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FACULTY OF SOCIAL SCIENCES

Institute of Political Studies

Department of Security Studies

Master's Thesis

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Climate expertise and security politics: the case of the Czech Republic

Master's thesis

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Declaration

1. I hereby declare that I have compiled this thesis using the listed literature and resources only.
2. I hereby declare that my thesis has not been used to gain any other academic title.
3. I fully agree to my work being used for study and scientific purposes.

In Prague on 9 May 2018 Viktória Pokorná

References

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Abstract

This Master´s Thesis called "Climate expertise and security politics: the case of the Czech Republic" deals with engagement of climatologists in politics and society. Nowadays, certain actors (politicians, activists, celebrities, etc.) perceive climate change as dangerous threat to humanity, and so, they try to securitize this issue. They endeavor to inform ordinary people and make politicians to adopt extraordinary measures. Among these securitizing actors, we could find several climatologists who can fulfil role of security experts. However, such a trend is not present in the Czech Republic. Czech climatologists are not so active publicly and in politics compared to their foreign colleagues. This Thesis would like to analyze what are structural conditions of this trend. It is focused on various influential elements – society, politics, media and scientific field itself. It is based on concept of co-production that is about mutual relationship between these elements. It shows that society, politics and media are rather discouraging Czech scientists from engagement. However, also scientific community as such is not coherent, but there are several different epistemic communities. This Thesis would also like to connect science with Security Studies, mainly securitization theory and security expertise. It validates Thierry Balzacq´s arguments and criticism of traditional understanding of securitization by Copenhagen school. It would like to argue that it is necessary to study structural conditions and context to understand (un)successful securitization and security expertise.

Keywords

Climate change, security expertise, co-production, science, securitization, society

Abstrakt

Tato diplomová práce s názvem "Klimatická expertíza a bezpečnostní politika: případová studie České republiky" se zabývá zapojením klimatologů do politiky a v společnosti. Někteří aktéři (politici, aktivisté, celebrity atd.) dnes vnímají změnu klimatu jako vážnou hrozbu pro lidstvo a snaží se tak tento problém sekuritizovat. Snaží se informovat obyčejné lidi a přimět politiky, aby přijali mimořádná opatření. Mezi těmito sekuritizujícími aktéry by jsme mohli najít několik klimatologů, kteří mohou plnit úlohu bezpečnostních expertů. V České republice takový trend však nenajdeme. Čeští klimatologové nejsou ve srovnání se svými zahraničními kolegy tak veřejně a politicky aktivní. Tato práce by chtěla analyzovat, jaké jsou strukturální podmínky tohoto trendu. Zaměřuje se na různé vlivné prvky - společnost, politiku, média a samotné vědecké pole. Je založena na konceptu koprodukce, který je o vzájemném vztahu mezi těmito prvky. Práce ukazuje, že společnost, politika a média spíše odrazují české vědce od angažovanosti. Nicméně také vědecká komunita jako taková není soudržná, ale existuje několik různých epistemických společenství. Tato diplomová práce by také chtěla propojit vědu s bezpečnostními studiemi, zejména teorií sekuritizace a bezpečnostní expertízy. Potvrzuje argumenty Thierryho Balzacqa a jeho kritiku tradičního chápání sekuritizace kodaňskou školou. Práce by chtěla argumentovat, že je nezbytné zabývat se strukturálními podmínkami a kontextem, abychom pochopili (ne)úspěšnou sekuritizaci a bezpečnostní expertízu.

Klíčová slova

Změna klimatu, bezpečnostní expertíza, koprodukce, věda, sekuritizace, společnost

Název práce

Klimatická expertíza a bezpečnostní politika: případová studie České republiky

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Abbrevations

CHMI	Czech hydrometeorological institute
COP21	Conference of the Parties (Paris Climate Conference 2015)
ČSSD	Česká strana sociálně demokratická
EU	European Union
IPCC	Intergovernmental panel on climate change
IPS	International political sociology
IR	International Relations
NASA	National Aeronautics and Space Administration
NIMBY	Not In My Backyard
ODS	Občanská demokratická strana
SS	Security Studies
STS	Science and Security Studies
UN	United Nations
U.S.	United States

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Introduction

For years, I have been deeply interested in natural environment which is essentially important for human life and well-being. And I find very ironic, that the most dangerous threat for nature is human kind. The issue of human-driven climate change becomes more and more present in discourse of politicians. We could see that at least on international level, climate change is generally perceived as challenge that should be tackled because its consequences could be indeed dangerous.

Therefore, politicians in many countries started to adopt measures that should help humanity to fight against climate change. For a long time, I have impression that this topic is indeed important in many states. However, I see a lack of interest on domestic level – in country of my origin (Slovakia) and country where I am studying (the Czech Republic). I was often asking myself what is the reason. Are people in Central European states more indifferent towards natural environment? Is it caused by politicians or media?

I assumed that context and specific circumstances are essential and determining for successful discourse of such a topic. However, I wanted to look at the issue from different perspective. Climate change is a part of climatology - it is a scientific knowledge. Thus, important actors (among many others such as politicians, celebrities, activists, etc.) who should spread this knowledge and inform public and politicians are scientists who study climate change – climatologists.

Ideally, climatologists should present important knowledge and results of their research to public and mainly politicians. Then, politicians should implement concrete measures to resolve or mitigate this issue. At the same time, scientists should educate public and correct misunderstanding.

James E. Hansen is an example of such a scientist. He is an American climatologist and former head of the NASA Goddard Institute for Space Studies. Currently he is an adjacent professor who directs the Program on Climate Science, Awareness and Solutions of the Earth Institute at Columbia University. Hansen is well known as one of the first scientists who in the 1980s tried to warn public and politicians that global warming is a serious threat. Since then, he is still active on political level. (Shabecoff, 1988)

In 1988, Hansen had a speech in U.S Senate in which he highlighted that global warming is not natural but caused by human activity. He warned that burning fossil fuels and other activities had changed global climate so much that this would have serious impact

on our lives for centuries. Later on, he claimed that government of George W. Bush was trying to influence public opinion about global warming. They corrected press releases to frame global warming as less terrifying. (Eilperin, 2005; Revkin, 2006; CBS News, 2006)

Hansen however did not only inform public about the threat of climate change. He was actively promoting concrete measures. He was calling for more intensive use of nuclear energy. (Kharecha and Hansen, 2013) He even called for accusing the chief executive officers of oil companies (like ExxonMobil or Peabody Energy) for spreading misinformation about global warming. (Pilkington, 2008)

Hansen is part of a new process led by so called "Climate Kids" against the United States because of their right to healthy natural environment. (Buchanan, 2018) And he is also engaged in Citizens´ Climate Lobby.

I perceive James E. Hansen as typical example of politically active scientist. He understood that his research and new scientific knowledge is essentially important for public because it would have serious consequences for everyday life. He was and still is very active politically. Hansen tried to warn mainly decision-makers who have power to implement necessary measures. However, he did not stop engage publicly because of lack of interest among politicians. He is still protesting and even talking about concrete measures.

Hansen is not an exception. There are other important scientists who are active and engage publicly or on political level. I would mention for example members of German Advisory Council on Global Change and its ex-chair Hans Joachim Schellnhuber who founded the Potsdam Institute for Climate Impact Research. (German Advisory Council on Global Change, 2016) Another member is Stefan Rahmstorf who is a climatologist and a Professor of Physics of the Oceans at Potsdam University. Rahmstorf was one of the main authors of the IPCC Fourth Assessment Report. (IPCC, 2007) These scientists are advisors for politicians such as German Chancellor Angela Merkel.

Many various actors (politicians, scientists) understand climate change as a threat to natural environment and humanity. Therefore, they try to securitize this issue before audience (usually ordinary people) to be able to adopt necessary and extraordinary measures. I agree with this perception of climate change as threat. Therefore, I have decided to analyze whether this issue is securitized by climatologists in the Czech Republic, and what are the reasons if not.

This threat is based on scientific knowledge, thus, scientists studying climate (climatologists) should provide their expertise in process of securitization. Climatologists could be security experts and have important role in security politics.

Hansen, Schellnhuber or Rahmstorf are examples of scientists who try to fulfil the role of security experts. They provide their expertise, present their research and recommend concrete measures. Are there similar scientists in the Czech Republic? And what are the reasons if Czech climatologists do not behave as their foreign colleagues?

My first research question is: How climate change experts (climatologists, scientists, academics, etc.) engage publically and in (security) politics of climate change in Czech Republic?

I have decided to study also their public engagement because this way they could educate public and have also indirect impact on politicians. I will also analyze this scientific community from the perspective of epistemic community – very important concept by Peter M. Haas. If Czech climatologists form one coherent epistemic community, it can be more possible for them to successfully engage publicly and on political level (thus, also in security politics).

However, my research will not be focused only on engagement of climatologists in security politics, but also on the structural conditions which influence whether they engage or not.

Therefore, my second research question is: What are the structural conditions for (dis)engagement of scientists in the Czech Republic?

(Dis)engagement of climatologists is influenced by structural conditions. These are specific context and circumstances in the Czech Republic. I will be focused on three elements of this context – society, politics and media, and the mutual relationship between these elements and scientists.

I will look at these elements from the point of view of co-production – a concept from Science and Technology Studies by Sheila Jasanoff. In her works, she explains that society (culture), politics (power) and science (knowledge) co-produce and mutually influence each other. And I want to discover precisely the way how they influence each other, and whether the relationship is indeed mutual and balanced.

