First, Friedman does use the geopolitical theory as the framework and tool of his analysis. It could be argued, that geopolitical theory is his methodology. Second, his future forecasts are based on the scenario method, which is well known in the futures studies. The scenarios are carefully crafted and correspond well to what can be expected from a good scenario.

Friedman's way of anticipating geopolitical change can be presented as a five-stage model, which borrows heavily from the model of strategic foresight. This model answers the research question.

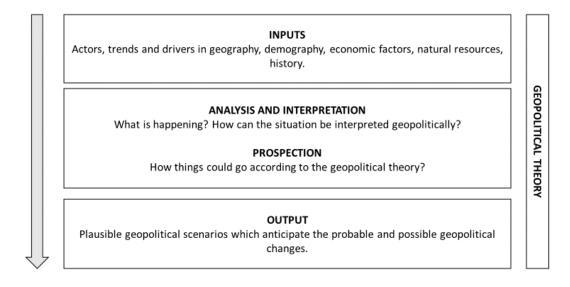


Figure 7 How does Friedman anticipate the geopolitical change? A 5-step model. (Adapted and modified from Kuosa's (2011b, 22) strategic foresight process figure.)

The geopolitical anticipation begins by defining the studied area. This is seen in his way of giving clear regional boundaries for the scenarios: Eastern Europe, Central Asia etc. It is no entirely clear how the areas are defined, but it seems that they follow popularly held views regarding the geographic divisions of areas.

On the second stage, he studies the relevant factors, as dictated by geopolitical theory, and the history of the region. His understanding regarding the region is based on the current available information, which he uses to build a coherent picture about what is going on right now. This stage identifies the trends, actors, drivers and so on, which are deemed important by geopolitics.

Third, the present geopolitical dynamics are articulated. Those dynamics are based on the facts gathered and interpreted on the second stage. The geopolitical dynamics derive their meaning from the economic, geographic, demographic, and other facts which are analyzed by using geopolitics.

The fourth stage is about extending the geopolitical view to the future. In here, Friedman seeks first to point out the trends which will both be lasting and have a significant impact on the state behavior. Having identified the trends, he tries to see how the trends will affect the international relations. The anticipations regarding actions and responses of states are based on the geopolitical understanding how states do behave when facing certain kinds of circumstances.

The fourth stage is about combining the geopolitical principles with current knowledge to create a future scenario, which can be considered both plausible and hopefully even probable. Given the semi-deterministic view geopolitics has on state behavior, the geopolitical theory seems to be suited for futures work as a method of both interpreting the current facts and as a way to extrapolate them further, and to study how possible trend breaks or collisions could come about and what would they mean.

The fifth, and final, stage is to create the scenarios. The scenarios are based on all the previous stages, all of which create new information for the futures work.

To put it very briefly, Friedman applies geopolitical theory to the present facts to produce scenarios by using the same theory as an anticipatory tool. As argued, I see Friedman's work essentially as strategic intelligence. It does not follow the intelligence cycle exactly but its aim is very similar, as are the ways the work is done. Furthermore, the centrality of the intelligence analyst is something that cannot be overlooked in both instances.

5.4 The weak points of Friedman's geopolitical anticipation: a possibility for learning

Having examined Friedman's way of anticipating geopolitical change, I wish to briefly discuss some of the failures of his scenarios. As the analysis showed, the scenarios failed to anticipate some remarkable developments which have had a significant impact on the geopolitical configuration of the respective areas. The interesting question then is, what went wrong in the geopolitical futures work of Friedman? Only two examples are presented here because of the space constraints, but they have been selected to serve as examples of the larger problem which, I think, is mainly responsible for the mistakes in Friedman's scenario forecasts.

In the center of attention here is the question whether the failures lie in the methodology of Friedman or do they pertain to the practitioner himself, that is, to his failing to notice some obvious signs or events that should have been considered but were overlooked. It is in no way easy to answer the question, since it is obvious that in any situation a human being is limited in his or her knowledge and cannot take everything into consideration. However, it is also clear, that the things Friedman failed to foresee were of no minor stature, but rather reflected major deviations from his scenarios' script. Those deviations followed directly from things that both fall under the umbrella of geopolitics and should have had a significant impact on his geopolitical scenarios.

An example can clarify the issue at hand. In the scenario of Central Asia, Friedman (2009, 111) clearly articulates that Russia will continue to be the major power in the region, which might face some problems from the Chinese, but remains uncontested. The present situation is something else, however, as we have seen. Although Russia still is in a position of power in Central Asia, China's influence and might grow steadily, and it is

likely only a matter of time when China will take the region under the protection of its arms.

The scenario is problematic since on the one hand, it is no secret that China's economic power has been on the rise for a long time, and that economic interests may necessitate military power to secure them. This is something we can assume Friedman knows. On the other hand, Friedman (2009, 101-105) has stated that Russia suffers from both economic and demographic problems which make maintaining a large military challenging, even impossible, in the longer run.