I have decided to collect my data directly and do expert interviews with those actors that I want to study and analyze. I wanted to hear their opinions and find out how they perceive the Czech context – society, media, and politics. Their answers and my observations

would be the most suitable data for such a research. Moreover, I will use some secondary data – like articles and documents.

My research is rather untraditional because I will combine Security Studies with Science and Technology Studies and sociological concepts. However, at the same time, it is very original because its results could provide a new perspective on famous concepts of Security Studies – security expertise and securitization. And it could contribute in understanding the reason why some scientists could be successful security experts and some not.

In the next section, I will provide a literature review of academic articles which are dealing with this issue and are relevant for my research questions. I will start with Science and Technology Studies (STS) and continue with Security Studies (SS).

Then, I will present the important theory behind my research – I will focus on concepts of co-production, epistemic community and security expertise. I will also present my methodology - tools which I will use for my research such as discourse analysis.

I will structure my analysis into two parts. The first one will be focused on engagement or disengagement of climatologists. I will try to find out whether they form one coherent community by applying definition of concept of epistemic community, and whether they are active publicly and on political level. Thus, I will try to answer my first research question.

In the second part, I will be dealing with structural conditions of their engagement or disengagement. I will use discourse analysis and focus on three elements – media, politics and society. Then, I will summarize my findings by using definition of concept of co-production. Therefore, I will try to answer my second research question.

At the end, I will present my results from the perspective of concepts of Security Studies – securitization and security expertise. I will compare my findings with Thierry Balzacq´s criticism of traditional perspective on securitization. My research should provide indeed interesting insights. Finally, I will summarize my whole Master´s Thesis in the Conclusion.

1. Literature review

In this chapter, I will provide a review of academic articles and literature which is relevant for my research questions. The first one is: How climate change experts (climatologists, scientists, academics, etc.) engage publically and in (security) politics of climate change in Czech Republic? However, I would like to go beyond this question and study also structural conditions of their engagement or disengagement. Thus, my second research question is: What are the structural conditions for (dis)engagement of scientists in the Czech Republic?

I will start with Science and Technology Studies (STS) and with authors like Sheila Jasanoff because I suppose that these Studies would be very essential for my research. Then, I will mention certain important concepts from Security Studies which were introduced by scholars such as Berling, Bueger, Bourdieu, Haas and Balzacq. And at the end of this chapter, I will summarize some concrete academic articles and research concerning engagement of climate change experts in security politics.

1.1 Science and Technology Studies

Science was always influencing our history and society. Inventions such as nuclear bomb, genetic engineering, radio communication, telephone, television, computers, and many others had deep impact on our society. And I think that the issue of climate change and climatology as scientific discipline has also crucial impact on us as well.

Science and Technology Studies or STS are focused just on the relationship between knowledge (science), culture (society) and power (politics). These studies are focused on mutual and strong relations of science, technology and society. STS is interdisciplinary field that means that scholars use concepts and theories from various fields, e.g. history of science, technology studies, sociology of scientific knowledge, feminist and cultural studies of science and technology, science and law, science policy studies, etc. They are of course also connected with social sciences like anthropology and political theory. (Jasanoff, 2004)

Research methods of STS are useful and excellent for analyzing power, culture or social change. Previous topics of STS research were emergence of new phenomena, resolution of conflicts, standardization of knowledge and technology, enculturation of scientific practices. These were four traditions or areas of STS research. (Jasanoff, 2004)

STS scholars highlight that science is not independent of power and culture, and it is political as well. Boundaries between nature and culture are constructed by us. Bruno Latour

in We Have Never Been Modern, states that nature-culture divide is a myth created by people. Society, as well as Nature, are constructed. (Latour, 1993)

STS is about systematical thinking, not about causal deterministic explanations or production of rigid methodological template. Human beings and their institutions are perceived as knowing agents, opposing with social sciences and their statistical understanding, rationality of actors who are then ahistorical, acultural. STS is very integrative and interdisciplinary framework. (Jasanoff, 2004)

I would argue that STS is key for my research because I want to focus on relation between science (climatologists, issue of climate change), society (specific culture, specific context) and politics (especially security politics). The most important concept for my research will be co-production explained by Sheila Jasanoff. I will more deeply analyze this concept in next chapter.

1.2 Security Studies, Securitization & Science

Therefore, based on STS research, I would argue that science influences also more concrete domains of politics, such as security politics. Society, politics, security and thus, also concepts like securitization are influenced by science, and vice versa. Science influences especially context and means by which agents do securitization. So, it is possible to link STS and Security Studies.

Securitization, important concept of Security Studies, is an exceptional process, when extraordinary measures are legitimatized. It is performative or illocutionary speech act. It has its grammar, language, structure, etc. There has to be a securitizing actor, referent object, that is threatened, audience, which should provide legitimization and acceptance of extraordinary measures that are supposed to resolve this particular situation. (Buzan, Wæver, and De Wilde, 1998).

These elements are internal to the act itself. However, there are also external features that could strengthen or weaken possibility of successful securitization. (Buzan, 1998) The external feature is for example social status of a securitizing actor or a specific context. And science is influencing both, internal as well as external elements. Scholars like Berling, Bueger, Bourdieu and Haas are focused just on science, security expertise, society, and securitization.

Berling explained in her article relationship between science and securitization. She introduced three distinct categories or mechanisms of this relationship which are: Scientists

and their explanations could objectify issues so much, that securitization becomes impossible; Science can contribute to authority of securitizing actor; Science can be used in securitization acts. Berling thus used sociological perspective for explaining relation between science and securitization. (Berling, 2011)

Therefore, science and scientific fact could be transformed into security policy (Berling, 2011). Scientific facts, mainly facts from natural sciences, are traditionally seen as objective truth without hesitation. (Berling, 2011) Scientific knowledge could indeed contribute to successful securitization. Science can start or end the debate about an issue, as well as justifies or prevents exceptional measures. Scientists´ influence is stronger in new types of issues that demand new types of experts. (Rychnovská, Pasgaard, and Berling, 2017) And I would argue that this type of issue could be just climate change.

Science shapes also society and context, so it has an indirect impact on securitization as well. Science, however, does not have the most influential position in security field. We still understand scientific habitus (I will mention this concept later on) as the authority of objectivity, but the impact and influence of science still depend on particular situation and context. (Berling, 2011) Thus, to understand impact of science on security politics, it is key to analyze both, social and political context, but also the scientific field itself.

Authority, subjectivity and knowledge are three factors in relation between science and security. (Rychnovská, Pasgaard, and Berling, 2017) Scientists had always unique social status and authority. Natural sciences were seen as apolitical, while social sciences were understood as political and less objective. With securitization, natural scientists became political agents as well. They were involved in media or as advisors for politicians. This evolution made also natural sciences "political". It simply means that science exists always in a specific context and circumstances. (Rychnovská, Pasgaard, and Berling, 2017) It is essential to understand science from perspective of social order, and vice versa. (Jasanoff, 2004)

According to Jasanoff (2005), scientists should have function in expertise. They have to provide balanced opinions helpful for policy makers. There is a question of whose policy recommendations should be accepted as authoritative. What is valid knowledge in specific issues? What factors transform scientists into security experts? (Rychnovská, Pasgaard, and Berling, 2017)

1.3 Expert & security expertise

As I have mentioned above, Jasanoff argued that there is a certain development and changing status of scientist in Western society, and they should nowadays have rather role of experts. (Jasanoff, 2005) However, who is expert? And what is the role of expert in society and politics? For decades, scholars were dealing with this question.

According to some scholars, experts are hidden players in decision-making and their expertise is source for policies. They help to resolve the most important issues and controversies such as climate change. Experts who state what is dangerous or risky are thus security experts. Relation between science, society and politics is key to understand security expertise. This was also focus of Science and Technology studies (STS). However, there is plurality of perspectives on expertise – STS, International Relations, Security Studies, etc. (Berling and Bueger, 2015)

Habermas argued that expert cultures shape the conditions of social existence (Habermas, 1987). Karin Knorr Cetina was writing about "knowledge societies" (Knorr Cetina, 2001), and Bueger argued that experts play key role in International Relations (Bueger, 2014a). Research of Haas led to famous concept of epistemic communities (Adler and Haas 1992). Many scholars were then focused on the role of epistemic communities (experts) in decision-making and cooperation on international level (Adler and Haas, 1992; Slaughter, 2004; Risse-Kappen, 1994). Thus, security expertise was studied from various perspectives.

After the impasse of Strategic Studies in the 1990s, expertise became a theme in Security Studies, both in materialist (science bypassing knowledge deficit) and constructivist (knowledge and expertise as constitutive elements of security) perspective of Security Studies. (Berling and Bueger, 2015) Since 1990s, scholars were focused on the relation between academics of Security Studies and politics, and the possible impact of academic research on particular policies. (Berling and Bueger, 2015)

At the same time, STS was focused on the role of experts in societal decision-making. How knowledge (expertise) of natural sciences is used in political issues – public health, genetics, natural environment. Then, the focus shifted from natural sciences and included social sciences such as economics, law, etc., and scholars developed socio-political perspective on expertise. (Berling and Bueger, 2015)

Analysis of expertise needs indeed trans-disciplinary conversations and approach. IR is studying e.g. climate governance and development policy, and STS could be focused on

global markets. Thus, scholars of different fields use various concepts, and endeavor to link diverse studies. We could really analyze security expertise in different fields - social sciences, technology, natural sciences, economics, law, etc. (Berling and Bueger, 2015)

However, there is still no consensus on what does it mean to be expert, no general definition was established. In addition, there are many terms that we use interchangeably: intellectual, scientist, professional. This depends on context. Thus, it is a person possessing knowledge and/or authority to claim certain knowledge. (Berling and Bueger, 2015)

Expert status can be obtained by acquisition of skills and knowledge, or by attribution of status by audience (Berling and Bueger, 2015), or we could understand an expert as an actor who speaks in the name of someone or something (Pels, 2000; Turner, 2001), thus, he (or she) has a representative role of spokesperson, he speaks about general and absolute truth, or in the name of particular group (social groups, marginalized communities, or also entities such as humanity or nature). (Booth, 1994)

Traditionally experts are seen as individuals, but nowadays, expertise is studied mostly as organization or institution (e.g. Intergovernmental Panel on Climate Change or IPCC). Moreover, experts could be seen as forms of distributed agency – collectives with shared knowledge, and these could be epistemic communities studied by Haas. The focus of research is also on fields, networks, or communities of practice (Bigo, 2000, Slaughter, 2004, Adler, 2005). Another perspective is understanding of expertise as a process or mechanism, thus it is actor-network theory and approach. (Halfon, 2006; Bueger and Villumsen, 2007)

1.4 Research

Scholars dealing with issues as science, security expertise, society, climate change and politics have already studied them from indeed different perspectives. Lachapelle, Montpetit and Gauvin were focused on expert credibility and the role of their framing in our worldviews. According to them, the determining factor is congruity/dissonance between expert frames and our worldviews. The important factor is also context (culture, ideology, media). There are thus cultural biases in how a person perceives experts. (Lachapelle, Montpetit, and Gauvin, 2014)

Rehg was focused on complex collaborative expertise, thus cooperation among scientists and controversies, and used the case study of IPCC, particularly its reports. (Rehg, 2011) Dahan-Dalmedico was also focused on climate expertise of IPCC and its role in global governance. (Dahan-Dalmedico, 2008) Beck also studied international organizations such

as IPCC and IPBES. (Beck et col., 2014) Also Rietig was dealing with UNFCCC and IPCC. (Rietig, 2014)

Santos was focused on IPCC in her article as a securitizing agent of climate change. She linked climate change to human security and environmental security, and focused on small island states. (Santos, 2015) Trombetta focused on discourse, and mentioned IPCC as well, and other international bodies, regimes, and politicians. (Trombetta, 2008)

Discourse was also the main topic for Hayex and Knox-Hayes who compared US and EU discourses on climate change. (Hayes and Knox-Hayes, 2014) McDonald examined the case of Australia that is really inconsistent in issue of climate change. He studied gap between language (thus discourse) and political action. (McDonald, 2012) Smith, Mulhall, Hart and Gunstone focused on 10 high-profile Australian scientists and their public engagement. (Smith, Mulhall, Hart, and Gunstone, 2016)

Donner focused on public engagement by scientists in the Trump era. Scientists are people who are trusted in public life, and engagement in public is not so potentially harmful or risk for their reputation as they could think. However, scientists could be educated to stick to science and research, not to risk their reputation, and stay as neutral evaluators of evidence and seekers of truth. Engagement sometimes requires words, actions, generalizations and statements which could be seen by them as unscientific. (Donner, 2017)

How could scientist publicly engage without risking his reputation? Study by Kotcher, Myers, Vraga, Stenhouse, and Maibach tested six statements by fictional scientists. Their result was that these "scientific" statements were credible for their Facebook readers, and only in case of more controversial action, credibility was at risk. Thus, scientists have more freedom to engage in public and advocacy than they think. (Kotcher, Myers, Vraga, Stenhouse, and Maibach, 2017) Therefore, science and advocacy are not separate, and scientists could engage more freely.

Brysse, Oreskes, O´Reilly, and Oppenheimer showed that cultural norms of scientific community could influence scientists in assessing the impacts of climate change. They usually tend to be more conservative and stick to the science. (Brysse, Oreskes, O´Reilly and Oppenheimer, 2013) There are of course limits for scientists´ engagement, e.g. controversial technological responses such as geoengineering. (Scheer and Renn, 2014)

And also social media could lead to misinterpretation and misunderstanding of scientists´ public engagement. They have simply no control of how public would perceive

their words. (Donner, 2017) Scientists could also fear criticism of skeptics (Tosse, 2013), or blame media for public misunderstanding. (Besley and Nisbet, 2013)

Scientists also used to think that public could not adequately understand science and their research. (Burchell, 2007; Cook, Pieri and Robbins, 2004; Frewer et col., 2003) Other scholars point to the possibility that scientists perceive communication with non-scientists (public) as difficult, and even potentially dangerous because it could lead to misunderstanding. (Davies, 2008)

There is a dilemma in "writing security" also among scientists. By putting a label "security" on a certain issue, a scientist could create just the opposite of what he (or she) wanted. The security framing is thus very important and influential. (Rychnovská, Pasgaard, Berling, 2017) It seems that scientists frame their message to resonate with general public values and perceptions. (Davis and Russ, 2015) And they still understand communication with public as education of non-scientists.

Berling and Bueger studied deeply the concept of practical reflexivity of scientists. They were focused on the way how scientists should engage and react in concrete interactions with politicians. They explained three dilemmas (truth dilemma, autonomy of knowledge, contextual translation of knowledge), and provided six strategies to cope with them (honest broker, organic intellectual, collective intellectual, curious expert, situated expert, and liberal ironist). They based these strategies on concepts of scholars like Pielke, Gramsci, Bourdieu, Enloe, Haraway and Rorty. (Berling and Bueger, 2013) They studied dilemmas of scientists more deeply in their next articles, and elaborated more on how to use various strategies to cope with dilemmas. (Berling and Bueger, 2017)

Thus, public engagement is not simple for scientists. It depends on context and society. Society tends to deeply shape and influence science. (Funtowicz and Ravetz, 2003; Jasanoff, 2003; Nowotny, 2003) And scientists also need skills to know how to engage with public. (Smith, Mulhall, Hart and Gunstone, 2016)

Thus, research concerning science, security expertise and climate change is indeed broad. It often requires interdisciplinary approach and concepts of different fields of study to understand such complex and interdependent issues. Thus, also my research will require this type of approach, and understanding of broader social, scientific and political context in the Czech Republic.

2. Theory & Methodology

In this chapter, I will elaborate more deeply on concepts which are the most essential and key for my research such as security expertise (security expert), epistemic community and co-production. I will also state which methodological tools I have chosen for answering my research questions (such as expert interviews, document analysis and discourse analysis), and what are my reasons for this choice.

In the next chapter, I will use firstly a methodological tool of expert interviews to collect my data and then I will apply discourse analysis. Then, I will focus on my data from the perspective of concept of epistemic community to answer my first research question. Thereafter, I will try to answer my second research question by applying definition of concept of co-production. At the end, I will present my results, findings and arguments from the perspective of securitization and security expertise – I will compare my findings with Balzacq´s arguments and criticism of traditional perspective on securitization by Copenhagen school.

2.1 Status of security expert

As I have already mentioned above, Sheila Jasanoff claimed that there is a certain development and change in status of scientist in Western society, and they should nowadays have rather role of experts. (Jasanoff, 2005) Normally, security experts should explain the public reasons of problem or crisis, and propose what should be done to normalize situation. (Berling and Bueger, 2015) Expert should be engaged in government delegations and approach government representatives to gain access to negotiations. Engagement in political field and network is essentially important for his work. Experts should provide knowledge for policy-makers based on their research. (Rietig, 2014)

Therefore, also climatologists could be security experts, because climate change is now perceived as threat to many fields of security (environmental, societal, economic, human, etc.) by certain people. Climatologists could thus engage in politics, especially security politics, and provide necessary knowledge to politicians, or even try to politicize and securitize the issue of climate change. They could behave as security experts. However, also expert status of scientists is deeply context-related. Do politicians and society perceive scientists as neutral and trustworthy security experts? (Rietig, 2014) I will argue that it obviously depends on structural conditions.

As I have already mentioned, there is no clear and general definition of security expert. Thus, I will argue that also definition depends on specific circumstances of different societies. Scientific status and engagement in security politics is indeed context-related. (Rychnovská, Pasgaard, Berling, 2017) However, also public perception of what it means to be an expert depends on specific context and society. I would argue that people in different countries understand expert´s or scientist´s role differently (e.g. in Germany, Czech Republic, Slovakia).

Expertise, and knowledge as such, is influenced by political discourse and set in power structure and its specific practices. Knowledge is strongly related to dominant ideology and frames of a given society. Society influences subjectivity of scientists which is indeed important and determining factor because it is about the way how scientists understand themselves, their role in politics and society, whether they see themselves as security experts or they prefer to be apolitical. (Rychnovská, Pasgaard, and Berling, 2017) Thus, I would like to find out how Czech climatologists perceive themselves, and what is their role in society, because it should have impact on their behavior and public engagement.