By combining these two things, it is hard to see how Friedman arrived to his conclusion of Russia's unchallenged military supremacy in the Central Asia. First of all, as China's economy grows, it will eventually start to protect its economic interests abroad and start to build a stronger military force for that purpose. Second, as Russia's population shrinks and its economy weakens, how could it muster the armies to control the vast region in the heart of Asia? There is a clear contradiction in the scenario. A weakening Russia should not be able to control Central Asia, much less if its competitor in the area is the second largest economy in the world.

Admittedly, the power of hindsight can factor in the Belt and Road Initiative that explains China's regional ambitions in Central Asia. However, it seems that BRI can easily be understood as a continuation of China's economic growth: it is merely a way to advance the Chinese economic interests abroad and as a phenomenon it is something that should have been anticipated in the sense, that any great power that can protects its economic interests overseas, will also not fail to act in that way. This notion fits well into the geopolitical framework as it is once again tied to the geopolitical factors, which steer the national policies.

Why, then, did Friedman not make the connection between the two things here? Afterall, both of them were visible back in 2009, and he even himself made it clear in no uncertain terms in his book, that Russia is going to get weaker military. The best answer I can come up with, is that he either did not think that Central Asia would see much geopolitical shifts within his scenario's timeframe, or he failed to see the connection between the two factors. The first answer is not very interesting since it provides very little new information. The second, however, is an important one. Why did he fail to foresee what should have been within the limits of human foresight capabilities? Did his theory let him down?

The short answer, in my mind, is that the there was nothing wrong with the methodology or theory. They are tools, which have their strengths but whose effectiveness is greatly dependent on the practitioner. Indeed, what went wrong was that Friedman did not consider to a sufficient length the impacts China's rising economy on the one hand, and Russia's weakening position on the other, would have. To put the thing in very simple terms, he failed to see that when there are two actors in the region and the other one gets

weaker while the other gets stronger, it is highly likely that the stronger will eventually force the weaker out of the game. Otherwise the region would be faced with a power vacuum as the weaker party withdraws, and since nature abhors vacuum, the space will be filled by the more powerful actor. The stronger party moves in to secure its growing geopolitical interests.

Considering the Friedman's European scenario, similar thoughts arise. The case of Ukraine can be taken as an example. Friedman did not foresee the willingness of Ukraine to be the author of its own foreign policy. The Ukrainians, or the majority of them anyway, desired to orient their country towards the western institutions, not towards Russia. Ukraine is a buffer state in the sense that there are no foreign armies positioned there, but it does not belong directly to the Russian sphere of influence in the sense that it would be friendly towards Moscow; rather the opposite is true. This flies in the face of Friedman's (2009, 113) scenario. Why did he not foresee this development?

Again, the question of whether the methodology or the practitioner was at fault is in center of attention. Yet again, it is my contention that the latter is weaker link. Friedman (2009, 70-71) acknowledged the effects of Orange Revolution and the pivot to west Ukraine experienced. Furthermore, he correctly anticipated that Russia would feel threatened by Ukraine's changing of its foreign policy's direction. However, what he did not foresee was that Ukraine would not want to change the course it had chosen. Should Russia try to coerce Ukraine to abandon its relationship with the west, Ukraine would become hostile. This is what more or less happened.

Now, historically speaking Ukraine has close ties with Russia. However, Ukraine saw that Russia could not offer it the same economic and political possibilities the European Union could and thus it chose to become closer with the west. This is not surprising. What is surprising is that Friedman did not see that Ukraine could act as an independent nation and choose the camp which could offer it more in economic and political terms. In other words, considering Ukraine's state interests, the West was able to deliver more than Russia. Considered geopolitically, Ukraine's decision to court the western powers is understandable. Friedman's view, however, that Ukraine would quickly fall under Russia's influence seems strange.

Again, the power of hindsight is great in this case but considering the whole affair as Friedman presented it, his conclusions seem odd. If Ukraine was a political, economic and military nonentity, Russia perhaps could have taken it under its dominance quickly and easily. However, with a large population and even larger landmass, Ukraine is not some minor state in the middle of nowhere. Rather, it is large country in a strategic location that attracts the interests of various great powers. Furthermore, Ukraine is in charge of its own foreign policy. Given all this, it seems strange indeed how quick Friedman is to relegate it to the status a mere pawn of Russia.

Friedman seems to have been unable to consider the possibility that the Ukrainians would say "no" to Russia. This pivot away from Russia should actually have been quite well within the reasonable limits of geopolitical anticipation in 2009 given the fact that, once again repeated, Russia was getting weaker while the West was not. In that sense, west could offer more opportunities than Russia, which means that Ukraine would do better geopolitically in the western institutions than as a partner of Russia. True, Ukraine as a country is geographically wide open to a large-scale Russian invasion, but would Russia commit itself to a full-scale, all-out assault in a situation in which its armed forces were facing a shrinking manpower pool in the first place? Not likely, which means that the notion of military pressure seems not to apply here. ¹ Again, Friedman himself did make a big deal out of Russia advancing weakness, so why he did not apply that idea in the case of Ukraine as well?