However, science has also its own rules and expectations. There are certain profits and positions that could be obtained (Latour, 1983; Bourdieu, 2004), and this fact deeply influences scientists´ behavior because different types of capital require different practices, thus different behavior. (Berling, 2011)

There are different capitals that could be achieved by scientists (economic, cultural, etc.). (Berling, 2011) Economic capital are resources, cultural capital is knowledge, experiences, attitudes, command over cultural resources, social capital are networks, relationships, memberships, which command social resources, and symbolic capital is about prestige, honor, and other forms of recognition. (Salter, 2013)

I would like to examine the expert status of climatologists in Czech society. How do they perceive themselves? How do they see their role as scientist, and as security expert? I would argue that their perception is a product of co-production between science, society and politics. This perception also influences how they understand their role in society, whether they should engage publicly by writing articles or even securitizing issues from their research, or whether they should be conservative and stick to science.

I would also like to find out what type of capital is important and desired by Czech climatologists. What do they value the most? And what do they try to achieve? Number of academic articles, titles and citations, membership in prestigious institutions and

organizations, academic or public honor and reputation, or simply financial reward? Type of capital which is desired and object of their competition should deeply shape their behavior and decisions.

However, I would argue that political and social environment are the most influencing factors for their scientific and expert status. Do Czech society perceive scientists, especially climatologists, as trustworthy? Is there public skepticism and suspicion towards them?

Nowadays, in era of post-factual politics, public accepts scientific claims made by people without relevant knowledge. Other experts than climatologists fill the gap between scientists and public in issue such as climate change. These experts have mainly background in politics or journalism. There is increasing engagement of non-scientists who became trusted sources of information. And trust is the essential element in relationship between public and expertise. (Zajko, 2011)

Is climate change already de-scientized, especially in Czech Republic? Do we pay more attention to politicians and journalists than experts and climatologists? I would argue that public and political perception and opinion about issue such as climate change determine also the role and engagement of climatologists. I would also say that social, political and scientific consensus on climate change influence and co-produce each other. Thus, it is obvious that to answer my research questions it is necessary to focus also on status of climatologists in Czech society. I want to focus on expert status in interviews with climatologists themselves.

2.2 Three generations & epistemic communities

There are many concepts and approaches how to study security expertise. Bueger structured research of role and functions of expertise in international politics into three generations. He himself characterized this division as heuristic device. The first generation is focused on experts, epistemic communities and their direct causal impact on international politics. The second generation is influenced by post-structuralism and constructivism, thus, it studies expertise as discourse, and the way how this discourse constructs the international. And the third generation is focused on practices of expertise. (Bueger, 2014a)

The third generation mix the previous two approaches. This generation is empirical as the first one, and focused on epistemes as the second one. It analyses the way how epistemes and knowledge are created through practices. However, all generations provide

important perspectives and understandings. Every generation provides different view on the issue of expertise, and each of them has advantages as well as disadvantages. The challenge is to relate empirical side to normative one. (Bueger, 2014a) All these generations are of course evolving. And I will touch all of them by using concepts such as epistemic communities, discourse, and practice.

According to Haas, the main concept of the first generation and de facto the whole security expertise is epistemic community. It is a network of experts with knowledge in certain domain, who have authority and special position, and are able to interpret information in this domain for public policy (Haas, 1992). They share norms, beliefs, causal principles, understanding of validity, and endeavor to resolve an issue. (Haas, 1992)

Haas emphasized that epistemic communities are not NGOs, bureaucrats, or any working groups. He argued that these bodies lack epistemic authority which is essential for epistemic communities. However, this perception has changed, and scholars nowadays label these bodies and agencies as epistemic communities as well. (Becker and Hendriks, 2008; Howorth, 2004)

It is not so important whether the knowledge is true but whether it is shared. (Adler and Haas, 1992) The key to success is thus whether the community is coherent, and whether there is a consensus. The potential success of experts should be higher in case of apolitical and technical issues. However, the question is whether it is possible to find such issues. Nowadays, every problem or issue is theme of political debate, because possible solution could redistribute material or also symbolic resources (capital). Thus, someone could benefit, and other one could lose. (King, 2005)

And I think that it would be very useful to find out whether there is one coherent epistemic community concerning climate change in Czech Republic. If there is no consensus among climatologists, they then interpret the issue of climate change differently and there is obvious discrepancy. That could decrease their credibility, reputation and expert status in eyes of public. This could easily discourage them from engaging publicly or politically because they probably want to avoid skepticism and disagreements.

Politicians are normally not interested in science, knowledge or truth. They just want to have some legitimate and credible information and evidence for their decisions. Sometimes, they do not even understanding this knowledge. (Haas, 2004) If there is no coherent consensus about climate change, politicians could choose just few from many different opinions that they would present as the right ones. And I would argue that this

factor is stronger in some societies than in others, and I think that it is also influencing how climatologists see their position, and whether and how they engage in politics. I would like to obtain answers to these questions in expert interviews.

2.3 Co-production

Climate is now a global issue, but before it was rather seen as local weather problem. Nowadays, there are institutions that have both scientific and political authority in this domain. Thus, certain development in this field is more than obvious. And I would argue that the most useful concept to understand not only this development but the specific role of climate change experts in our society, is co-production. (Jasanoff, 2004)

Co-production simply means that natural and social orders are created together. The way how we understand world (natural and social), is also the way how we live. And thus, the way how we understand and use new technologies and scientific facts, are linked to the way how we live as well. Science is part of societal evolution. And scientific knowledge is a product of social construction, as well as scientific objects are also social objects. Science cannot be independent of power and culture, thus it is political. Therefore, scientific issues (e.g. climate change) could be securitized, and scientific agents (e.g. climatologists) could be securitizing actors. (Jasanoff, 2004)

We can identify two streams of STS literature concerning co-production, constitutive and interactional. Constitutive literature of co-production is focused on the way how stability for emergent phenomena can be created and maintained. Therefore, it is linked to metaphysical concerns and philosophy of science. Interactional approach which is more linked to epistemology, is focused on the question "how we know about something." (Jasanoff, 2004)

Knowledge is essential for functioning society, and has to have sufficient social support. Knowledge is present in all social practices, norms, discourses, institutions, etc. All what we label as social is influenced by knowledge, and vice versa. Natural and social orders reinforce each other, create stability or conditions for change. Significant changes in society influence knowledge, and thus also important changes in science has impact on the society. Co-production is also explaining what people value the most and how they understand responsibility for their inventions. (Jasanoff, 2004)

Co-production could mean making identities, institutions, discourses or representations. For example global narratives and understandings (discourses and

representations) of nature and society have different persuasive impact on distinct and specific societies. (Jasanoff, 2004) Narrative of climate change is different in Czech Republic, and in Germany. Reactions to this issue also vary in different countries. Climate could be seen as a mean to describe weather based on long term statistics, or also as security threat to all humanity.

Environmental problems such as climate change are transboundary. Thus, they require new international institutions and regimes. These institutions have been already studies and analyzed by many scholars from different perspective. Intergovernmental Panel on Climate Change (IPCC) is the most common object of research of scholars studying climate change, society and security politics. IPCC indeed helped to shift understanding of climate change as degradation of world natural environment. This led to need for international politics of climate and global political cooperation. New view on climate emerged. IPCC co-produced new arrangements of world nature and civil society. IPCC is a product, but also an agent of co-production. (Jasanoff, 2004)

Co-production also means making identities, thus role of scientists. I think that it is more than essential to focus on the specific role of climatologists in Czech society to understand their engagement in security politics. Climatologists were firstly seen as meteorologists, but nowadays, they could be seen also as securitizing actors and important security experts. However, I would argue that this perception of their role depends on specific society, this perception is co-produced. I think that the way how climatologists perceive their role in society is determining condition for their behavior.

I would like to work also with general discourses and narratives about climate change in Czech society and politics, because they are also parts of co-production. I suppose that they are determining factors for climatologists´ engagement in society and politics because social and political frames of issues influence scientific explanations and definitions. (Jasanoff, 2004, Forsyth, 2003). Co-production is very useful concept for my research because it could be identified and analyzed from different points (narratives, identities, institutions). I would like to touch just identities of climatologists, and ideally also the general narrative of climate change.

2.4 Methodology

For answering my research questions, I will use mainly expert interviews (to collect data) and discourse analysis (to analyze data). I would like to use also methods of

International political sociology which is connected with anthropology, sociology, gender studies, their concepts and theories. I think that these methods could be potentially useful for my research. IPS is focused on everyday discursive and non-discursive practices that provide us more complex view on making of security and threats. IPS is focused on how security is formed by practices of state and non-state actors, not only through discourse of political elites, but also by other important factors such as bureaucratic apparatus. (Rychnovská and Daniel, 2015)

There is a lot of criticism for traditional understanding of securitization, important concept of Security Studies. Thierry Balzacq criticized securitization as a speech act. He highlighted that it is necessary to focus on context, audience and securitizing agent. (Balzacq, 2005) I will deal with his criticism later on.