As I stated above, Friedman's scenarios do adhere to the geopolitical theory quite well. As I also stated, the major problem with his work seems to be the work of the practitioner himself, not the methodology. But how could this be? Is geopolitics applied incorrectly, in which case my view on Friedman's adherence to it would make little sense, or is there some problem with the theory which would mean that it does not have any explanatory power which it, however, clearly does have.

The problem with Friedman's work, in my mind, is this: the frames of his geopolitical scenarios are too narrow. What I mean by this is that he does not factor in enough information to make the scenarios better. Within the frames he has drawn his geopolitical deductions make sense; they are logical and follow mostly from their premises. However, the problems emerge from outside of the frames: the economic power of China turning into military might, Ukraine acting more assertively and so on. In a sense, Friedman's view was too narrow. Had he incorporated more of the facts to his scenarios, they might have been closer to reality.

The inevitable question then is, how much more should he have extended the frames of his scenarios? Geopolitical theory does not provide a clear answer to this. In a sense, each of the scenarios is a system unto itself, but it is tricky thing to divide the world, the main system, into clear-cut sub-systems: it never works neatly. The failure to incorporate what we now can consider to be vital information into to the scenarios is something that can both be criticized but that can also be treated with understanding. There is no theory that can clearly tell what should be taken in and what left out, the decision needs to be made by the practitioner based on his or her expertise. Such decisions are always open to errors and misjudgments, as the human things always are, but the errors should be acknowledged and used as material for learning.

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¹ Russia's annexation of Crimea and its actions in eastern Ukraine are of limited nature. The military pressure mentioned here refers to an invasion whose aim it is to either occupy a major part of the country or all of it.

What can one learn from Friedman's mistakes? The most important thing is to look the geopolitical scenarios one might have crafted from a wider perspective. Are there things lurking on the edges of the scenario that should have a more prominent role, or that imply the existence of some important factor that should be counted in? If there are, how should they be treated? What does the geopolitical theory suggest if these new factors are brought into play?

It seems that the issue of looking things too narrowly is one of the main problems in Friedman's scenarios. If he had considered things more widely, the scenarios could have changed as well. However, as pointed out above, when does one know when the view is wide enough? Once again, there is no clear answer. However, Friedman's analytical shortcomings seem to be of such kind, that they could have been avoided with some extra work well within reasonable proportions. This, I think, applies to the other problematic parts of his scenarios as well.

To put it shortly, what went wrong with Friedman's predictions was not his ability to use the geopolitical theory, but omitting information that proved to be vital in hindsight. That information could have been obtained by widening the scope somewhat. The machinery of the geopolitical theory would have taken care of the rest. However, the limits of what is reasonable to be included are encountered quite quickly. At what point does the scenario become too complex? This question can only be answered by the practitioner, whose work it is to build it. In the case of Friedman's scenarios, the limits should have been pushed further. But would that have been enough? It would have made the scenarios different at least, and, it seems to me, also considerably more accurate. That is why the lesson taught by this analysis is worth taking into consideration.

6 CONCLUSION

6.1 Key findings

The aim of this thesis was to answer to the question, how does Friedman anticipate geopolitical change? The main research question was supported by two sub-questions, the first one being: how well do Friedman's scenarios conform to the geopolitical theory? And the second one: how well have Friedman's scenarios succeeded in anticipating the actual geopolitical change.

The first sub-question can be answered very shortly by pointing out that Friedman's scenarios follow the geopolitical theory quite closely. This serves as an answer, or at least as a partial answer, to the methodological critique of his work.

The second sub-question regarding his success in anticipating geopolitical change receives an answer of both praise and critique. He did get some important general outlines correct, but he missed some very notable geopolitical events. In broad terms, he did not get the specifics right, which, admittedly, he did not claim to be doing in the first place.

The main research question was answered by creating a five-stage model of Friedman's work. This model explains how the geopolitical anticipation work of Friedman can be understood, and how he can arrive to his conclusions. The short answer to the research question is, that Friedman applies the geopolitical theory to past and present to find the relevant facts, and then combines them and applies the geopolitical theory on them to created plausible futures images, and this process can be presented by using the theoretical framework of strategic intelligence.

The findings were semi-anticipated. However, what was somewhat surprising was the fact that Friedman does adhere to the geopolitical theory, and that the geopolitical theory does seem to be applicable to the future context. The critical assessment revealed many weaknesses in Friedman's work, but showed, that the scenarios were not implausible, but did get many things wrong. Some of these failures were further analyzed to show the main weak point of Friedman's anticipatory work which proved to be a too narrow scope of the information included into his scenarios.