IPS scholars also claim that securitization is not only in hands of political elites, but the whole social process is more complex and based on dispersed state and non-state bureaucratic security agents, their mutual relations, practices and tools. Thus, it is a complex view on making of security and threats. (Rychnovská and Daniel, 2015)

Making security does not only include discursive acts, but also dispersed practices, technologies, tools that create specific social environment and circumstances for development of certain understanding of security threats and security as such, and to describe these practices, it is essential to use certain concepts of field which are habitus, dispositif and assemblage. (Rychnovská and Daniel, 2015)

Field is a social environment which is structured and hierarchical, thus its actors have unequal positions and try to achieve certain type of capital which define these positions (prestige, economic capital, political influence), and provide resources for practical actions. Field and its rules create certain social understanding of social situation and reactions to them (Bigo, 2011, Bourdieu and Waquant, 1992, Salter, 2013)

Habitus is a behavior of individuals and their subjective understanding of certain social field, or logic of behavior based on position of actor in certain field and his previous experiences, and also the will to achieve certain capital. Pouliot use concept of habitus and explains why scientist understands world differently than politicians. (Pouliot, 2008) Also securitization is based on habitus and certain rules of field. (Bourdieu, 1977; Rychnovská and Daniel, 2017)

Dispositif explains concrete structure of certain sphere of social life, and results of actions of actors. And assemblage is set of heterogenous and autonomous elements that

function together and whose existence have specific effect (e.g. power effect). (Rychnovská and Daniel, 2017). I suppose that these concepts could be potentially useful for my research because I will try to study and understand a certain field (science, climatologists), and its characteristics (rules, type of desired capital), thus habitus.

Therefore, field analysis´ object are informal and formal practices of certain structured, governed objective social sphere that has shared logic and kind of rules of the game. Field analysis was firstly proposed by Bourdieu. This type of analysis really starts from what is than what should be (Salter, 2013). And I think that this kind of analysis could be potentially useful for my research.

Bueger described similar analytical methods and research that named praxiography. Praxiography is also closer to everyday activities and context-driven, and uses analytical tools such as participant observation, expert interviews, and document analysis. Bueger emphasized that knowledge and practice are linked. Social, cultural and political domains are based on knowledge that is not often verbalized. Practice is unit of analysis because it is a carrier of knowledge. (Bueger, 2014b)

Thus, through practice, we can understand particular field and its hidden knowledge. (Bueger, 2014b) And I would argue that it is possible to understand engagement of climatologists as type of practice that is based on specific knowledge (their perception of field, expert status, society and politics). This type of research and strategy of data collection also resonates with the third generation of security expertise which is focused on practices, I would argue. In addition, practices are context-related, thus co-produced. These are the reasons why I find this type of analysis as potentially useful for my research.

Therefore, I have decided to use these methods, mainly expert interviews, discourse analysis and potentially field analysis. I will structure my analysis into two parts. The first one will be dealing with engagement of Czech climatologists. I will try to find out how they engage publicly and in politics, and whether they form one coherent scientific community which is necessary for successful engagement. In this part, I will present my data and observations from expert interviews, and I will use Haas´ concept of epistemic community. I will try to apply its definition (a network of experts with shared knowledge and authority) on Czech climatologists – this will include a field analysis of climatologists as community. The first part should answer my first research question: How climate change experts (climatologists, scientists, academics, etc.) engage publically and in (security) politics of climate change in Czech Republic?

The second part will be more complex. I will try to explain why climatologists engage or not. This part will be dealing with my second research question. I will endeavor to identify structural conditions of their engagement or disengagement. For this purpose, I will use Jasanoff´s concept of co-production. I will apply definition of co-production – mutual relationship between science (knowledge), society (culture) and politics (power) – on this case. Thus, I will structure this part into more subsections. I will be focused on context in which Czech scientists operate. Based on co-production, I have decided to focus on society, politics, and media. This would provide me complex picture of structural conditions in which Czech climatologists operate. That would be also the reason of their engagement or disengagement.

In the end, I will sum up my findings and analysis, and compare them with concepts of security expertise and securitization (mainly Balzacq´s criticism of securitization). I presuppose that structural conditions are determining and essential for successful engagement in security politics.

I decided to collect data through expert interviews with some climatologists what would provide me important insights and understandings of this scientific field, but also role of climatologists in Czech society, and the ways they engage (and whether they engage) in politics, mainly security politics. Then, I will do also document analysis (e.g. climatologists´ newspaper and online articles) to complete these data (climatologists´ answers) to provide more complex insight into this issue. I will use documents such as newspaper articles. I will present my data (their answers, my findings and observations during expert interviews) in the first part.

I will apply discourse analysis on these data, and interpret them from perspective of concepts that I have mentioned above (co-production, epistemic communities, security expertise) to answer my research questions concerning engagement of climatologists in Czech society and to determine structural conditions of their engagement or disengagement in security politics.

I will contact climatologists based on recommendations of Klára Sutlovičová who works in independent analytical center Glopolis focused on global challenges and the ways, how the Czech republic and the European Union react to them. She is responsible for section of natural environment and energetics, thus she is in contact with Czech climatologists and knows this community very well.

I had prepared questions for expert interviews that I have consulted with my adviser. They should provide me important and essential data that I will be analyzing to answer my research questions. We tried to relate them with concepts that I want to apply. The important part would be also my personal observations during interviews.

How did you become scientist? Why did you choose climatology?

This question is just to start conversation between me and my respondent. I want him or her to be relaxed and comfortable. I would not like to start with anything more serious which could "scare" them. This way, they will be maybe more open during the interview and provide me more personal opinions and insights.

What do you and your colleagues (other climatologists) think about climate change? Is there a consensus or disagreement? Do Czech climatologists form a coherent community?

I would like to find out whether there is one coherent community of climatologists in Czech society. Is there at least consensus on this topic, or do they challenge each other? If there are various and different opinions on climate change, whose expertise and which knowledge is trustworthy and valid? And whose opinions politicians tend to trust and use in decision-making?

Do climatologists agree in the way how politicians should challenge climate change?

This question is also related to the same issues as the first one.

Are there any active climatologists who try to engage in politics? Why do you think they do this?

I would like to find out whether they identify and perceive some scientists as active ones. How do they perceive their colleagues? Do they agree with public engagement of others or not?

Why have certain scientists more impact on politicians than others?

This is also related with their perception of other scientists and the issues of epistemic community.

How do you understand your role as scientist and climatologist in Czech Republic? What does it mean to be scientist in Czech Republic?

This question should show their perception and subjective view on their own status. Do they perceive their role in society as political or apolitical, social or purely scientific? Do they see themselves as security experts? Do they try to engage in security politics, or at least engage publicly (e.g. in media)? Or do they stay more conservative and stick to the science

and research? I would like to relate this question with concept of security expertise, but also co-production.

Do you think that scientist should not engage publicly, and rather stick to the research? Why?

This question is also related with their perception of their role in society. Are they conservative scientists? Do they think that there are another actors who should engage publicly and politically? This question is complementary to the previous one.

Do you think that scientists should try to change opinion of politicians and ordinary people about climate change? Why? How?

If they want to change the public opinion, they probably perceive it as wrong. They possibly politicize and securitize this issue unconsciously. I think that indeed important and interesting part of my research would be also participant observation that was described by Bueger. Are Czech scientists optimistic or pessimistic towards public engagement? Are they even disappointed from current situation? Which words do they use when they talk about public and politics?

What is the most important for you as scientist? Articles in peer-reviewed journals or in popular magazines? Number of academic titles and citations, or participation in TV/radio debates? Honor of your colleagues, politicians or public? Why?

I would like to find out what is their desired capital. Does the type of capital vary? Do different scientists value different types of capital? I think that there could be also relationship between type of capital and their public engagement. This could be connected also with the concept of habitus of their social field.

Do you think that people and politicians should be concerned about climate change and react to this challenge?

This question is also related to their engagement or disengagement.

What is the attitude of politicians and public towards climate change? Is it appropriate? Do you try to change it? How?

It would be very essential to understand how these scientists perceive opinion of politicians and public concerning the issue they are studying. How do they perceive global narrative? Do they see it as more positive or negative towards their research and work? If scientists think that politicians do not see climate change as important issue, it could discourage them from public engagement. Or the opposite can be true, and they can be

motivated to engage more, inform public and politicize this issue. This question is related to their engagement or disengagement, but also to the context in which they operate.

Do you cooperate with political/state bodies, agencies or organizations? How? Or do you think that engagement in politics is duty of other people? Why?

This question is focused just on engagement in political field. Are they active in decision-making? Is their research used by politicians for legitimizing their decisions? Do they participate in any expert groups, panels, meetings or working groups? Do they help to create any reports for politicians?

How to explain that climate change is an important issue?

I would like to find out whether they think that informing people and politicians is their duty.

Do you engage publicly? How? (Do you publish articles in any popular magazines? Do you participate on radio/TV shows? Do you talk about climate change before various audiences, e.g. in school?) Why this way?

I want to reveal what is their concrete public engagement, and what type of engagement (what audience and media channel) do they prefer. And what are their personal reasons for this engagement (or passivity)? Do they fully understand their own reasons, or are there any reasons that are hidden also for them (e.g. impact of society)? I am quite curious what will be their answers on this direct question about engagement, and whether it would resonate and correspond with findings of my analysis.

Do you rather engage on international level (scientific or expert IOs) and before foreign public?

I suppose that some scientists do not engage publicly just because of Czech society (maybe Czech politicians). I think that it is possible that they try to engage on different level (international) or before different public (the foreign one).

Are you active on social media? Do you try to inform others about climate change this way?

I think that social media and cyber space could be perceived as the most safe and comfortable type of media and mean of communication. They could express their opinions freely without being obliged to personally face skepticism.

What type of reaction is the most common to your public statements (engagement)?

I would argue that type of reaction could illustrate public opinion about climate change as issue, but also about scientists as such. If the reaction is indeed aggressive, it could have negative impact on scientist, and discourage him from public engagement.

I know that the number of questions is high and some of them could seem to be similar. However, I want to obtain complex and more detailed information to be able to answer my research questions appropriately and analyze the whole issue more deeply.

3. Analysis

My research questions require dealing with various fields of study and different concepts. Firstly, I will be focused on scientific field, and then I will relate science (knowledge), politics (power) and society (culture). Thus, I will combine concepts from STS, IR and Security Studies to answer my research questions indeed appropriately and deeply. This complexity is rather advantage than disadvantage because I am able to enrich Security Studies in more unconventional and original way.

I will structure my analysis into two parts. In the first part, I will present my data – answers of my respondents, my observations and findings, documents such as articles, etc. And I will answer my first research question by using discourse analysis: How climate change experts (climatologists, scientists, academics, etc.) engage publically and in (security) politics of climate change in Czech Republic?

Thus, in this part, I will be focused on their engagement or disengagement, and whether they form one coherent community. I will argue that if there was one coherent community of scientists who present and share one knowledge, they would have more opportunities and will to engage. I will use discourse analysis and Haas´ concept of epistemic community. I will try to apply its definition on community of Czech climatologists. Thus, in the first part, I will be focused on the activities and community of climatologists itself.

In the second part, I will go beyond the first research question, and I will try to identify and analyze structural conditions of their engagement or disengagement. The second part will be dealing with my second research question: What are the structural conditions for (dis)engagement of scientists in the Czech Republic? This should be essential to deeply understand the whole issue and it will have even impact on security expertise and securitization as such. I presuppose that structural conditions are crucially important and determining. This is the reason why I will combine STS, IR and Security Studies.

I will use concept of co-production because it relates politics (power), science (knowledge) and society (culture), and it endeavors to explain how these fields influence each other. Thus, I will structure the second part into more subsections. These will be focused on media, politics, and society. I have decided to focus also on media because my respondents identified them as important actor. Therefore, these fields represent structural conditions for scientists´ engagement in society and politics. The second part would provide

complex picture of context and structural conditions in which climatologists operate. I will try to apply definition of co-production on the mutual relationship between science and media, politics, and society.

In the end, I will look at my findings from the perspective of Security Studies – security expertise and securitization. I will compare my findings and arguments with Balzacq´s criticism of traditional securitization of Copenhagen school. Balzacq´s criticism is dealing mainly with context, actors and audience. Therefore, I will argue that my findings could be used as evidence for Balzacq´s arguments.

I will argue that this type of untraditional research is indeed helpful to understand Security Studies more deeply and from different point of view. It gives us more complex picture and explain why actors that should engage in security politics are not doing so.

3.1 THE FIRST PART: ENGAGEMENT IN SECURITY POLITICS & EPISTEMIC COMMUNITY

In this part, I will answer my research question: How climate change experts (climatologists, scientists, academics, etc.) engage publically and in (security) politics of climate change in Czech Republic? I will be focused on their engagement and whether they form one epistemic community.

In this part, I will present data and findings from my expert interviews. I consulted my research with analytic of Glopolis (think tank focused on global challenges, and also climate change), Klára Sutlovičová. Then, I contacted several Czech climatologists. However, I went beyond the list of names that Sutlovičová recommended me. Some of my respondents recommended me to contact others and gave me more e-mail addresses.

Finally, I had a sample of eleven climatologists from different institutions (Czech hydro-meteorological institution, Charles University, Mendel University in Brno, CzechGlobe) who agreed to give me an interview. I have decided to not name them in my Master´s Thesis and rather label the interviews by numbers (Respondent No. 1 to 11). Interviews were in Czech language, and thus I translated them into English.

It is obvious that most of Czech climatologists are not so active publicly, and they generally do not engage in politics (not at all in security politics). This is my argument and answer to my research question. However, it is necessary to study and analyze the structural

conditions to understand why these actors are not so active in the Czech Republic. Therefore, I will be focused on structural conditions of their (dis)engagement in the second part.

In this part, I will present data and findings which are supportive for such an argument – some direct citations from my expert interviews, paraphrases and my personal observations. I will use discourse analysis.

I will also show that Czech climatologists do not form a coherent community which is necessary to provide security expertise and to eventually securitize the topic. However, I will argue that they do form more different communities. I will argue that it is possible to identify a community of climatologists based on an institution in which they operate. Type of institution influences whether they engage or not, and how they perceive their status and role. I will use Haas´ concept of epistemic community. I will try to identify whether climatologists share one common knowledge and form a network – which is Haas´ definition. (Adler and Haas, 1992)

3.1.1 ENGAGEMENT: Do climatologists engage in security politics? Do they engage at least publicly?

In this subsection, I will present answer to my first research question based on the findings during expert interviews: Most of Czech climatologists do not engage in security politics, some of them are active at least publicly. However, I will argue that situation is improving.

3.1.1.1 Public engagement

Based on expert interviews, I would argue that climatologists prefer to engage on rather societal level than political one. It seems to me that they perceive more important (and possible) to influence general opinion of ordinary people and prevalent discourse on climate change. They want to educate public, because public choose their political representatives who then make political decisions.

Climatologists generally do not hesitate to engage publicly, if they have opportunity. If they are asked to present and explain their opinions in television discussion, in serious program dealing with certain issue or phenomenon, they normally do not refuse. They are quite willing to go and discuss the issue of climate change or their consequences which are relevant for the Czech Republic such as drought, extreme weather or floods.

An obstacle could be a biased moderator or moderator who is not really interested in the issue. He or she has just to fulfill a plan of topics and cover this issue. However, it is possible to find out some relevant TV debate in which climatologists were engaged instead of non-climatologists who are sometimes preferred in certain TV stations or other media.

Online news portals or the printed newspaper tend to sometimes ask a climatologist for an interview. As I will mention later on, some of them could have negative previous experiences with certain journalists. However, generally they are willing to be asked few questions as well. My research is de facto based on such interviews, and my personal experience is that they were very sympathetic and did not hesitate to reply to my email.

My personal experience is de facto an evidence of their willingness to engage publicly. It could be somehow conditioned by the fact that I do academic research, however, I was also asking them few questions which could be used by a journalist in different type of interview as well.

In addition, many of them stressed the fact that they have to deal with the lack of time. Despite this fact, they spent some time answering my questions – between half an hour - one hour. To be honest, their willingness surprised me because I have few previous experience with doing interviews, thus, I know how it is sometimes difficult.

Another influential fact could be that I am a student. Many of them give lectures and prefer this type of audience – young and open-minded students who are willing to listen to them. They prefer this type of engagement because of possible very fruitful and constructive discussion that is not based on some business or other interests.

Thus, Czech climatologists are generally willing to be active, but they have to be provided such an opportunity. They generally do not hesitate to go in television, provide interview or have a lecture. I would say that they prefer public engagement than the political one.

3.1.1.2 Political engagement

There is, however, a certain kind of political engagement too. There are for example lectures in Senate or before audience with people from agriculture or business, and this could be more difficult and challenging. However, some of them do it because they perceive this as important part, and a kind of enlightenment of society which can have later impact on politicians.

This is a kind of indirect political engagement. I would also argue that this could be a hidden or indirect strategy. Some of climatologists do not definitely perceive public engagement in this way. They just engage because they see it as important and possible for them. However, I would argue that this perception is caused by the general and prevalent context (structural conditions) in society. They would maybe engage on higher level if the context would be more suitable and convenient for such an engagement.

I would argue that this could be understood and seen as indirect security expertise. They provide and offer their knowledge or even opinions, however, not on political level but just on societal level. I would say that security expertise of climate change is evolving. Few years ago, not only this type and degree of engagement would be possible for them because of circumstances and public discourse. However, I will explain my argument deeply later on.

I will argue that situation is improving. As I will be writing in the second part, public opinion is slightly shifting, media is covering climate change a little more and they use different frames, and also politicians started to see it as political issue, currently however, rather on international level.

Moreover, many of my respondents have already experiences with cooperation with state bodies and decision-makers. They are engaged in projects – for example projects focused on urban planning. Some of them cooperate with Ministry of Environment, Ministry of economy, Ministry of agriculture, or others.

They helped them to write for example the Adaptation Strategy of the Czech Republic or another very important documents that state how the Czech Republic will tackle the issue of climate change and which measures will be applied to adopt or mitigate its consequences.

On the other hand, some of my respondents said me that they were also engaged in shaping and framing this document, however, in the way that they were questioning it, looking for critical or weak parts, and asking for some corrections, revisions and amendments. I would say that this type of engagement could be also framed and understood as security expertise, regarding the specific and unique context of the Czech Republic.

Recently, media also published very interesting information. It became more or less normal and usual that foreign scientists publish reports about dangerous consequences of climate change, warn public and call for immediate political decisions and appropriate measures. And this year, the Czech scientists did the same thing. (Mrázová, 2018)

Some of Czech scientists united together and presented their view on climate change. I would say that this is an ideal type of scientists´ engagement. They presented themselves as one coherent community possessing certain knowledge which is very relevant for public and decision-makers. They were, thus, perceived as authoritative and objective, and knowledge which they presented, was understood by general public as more important and relevant.

In such an ideal situation, co-production would function mutually. Jasanoff´s definition would be fulfilled, and all elements – society (culture), politics (power), and science (knowledge) – would be interdependent, and mutually influence and shape each other. Knowledge of scientists would be perceived as important and influential for our way or life and interests. Politicians would understand its importance as well, and do necessary decisions and measures.