6.2 Suggestions for further research

Friedman writes, that "[c]onventional political analysis suffers from a profound failure of imagination. It imagines passing clouds to be permanent and is blind to powerful, long-term shifts taking place in full view of the world." (Friedman 2009, 3) This is true. Geopolitics has much to offer, when used rigorously, for the futures studies. It has a well-

developed theory, although still a bit scattered, which provides a powerful tool to analyze the present and anticipate the future.

A further research interest can clearly be identified in the idea of developing geopolitics towards anticipatory use within the field of futures studies. Currently, it is mostly used to understand the past and to assess the present. However, given its views on state behavior and how it is affected by various factors, geopolitical theory holds in itself potential to become a very useful futures tool.

REFERENCES

- Aaltonen, Mika Noorkõiv, Rivo (2003) Regional foresight in Estonia and Southern Finland. General theory, specific cases. Grafia, Turku.
- Al Rodhan, Nayef R.F. (2009) Neo-statecraft and meta-geopolitics. Reconciliation of power, interests and justice in the 21st century. LIT, Wien.
- Albright, Kendra S. (2004) Environmental scanning: radar for success. *Information Management Journal*, Vol. 38 (3), 38–45.
- Allen, Gregory C. (2019) Understanding China's AI strategy. Clues to Chinese strategic thinking on artificial intelligence and national security. Center for a New American Security. https://www.cnas.org/publications/reports/understanding-chinas-ai-strategy, retrieved 29.4.2019.
- Andersen, Per Dannemand Rasmussen, Birgitte (2014) Introduction to foresight and foresight processes in practice: Note for the PhD course Strategic Foresight in Engineering. Department of Management Engineering, Technical University of Denmark.
- Asselt, Marjolein B. A. van Klooster, Susan A. van 't Notten, Philip W. F. van Smits, Livia A. (2010) Foresight in action: developing policy-oriented scenarios. Routledge, London.
- Bell, Wendell (2009) Foundations of futures studies. History, purposes, and knowledge. Volume 1. Transaction Publishers, New Brunswick.
- Boysen, Anne (2019) How data science enhances foresight. *Futurist*. https://www.futurist.com/2019/02/26/how-data-science-enhances-foresight-by-anne-boysen/, retrieved 29.4.2019.
- Brzozowski, Alexandra (2018) Belgium and Germany take over Baltic air policing. Euractiv, < https://www.euractiv.com/section/defence-and-security/news/belgium-and-germany-take-over-baltic-air-policing/>, retrieved 27.4.2019.
- Burrows, Mathew J. & Gnad, Oliver (2018) Between 'muddling through' and 'grand design': Regaining political initiative The role of strategic foresight. *Futures* 97 (March), 6-17.

- Caillol, Marie Hélène (2012) Political anticipation: observing and understanding global socio-economic trends with a view to guide the decision-making processes. *International Journal of General Systems*, Vol. 41 (1), 77-90.
- Caillol, Marie Hélène (2016) Political anticipation and networks: creating anticipatory systems for government and society. In: *Anticipation across disciplines*, ed. by Mihail Nadin, 379-391. Springer, Switzerland.
- Caillol, Marie-Hélène (2010) A manual of political anticipation. Anticipolis, Nice.
- Central Intelligence Agency (1999) *A consumer's guide to intelligence*. Central Intelligence Agency. https://archive.org/details/consumersguide_tenet/page/n1>, retrieved 15.4.2019.
- Choo, Chun Wei (1999) The art of scanning the environment. *Bulletin of the American Society for Information Science and Technology*, Vol. 25 (3), 21-24.
- Coates, Joseph F. (2010) The future of foresight A US perspective. *Technological Fore-casting & Social Change*, Vol. 77 (9), 1428-1437.
- Cohen, Saul B. (1991) Global geopolitical change in the post-cold war era. *Annals of the Association of American Geographers*, Vol. 81 (4), 551-580.
- Cohen, Saul Bernard (2015) Geopolitics. *The geography of international relations*. Rowan & Littlefield, Lanham.
- Conway, Maree (2015) Foresight: an introduction. A Thinking Futures reference guide. Thinking Futures, Melbourne.
- Devetak, Richard Burke, Anthony George, Jim (eds.) (2007) *An introduction to international relations. Australian perspectives.* Cambridge University Press, Cambridge.
- Dufva, Mikko Ahlqvist, Toni (2015) Elements in the construction of future-orientation: a systems view of foresight. *Futures*, 73 (1-200), 112-125.
- Dufva, Mikko (2015) *Knowledge creation in foresight. A practice- and systems-oriented view.* Unigrafia, Helsinki.

- Dumont, Par Gérard- François Verluise, Pierre (2019) 1 A singular geographical space. La revue géopolitique. < https://www.diploweb.com/1-A-Singular-Geographical-Space.html>, retrieved 7.5.2019.
- Dungaciu, Dan Cristea, Darie Dumitrescu, Diana Alexandra Zaharie, Ştefan Pop (2018) Stratfor vs. reality (1995-2025). Dilemmas in global forecasting. *Romanian Journal of Economic Forecasting*, Vol. XXI (1), 167-178.
- Durand, Thomas (2008) Scenarios as knowledge transformed into strategic "re-presentations": the use of foresight studies to help shape and implement strategy. *Management & Avenir*, Vol. 3, 279–297.
- Echos, Les (2018) Putin's toughest challenge: a high-tech future for Russia. World Crunch, < https://www.worldcrunch.com/tech-science/putin39s-toughest-challenge-a-high-tech-future-for-russia>, retrieved 27.4.2019.
- Encyclopedia Britannica. Balance of power. Encyclopedia Britannica. https://www.britannica.com/topic/balance-of-power, retrieved 6.5.2019.
- Eurostat (2018) *EU imports of energy products recent developments*. Eurostat, < https://ec.europa.eu/eurostat/statistics-explained/index.php/EU_imports_of_energy_products_-_recent_developments>, retrieved 27.4.2019.
- Filipov, David (2017) Russia and Belarus launch war games aimed at holding the line against the West. The Washington Post. < https://www.washingtonpost.com/world/russian-war-games-aim-to-head-off-another-color-revolution/2017/09/14/53aa93d8-9896-11e7-af6a-6555caaeb8dc_story.html?noredirect=on&utm term=.a41eb44af737>, retrieved 27.4.2019.
- Friedman, George (2009) The next 100 years. Doubleday, New York.
- Fuerth, Leon S. (2009) Foresight and anticipatory governance. *Foresight*, Vol. 11 (4), 14–32.
- Gavigan, James P. Scapolo, Fabiana Keenan, Michael Miles, Ian Farhi, Francçois Lecow, Denis Capriati, Michael Bartolomeo, Teresa Di (eds.) (2001) *Foren. A practical guide to regional foresight*. European Commission Research Directorate General. http://foresight.jrc.ec.europa.eu/documents/eur20128en.pdf, retrieved 1.3.2019.

- Geopolitical Futures. Welcome to Geopolitical Futures. Geopolitical Futures. < https://geopoliticalfutures.com/welcome-to-geopolitical-futures/>, retrieved 6.5.2019.
- Glenn, Jerome C. (2009a) Scenarios. In: Futures Research Methodology V3.0. CD-ROM, The Millennium Project.
- Glenn, Jerome C. (2009b) Genius forecasting, intuition, and vision. In: *Futures Research Methodology V3.0*. CD-ROM, The Millennium Project.
- Graham, Darin (2018) Crimea crisis: What is happening between Ukraine and Russia? Euronews. < https://www.euronews.com/2018/11/30/crimea-crisis-what-is-happening-between-ukraine-and-russia-euronews-answers>, retrieved 27.4.2019.
- Graziano, Manlio (2017) Holy wars & holy alliance. The return of religion to the global political stage. Columbia university press, New York.
- Gricius, Gabriella (2019) The future of the war in Ukraine. Global Security Review, < https://globalsecurityreview.com/future-east-ukraine-civil-war/>, retrieved 27.4.2019.
- Grossman, Erik J. (2018) Russia's frozen conflicts and the Donbas. *Parameters*, Vol. 48 (2), 51-62.
- Grygiel, Jakub J. (2006) *Great powers and geopolitical change*. John Hopkins University Press, Baltimore.
- Hegenskog, Jakob Holmqvist, Erika Norberg, Johan (2018) Security in the Caucasus. Russian policy and military posture. FOI. < https://www.foi.se/report-search/pdf?fileName=D%3A%5CReportSearch%5CFiles%5Cf3af1b94-064b-47f7-a31d-782db00dc2b5.pdf>, retrieved 24.4.2019.
- Heinsohn, Gunnar (2003) Söhne und weltmacht. Terror im aufstrief und fall der nationen. Orell Füssli, Zürich.
- Hiltunen, Elina (2010) Weak signals in organizational futures learning. Aalto print.
- Hines, Andy Bishop, Peter (eds.) (2006) *Thinking about the future. Guidelines for strategic foresight.* Social Technologies, Washington DC.