I would argue that situation is evolving in this direction. The very influential condition could be the fact that we have to challenge still more and more dangerous consequences of climate change – extreme weather, droughts, floods, etc. And this will be probably even worse. Unfortunately, we start to perceive climate change as an important issue that should be not only politicized but also securitized only thanks to its dangerous consequences – the threat that should be avoid.

Currently, Czech climatologists do not explicitly engage in security politics. Some of them were rather surprised that my research is focused on politics and I want to do expert interviews with scientists. There is however a certain type of political engagement and the situation is improving.

3.1.2 EPISTEMIC COMMUNITY: One or more of them?

However, I would argue that the most important is to determine the reason why climatologists engage this way to understand the whole issue and enrich Security Studies. Firstly, I want to analyze only scientific field as such and find out whether climatologists form one coherent community. Later on, I will focus on structural conditions to provide the complex understanding of this issue. The most essential characteristic of epistemic community is whether they create a network and whether they share knowledge. I will argue that there is not one coherent community, but many of them which determine whether and how they engage.

3.1.2.1 Shared knowledge

According to scholars, science should influence society and politics and vice versa. In the next part, I will analyze the whole context – societal (cultural), political, and also role of media – and its impact on science. However, this relationship should be mutual, and it would be very essential and important to analyze also scientific field itself.

I would like to apply main concept of the first generation of security expertise – epistemic community. This concept was stated by Haas who characterized it as a network of experts in specific domain. These experts have authority and extraordinary position, and they should provide their knowledge and interpret it in understandable way for public and politics. These experts share norms, beliefs, understanding of validity, causal principles. They are also supposed to resolve the issue. (Haas, 1992) I focused on these premises during my interviews with scientists.

I would argue that Haas´ concept is the cornerstone of security expertise, because later on, scholars tended to base their hypothesis and arguments on Haas´ concepts, or they modified the concept as such. For example, Haas´ emphasized that NGOs, bureaucrats, or any working groups are not epistemic communities. He was focused mainly on scientific field – real experts with knowledge. However, current scholars tend to include also these fields in the concept of epistemic communities, and analyze their role in security expertise. (Marier, 2008; Becker and Hendriks, 2008; Howorth, 2004)

I use Haas´ concept because I see it as the cornerstone of security expertise. This specific type of community should precisely fit into his thoughts, premises, and arguments. Before my expert interviews, I assumed that scientists exactly form a kind of network of experts in one domain (climatology) who are seen as authoritative and objective, and thus, they provide and explain their knowledge in understandable way for public and politicians. I assumed as well that they share this knowledge, principles, norms and beliefs.

Also Adler and Haas emphasized that knowledge of epistemic community should be shared. (Adler and Haas, 1992) They identify it as determining factor for success of this community. Thus, this is the reason why I focused also on questions such as whether scientists share one knowledge, whether they form a coherent community, whether there is a consensus among them. Based on thought of Adler and Haas, my assumption was that if there is a consensus, they should be accepted by society and politicians.

On the other hand, if they do not form a coherent community with shared knowledge, this should be an important obstacle for society and politicians to see them as authoritative

and objective. Politicians would be less willing to listen to scientists and perceive them as experts. This situation could provide space for non-climatologists and their knowledge, and thus, these pseudo-experts could be more accepted by society and politicians. This would lead to misunderstandings of real experts (climatologists) by public, negatively influence their status as security experts. I would argue that my research validated these assumptions as correct.

Most of my respondents agreed that there is a certain degree of consensus on climate change. They explained me that there are not many climatologists in the Czech Republic, and they more or less agree that climate change is happening, it is an existing and real phenomenon. However, I understood that they slightly differ in their opinions on human impact, and the measures which should be used to tackle this problem. I had also impression that some of them perceived climate change as an urgent and dangerous issue, and the other ones talked about it as another climatological phenomenon that will be somehow resolved.

Respondent No. 11 explained me that he perceives an important gap between older and younger scientists in this field. He said that the older ones tend to underestimate the issue, while the younger one see it as more urgent and important. However, in his opinion, nowadays the young generation of scientists is too focused on one specific field, phenomenon, or issue, that they do not see broader and complex picture.

There are thousands of scientific articles during a year, and it is de facto impossible to read and study every new study which is published. However, as he stressed, this could lead to also scientific misunderstanding or subjectivity. A scientist could just choose, analyze and present articles which are supporting his arguments, and neglect the other ones that would question his opinions.

Respondent No. 6 stressed the similar problem when he said certain scientists lack more complex knowledge. In his opinion, they are focused on related but marginal issues, and not climatology or climate change as such. However, they engage very actively. He labeled them as alarmists and argued that they use this method of choosing just certain articles. According to him, they present only these articles to public and neglect the ones that would question their thoughts.

Research on climate change is very broad and complex, and mainly, it is continuous. There is a broad consensus of the fact that climate change is happening and existing. However, also scientists themselves could differ in certain issues. One respondent told me that they for example differ in question of how important is human impact on climate change.

I would argue that Czech climatologists do not form one coherent community. Despite the fact that there is a general consensus, they do not share one complex and broad knowledge, or norms, principles and beliefs. Individual climatologists indeed differ.

3.1.2.2 Not one coherent epistemic community

I would argue that there is not one coherent community and field of scientists in the Czech Republic. There are more of them. During the interviews, I understood that my respondents were situated in different fields with different hierarchy, norms and structure. I also noticed that respondents from one institution tended to answer my questions in quite similar way. For example, when I was interviewing climatologists from a university, I understood that they have no time for public engagement. On the other hand, respondents from another institution focused also on informing and presenting the issue of climate change to society told me that engagement in indeed important part of their work – these respondents did not tend to use words as "alarmists" or "activists".

I would argue that it is obvious that there are more social fields of climatologists – more epistemic communities in the Czech Republic which fulfil Haas´ definition of epistemic community – they form a network and share knowledge. I have identify at least three of them. Answers of respondents from one institution were indeed similar. Thus, I would argue that their public or political engagement, their behavior and their opinions are deeply influenced by environment in which they are situated.

Each field has its own structure and focus. A university is deeply oriented on research, expert articles, education, etc. Respondents from university have not much or even any time to engage publicly. They have indeed many more other duties which they have to fulfill. Some of them answered me that they would like to engage publicly, but they have no time and mainly their assessment is not based on public engagement or something similar. They would go to TV or write an article for newspaper, however, it would not mean any benefit for them.

They have to write academic and expert articles, and their university activities require all of their time. In addition, when they see the context – how public and politicians perceive climate change, what is the discourse, how media present it – they are not very interested in public engagement. This was my impression.

On the other side, climatologists from e.g. CzechGlobe are focused on also presenting their research to public and try to correct the misunderstanding and discourse. I would say

that respondents from this institute are among the most active ones. I would say that some of them even perceive public engagement as indeed important part of their work – they are very active also on social networks.

CHMI is another institution with its rules and structure. These climatologists are somehow engaged also on political level. This institution is normally asked to provide an analysis or reports which are supposed to be used by politicians. Thus, engagement is something which is part of their work and assessment.

I would argue that type of field determines what the preferred capital is for climatologists. I assumed that they would try to achieve different type of capital – economic, social, cultural – based on their individual preferences. However, it was interesting that all of them de facto agreed. They emphasized that a scientist should do research and present the results. That is the cornerstone of what does it mean to be scientist, what is his role. However, they evaluated public and political engagement differently.

Most of them said that public engagement is important. Only some of them stressed it as indeed essential part of their work. Others perceive it as more or less additional activity. It again depended on where they do their research. I indeed appreciated this type of analysis (field analysis) because it indicates that scientists are deeply influenced by an institution – its atmosphere, rules, structure, types of assessment – and thus, types of preferred capital.

However, these fields are as well influenced by context (structural conditions). Respondents from university explained me that assessment of foreign universities are different. They are not so focused on academic work, and they sometimes even appreciate also public engagement, and see it as important activity.

Therefore, I would argue that climatologists themselves are firstly influenced by institution where they work. They adapt their behavior and priorities according to this institution, and they also manage their time and activities based on the priorities set by the institution. I would argue that a specific field and environment is as influential element, which de facto socialize them, as another determining elements such as societal and political context. All of them affect their behavior and perception – and mainly, all of them affect whether and how they publicly engage.

3.1.2.3 How to tackle climate change

Dealing with the concept of epistemic communities, Haas also stressed that these experts should try to resolve the issue. However, many of respondents said that this is not

the task of climatologists but rather goal for policy-makers. Moreover, there is obviously lack of consensus among climatologists how to tackle issue of climate change.

Some of them provided me certain ways how humanity could adapt and mitigate this phenomenon. However, they mostly emphasized that those were just their opinions. The question of how to resolve the issue of climate change should be, according to most of them, resolved by another experts such as economists or different stakeholders.

Climate change is indeed a very broad and complex phenomenon that has consequences in various fields. Adaptive measures and mitigation could mean also redistribution of resources in society. Someone could benefit, but someone could lose. I think that this fact is understood by scientists.

Most of them do not want to engage this way. They would like to avoid talking about measures which are mostly unpopular. I had impression that some of them fear certain consequences or misunderstandings, or maybe negative impact on their personality. Most of them do not want to be labeled as alarmists, or ecologists. I would argue that this is related with previous experiences and period of climaskepticism.