- Holdar, Sven (1992) The ideal state and the power of geography. The life-work of Rudolf Kjellén. *Political geography*, Vol. 11 (3), 307-323.
- Indeo, Fabio (2018) Russia-China military cooperation in Central Asia: a temporary convergence of strategic interests. Italian institute for international political studies. https://www.ispionline.it/en/pubblicazione/russia-china-military-cooperation-central-asia-temporary-convergence-strategic-interests-21832, retrieved 25.4.2019.
- Julien, Heidi (2008) Content analysis. In: The SAGE encyclopedia of qualitative research methods, ed. by Lisa M. Given, 121-122. SAGE Publications, Inc., Thousand Oaks.
- Kamppinen, Matti Malaska, Pentti Kuusi, Osmo (2002) Tulevaisuudentutkimuksen peruskäsitteet. In: *Tulevaisuudentutkimus*. Perusteet ja sovellukset, ed. by Matti Kamppinen Osmo Kuusi Sari Söderlund. SKS, Helsinki.
- Keenan, Michael Loveridge, Denis Miles, Ian Kaivo-oja, Jari (2003) Handbook of Knowledge Society Foresight. Prepared by PREST and FFRC for European Foundation for the Improvement of Living and Working Conditions. European Foundation. Dublin. https://www.eurofound.europa.eu/sites/default/files/effiles/pubdocs/2003/50/en/1/ef0350en.pdf, retrieved 13.2.2019.
- Kelly, Phil (2011) Geopolitics Part I. In *The Wiley-Blackwell companion to human geography*, ed. by John Agnew James S. Duncan, 512-522. Wiley-Blackwell, Chichester.
- Kelly, Phil (2016) Classical geopolitics. A new analytical model. Stanford University Press, Stanford.
- Kent, Sherman (1966) *Strategic intelligence for American world policy*. Princeton University Press, Princeton.
- Killinen, Kullervo (1964) Kansainvälinen politiikka I. Politiikan ja strategian maantieteelliset perusteet. Werner Söderström osakeyhtiö, Porvoo.
- Kirişci, Kemal Köstem, Seçkin (2018) Don't let Russian S-400 pell Turkey away from the West. Brookings. < https://www.brookings.edu/blog/order-from-

- chaos/2018/12/18/dont-let-russian-s-400s-peel-turkey-away-from-the-west/>, retrieved 24.4.2019.
- Kozlovsky, Sergey (2017) The strange death of Russia's closest alliance. Global Voices. < https://globalvoices.org/2017/02/21/the-strange-death-of-russias-closest-alliance/>, retrieved 27.4.2019.
- Kuosa, Tuomo (2011a) Practicing strategic foresight in government. The cases of Finland, Singapore and the European Union. S. Rajaratnam School of International Studies, Singapore.
- Kuosa, Tuomo (2011b) Different approaches of pattern management and strategic intelligence. *Technological Forecasting & Social Change*, Vol. 78, 458-467.
- Kuosa, Tuomo (2012) *The evolution of strategic foresight. Navigating public policy making.* Gower Publishing Limited, Farnham.
- Kuosa, Tuomo (2014) *Towards strategic intelligence. Foresight, intelligence, and policy-making.* Dynamic Futures, Helsinki.
- Laruelle, Marlene (2018) 2018: what is stirring in Central Asia? Voices on Central Asia. https://voicesoncentralasia.org/central-asia-2018-scenarios-and-prognosis/, retrieved 25.4.2019.
- Lesca, Humbert Lesca, Nicolas (2011) Weak signals for strategic intelligence. Anticipation tool for managers. ISTE Ltd, London.
- Liakhovich, Andrei (2019) The potential 'anschluss' by Russia: will Belarus resist?. Belarus Digest. < https://belarusdigest.com/story/the-potential-anshcluss-by-russia-will-belarus-resist/>, retrieved 27.4.2019.
- Lindgren, Mats Bandhold, Hans (2009) *Scenario planning. The link between future and strategy*. Palgrave Macmillan, Basingstoke.
- Loveridge, Denis (2009) Foresight. The art and science of anticipating the future. Routledge, New York.
- Maccoby, Michael (2001) Successful leaders employ strategic intelligence. *Research and Technology Management*, Vol. 44 (3), 58-60.

- Maccoby, Michael (2015) *Strategic intelligence: conceptual tools for leading change.* Oxford University Press, Oxford.
- Mackinder, H. J. (1904) The geographical pivot of history. *The Geographical Journal*, Vol. 23 (4), 421-437.
- Maness, Juana (2012) *Techniques, Methods & Applications in Futures Studies*. The English Press, Delhi.
- Marshall, Tim (2015) Prisoners of geography. Ten maps that explain everything about the world. Scribner, New York.
- Miles, Ian (2010) The development of technology foresight: a review. *Technological forecasting and social change*, Vol. 77 (9), 1448-1456.
- Miles, Tom (2019) U.S., China take the lead in race for artificial intelligence: U.N. Reuters. < https://www.reuters.com/article/us-tech-un/u-s-china-take-the-lead-in-race-for-artificial-intelligence-u-n-idUSKCN1PP0U6>, retrieved 2.5.2019.
- Mintzberg, Henry (1994) The fall and rise of strategic planning. *Harvard Business Review*, 71 (1), 107-114.
- Mozur, Paul (2018) Inside China's dystopian dream: a.i., shame and lots of cameras. The New York Times. < https://www.nytimes.com/2018/07/08/business/china-surveillance-technology.html>, retrieved 2.5.2019.
- National Public Radio (2018) Russia aims to undermine NATO, retired lt. gen. Hodges says. National Public Radio, < https://www.npr.org/2018/07/24/631742018/russias-goal-is-to-undermine-nato-retired-lt-gen-ben-hodges-says>, retrieved 27.4.2019.
- NATO (2019) Boosting NATO's presence in the east and southeast. NATO. < https://www.nato.int/cps/en/natohq/topics 136388.htm>, retrieved 27.4.2019.
- Organski, A.F.K. (1958) World politics. Alfred A. Knopf, New York.
- Perrot, Patrick (2017) What about AI in criminal intelligence? From predictive policing to AI perspectives. *European Police Science and Research Bulletin*, (16), 65-76.

- Petta Gomes da Costa, De Leon (2018) Delimiting Geopolitics: a formal approach to define the geopolitical subject. *Revista Brasileira de Estudos de Defesa*, Vol. 5 (1), 41-62.
- Pifer, Steven (2017) How Ukraine views Russia and the West. Brookings, < https://www.brookings.edu/blog/order-from-chaos/2017/10/18/how-ukraine-views-russia-and-the-west/>, retrieved 27.4.2019.
- Poli, Roberto (2017) Introduction to anticipation studies. Springer, Cham.
- Puheloinen Ari (1999) Russia's geopolitical interests in the Baltic area. Edita, Helsinki.
- Radin, Adrew Cohen, Raphael S. (2019) Russia's soft strategy to hostile measures in Europe. War on the Rocks. < https://warontherocks.com/2019/02/russias-soft-strategy-to-hostile-measures-in-europe/>, retrieved 27.4.2019.
- Radio Free Europe (2018) Lukashenka says no need for Russian military base in Belarus, praises U.S. role in Europe. Radio Free Europe. < https://www.rferl.org/a/lukashenka-says-no-need-for-russian-military-base-in-belarus-praises-u-s-role-in-europe/29585291.html>, retrieved 27.4.2019.
- Renn, Ortwin Thomas, Meirion (2002) The potential of regional foresight. Final Report of the STRATA-ETAN Expert Group: "Mobilising the regional foresight potential for an enlarged European Union an essential contribution to strengthen the strategic basis of the European Research Area (ERA)". European Comission. < https://publications.europa.eu/en/publication-detail/-/publication/c59c8604-274c-4de0-8b8f-266bfe1e1e47>, retrieved 1.4.2019.
- Rodrigue, Jean Paul (2004) Straits, passages and chokepoints. A maritime geostrategy of petroleum distribution. *Cahiers de Géographie du Québec*, Vol. 48 (135), 357-374.
- Rohrbeck, René Battistella, Cinzia Huizingh, Eelko (2015) Corporate foresight: an emerging field with a rich tradition. *Technological forecasting & social change*, Vol. 101, 1-374, 1-9.
- Rolington, Alfred (2013) *Strategic intelligence for the 21st century. The mosaic method.* Oxford University Press, Oxford.

- Salter, Lamar (2018) Why Russia is so involved in the Syrian civil war. Business Insider, < https://www.businessinsider.com/why-russia-is-so-involved-in-the-syrian-civil-war-2018-3?r=US&IR=T&IR=T>, retrieved 27.4.2019.
- Sanghera, Balihar Satybaldieva, Elmira (2018) Central Asia is the new economic battleground for the US, China and Russia. The conversation. https://theconversation.com/central-asia-is-the-new-economic-battleground-for-the-us-china-and-russia-98263, retrieved 25.4.2019.
- Saritas, Ozcan Smith, Jack E. (2011) The big picture trends, drivers, wild cards, discontinuities and weak signals. *Futures*, Vol. 43 (3), 292-312.
- Sayler, Kelley M. (2019) Artificial intelligence and national security. Congressional Research Service. < https://fas.org/sgp/crs/natsec/R45178.pdf>, retrieved 2.5.2019.
- Schmidt, John Michael (2015) Policy, planning, intelligence and foresight in government organizations. *Foresight*, Vol. 17 (5), 489-511.
- Sempa, Francis P. (2002) *Geopolitics. Grom the cold war to the 21st century.* Transaction Publishers, New Brunswick, New Jersey.
- Sicker, Martin (2010) Geography and politics among nations. Introduction to geopolitics. iUniverse Inc., New York.
- Slaughter, Richard A. (1990) The foresight principle. Futures, Vol. 22 (8), 801-819.
- Slaughter, Richard A. (1999a) Futures for the third millennium. Prospect Media Pty Ltd, St Leonards.
- Slaughter, Richard A. (1999b) A new framework for environmental scanning. *Foresight*, Vol 1 (5), 441-451.
- Smart Energy (2018) US renewable energy sector in focus facts & figures. Smart Energy, < https://www.smart-energy.com/resources/reports-and-white-papers/renewable-energy-integration-increases-as-coal-powered-generation-decreases-in-the-us/>, 27.4.2019.
- Smith, Mark (2018) Can we predict when and where a crime will take place? BBC. https://www.bbc.com/news/business-46017239, retrieved 2.5.2019.

- Snyder, Bill (2019) Who is winning the artificial intelligence race? Stanford. < https://engineering.stanford.edu/magazine/article/who-winning-artificial-intelligence-race>, retrieved 2.5.2019.
- Sprout, Harold Sprout, Margaret (1960) Geography and international politics in an era of revolutionary change. *The Journal of Conflict Resolution*, Vol 4 (1), 145-161.
- Spykman, Nicholas J. (1938) Geography and foreign policy, I. *The American political science review*, Vol. 32 (1), 28-50.
- Spykman, Nicholas John (1942) America's strategy in world politics. The United States and the balance of power. Harcourt, New York.
- Starr, S. Frederick Wimbush, S. Enders (2019) U.S. strategy towards Afghanistan and (the rest of) Central Asia. Central Asia-Caucasus institute. http://www.silkroadstudies.org/publications/joint-center-publications/item/13327-us-strategy-towards-afghanistan-and-the-rest-of-central-asia.html>, retrieved 25.4.2019.
- Stratfor. About Stratfor. https://marcom.stratfor.com/about-stratfor, retrieved 6.5.2019.
- Sunzi (2005) Sodankäynnin taito. Gaudeamus, Helsinki.
- Suslov, Dimitry (2018) New US Eurasian strategy and Central Asia. Valdai club. http://valdaiclub.com/a/highlights/new-us-eurasian-strategy-and-central-asia/, retrieved 25.4.2019.
- Tapio, Petri Paloniemi, Riikka Varha, Vilja Vinnari, Markus (2011) The unholy marriage? Integrating qualitative and quantitative information in Delphi processes. *Technological Forecasting & Social Change*, Vol. 78 (9) (2011): 1616–1628.
- The Jamestown Foundation (2017) Russia in decline. The Jamestown Foundation, Washington DC. < https://jamestown.org/wp-content/uploads/2017/08/Russia-in-Decline-Full-Text.pdf?x74728>, retrieved 26.4.2019.

- Tuathail, Gearóid Ó (1998) Introduction. Thinking critically about geopolitics. In: *The geopolitics reader*, ed. by Gearóid Ó Tuathail Simon Dalby– Paul Routledge, 1-14. Routledge, London.
- Tuomi, Osmo (1996) *Uusi geopolitiikka. Geopoliittisen perspektiivin soveltuvuus kansainvälisen politiikan tulkintaan maailman ja ajattelutapojen muuttuessa.* Gaudeamus, Tampere.
- U.S. Energy Information Administration (2018) U.S. energy facts explained. U.S. Energy Information Administration, < https://www.eia.gov/energyex-plained/?page=us energy home>, retrieved 27.4.2019.
- Ulgen, Sinan (2019) Its not too late to stop Turkey from realigning with Russia. Foreign Policy. https://foreignpolicy.com/2019/04/11/its-not-too-late-to-stop-turkey-from-realigning-with-russia-s400-patriot-missile-putin-erdogan-trump/, retrieved 24.4.2019.
- Vandiver, John (2019) US prepares for larger military presence in Poland. Stripes, < https://www.stripes.com/news/us-prepares-for-larger-military-presence-in-poland-1.568458>, retrieved 27.4.2019.
- Vincent, James (2018) Artificial intelligence is going to supercharge surveillance. What happens when digital eyes get the brains to match? The Verge. https://www.theverge.com/2018/1/23/16907238/artificial-intelligence-surveil-lance-cameras-security, retrieved 29.4.2019.
- Voros, Joseph (2003) A generic foresight process framework. Foresight, 5 (3), 10-21.
- Vuoristo, Kai-Veikko (1997) *Poliittinen maantiede. Etupiirien ja yhteistyön maailma.* Werner Söderström osakeyhtiö, Porvoo.
- Wasserman, Paul Saltskog, Mollie (2019) Sino-Russian alignment in reality: the case of Central Asia. Global risk insight. https://global-riskinsights.com/2019/03/china-russian-central-asia/, retrieved 25.4.2019.
- Welna, David (2019) A dark view of Russia from U.S. NATO commander. National Public Radio, < https://www.npr.org/2019/03/07/701184498/a-dark-view-of-russia-from-u-s-nato-commander>, retrieved 27.4.2019.

Wilenius Markku (2017) Patterns of the future. Understanding the next wave of global change. World Scientific, New Jersey.