Thus, most of climatologists are focused on their research. Some of them try to present the results, sometimes even educate public opinions and correct the misunderstandings. However, they mostly try to avoid discussions about specific measures which are unpopular. Many of them perceive such engagement as non-scientific.

Moreover, when we deal with more specific issues (energy security, waste, water security, etc.), their opinions vary. As I anticipated, this fact allows other experts such as ecologists and pseudo non-climatologists to talk about climate change publicly instead of climatologists themselves.

I would agree with scholars who argued that epistemic communities could be formed by non-scientific fields such as NGOs, bureaucrats, etc. At least in the Czech Republic, I would say that security experts come from different fields than scientific ones. On one hand, some scientists are engaged and provide their analysis and knowledge to policy-makers. However, they do not try to securitize the issue and propose possible measures as one coherent community. This could rather happen on the individual level, or level of one specific field (one institution).

On the other hand, there are NGOs and other bodies who are more successful in providing knowledge and their security expertise than climatologists. They fit into Haas´ definition of epistemic community and security expertise better than the ones who should be

security experts. Thus, I would argue that Haas´ concept is valid but it would be used on more different types of actors and institutions.

Climatologists are divided into more epistemic communities which deeply influence them. They form separate networks of authorities who share certain norms, knowledge and beliefs. Type of epistemic community (institution) determines how and whether they engage. This fact worsens the possibility of their successful engagement because they do not act and are not perceived as one coherent community. By analyzing the field of Czech climatologists and using the concept of epistemic community, we could more deeply understand the circumstances and context – certain structural conditions for their engagement.

There are obviously important conditions rooted in the scientific field and community as such that could be motivating or discouraging for climatologists´ engagement and security expert status. It is crucial to focus on epistemic community as such to understand security expertise in certain specific context and country.

In the next part, I will focus on structural conditions behind engagement or disengagement of Czech climatologists in security politics. I will analyze media, society and politics, and use co-production by Sheila Jasanoff. I will try to identify whether these fields influence each other because Jasanoff explained in her works that co-production means mutual relationship between science (knowledge), society (culture) and politics (power). I will thus provide a complex picture of Czech context, and also its impact on security expertise, and securitization as such.

3.2 THE SECOND PART: STRUCTURAL CONDITIONS

In the first part, I have provided an answer for my first research question: How climate change experts (climatologists, scientists, academics, etc.) engage publically and in (security) politics of climate change in Czech Republic? Based on my expert interviews, I argued that most of Czech climatologists do not engage in security politics or even publicly. I supported my answer by data from my research (interviews with climatologists themselves).

I have also argued that Czech climatologists do not form one coherent community which could enable them to present their research and findings more easily. Instead of one

epistemic community, there are more of them based on the type of institution in which they operate.

In the second part, I will go beyond my first research question, and I will try to explore the structural conditions of the public (dis)engagement of scientists. Thus, I will be dealing with my second research question: What are the structural conditions for (dis)engagement of scientists in the Czech Republic? This part will be divided into subsections focused on media, society, and politics. They together form one specific Czech context which is very influential for engagement of climatologists. I will use Jasanoff´s concept of co-production, and I will try to apply its definition on current situation to analyze whether there is a mutual relationship between these fields and science. I will use discourse analysis.

I will use my findings, citations, and observations from expert interviews and present also articles and other important data. I want to show the complex picture composed from various different parts. I will argue that these fields (media, society and politics) are influencing each other, thus they are co-produced. I will argue that co-production between science and these fields are deeply determining whether climatologists do or do not engage, and whether this engagement is successful. I will argue that structural conditions (context) are rather negative and discouraging climatologists from their public engagement and engagement in security politics. However, I will claim that the situation is improving when we compare current context and the one in the era of former president Václav Klaus.

In the end, I will present my findings and arguments from the perspective of Security Studies. I will argue that structural conditions (specific context) is essentially important for security expertise and securitization. I will argue that my argument resonate with Balzacq´s criticism of traditional understanding of securitization.

3.2.1 SOCIETY – "It´s for nothing, it´s for nothing..."

In this subsection, I will be focused on society and its impact on climatologists. Before I went to interview scientists I asked myself many questions: Do Czech society perceive scientists, especially climatologists, as trustworthy? Is there public skepticism towards them? How do climatologists themselves perceive their status in society? Social environment should be very influential and determining for their position and status.

I would argue that people perceive climatology differently than biology or mathematics, because we deal and talk about weather daily. Thus, we tend to underestimate

the role of climatologists and misunderstand the issue of climate change. Current structural conditions are also deeply influenced by previous era of climaskepticism and the way how people perceive climatologists. There are many other important conditions such as individual interests (they could lead to NIMBY effect). In addition, scientists often do not know how to communicate with public. I would argue that societal conditions are rather discouraging for public engagement.

3.2.1.1 "Everyone is climatologist"

"It´s very easy to talk about weather and climate because it is very fluid, and everybody is interested in weather. Every morning when you wake up, you don´t realize it, but you think about weather. You look through the window to decide how to dress," said Respondent No. 5. "People who watch weather forecasts like to say: ´They made mistake again.´ However, they do not talk about weather but about climate." Respondent No. 5 explained me that people don´t mind that there is no relation between daily weather change and climate. Of course, there is some kind of relation, but it is essential to differentiate between these two terms.

"Climate determines what and how people do and can do. We definitely understand that it is impossible to grow wine in Scandinavia or sugar beet in the Mediterranean region. However, we tend to be surprised that change of long-term averages of temperature which is only about few tenths of degree, or distribution of rainfalls during the year, can cause serious problems for us. That is also climatology," said Respondent No. 3.

Thus, weather is something very essential and important for everyone and we do not even realize that. However, people tend to confuse terms such as weather and climate. Then they tend to think that global warming is not happening because it´s cold outside. Many of us have deep misunderstanding of this issue. I would say that climatology is special scientific field because everyone thinks he knows the weather, because it´s easy to look through the window. However, we do not understand many difficult scientific concepts, terms and models.

Thus, because of this I would say that climatology is exceptional among other natural sciences such as biology, physics or mathematics. I would compare its status in society to social sciences – quite publicly underestimated field of study. This is my impression based on interviews. However, the way how we see climatology influence also the way how we perceive climatologists – as people forecasting weather.

"Yes, it is important to communicate with public. Climatology is complex science, and many people think they understand it. We could often read that climatologists forecast climate decades ahead, but they cannot forecast tomorrow weather. Nonsense. Or that greenhouse gases are zero-zero-nothing in the atmosphere, and that man cannot be responsible for a higher greenhouse effect. Nonsense. Or even that climate change and air pollution are different things. Nonsense. And also that humanity should address more serious problems than climate change. Nonsense. Etc. Therefore, we must see and try to educate the public," said Respondent No. 3.

Thus, misunderstanding of people could be seen as obstacle for engagement of climatologists. As previous research of Burchell or Cook, Peri and Robbins or Frewer demonstrated, scientists think that public cannot indeed understand science and their work. (Burchell, 2007; Cook, Pieri and Robbins, 2004; Frewer et col., 2003) And that could be frustrating for them.

I agree that scientists could see communication with public as uneasy or potentially dangerous because it can cause another misunderstanding. This was confirmed also by research of Davies. (Davies, 2008). However, some of them are still trying to change public opinion but as Respondent No. 3 said: "It´s for nothing, it´s for nothing..."

3.2.1.2 How people perceive climate change

Communicating with public is according to many of my respondents essential and important. However, they are influenced by the way how people understand them, and mainly whether they are willing to listen to them and understand climate change as the serious problem for many areas of their life. Their attitude can definitely influence whether a climatologist wants to engage publicly and deal with people. What is the perception and attitude of people towards climate change?

Respondent No. 5: "The biggest aversion is in business community, agriculture and industry sector." He also said that public is not ready. "People have their opinions influenced by various personalities. Public highly value e.g. experts of medicine but I think that society does not perceive climate change as serious problem. It caused by different views and opinions of often non-climatologists. That´s my opinion which is based not only on my scientific activity but also on my experiences from lecturing for various people. I lecture for vine-dressers, farmers, businessmen. These people are often surprised by what I am saying."

According to Respondent No. 5, we often see just a small part of complex problem. During his lectures, when he explains that agriculturers are partly guilty for the drought, audience are often surprised or angry. People cannot accept some information of climate change because they would have to change their behavior, lifestyle, way of thinking, etc.

He distinguishes different categories of people. Young people who accept this knowledge as new and important, and try to understand it. Elder ones who fear what happened to their environment because they remember that it used to be greener, more diverse. And the middle generation which is active and see this knowledge about climate change as obstacle. We could include in this category also businessmen who sometimes strongly promote their interests. Thus attitude towards climate change is deeply based on individual´s interests and age as well.

People are generally saying that they are interested in dealing with climate change and they understand that it is important to introduce some measures. However, in reality there is strong Not In My Backyard (NIMBY) effect. According to Respondent No. 5, people want and agree with measures but only if these measures have no impact on them or their property. In these cases, it is very difficult to persuade them.

Also Respondent No. 2 agreed that public has generally no problem to accept climate change, and even the fact that the main driver of climate change is humanity. However, he stressed that there is no discussion how to deal with this problem. Discussion is only concerning adaptation or measures in some agriculture areas. Adaptation is more acceptable by public because it is de facto postponing the real and serious decisions.

Respondent No. 4 thinks that society does not react appropriately according to seriousness of situation. He would probably expect more activism in society as such. He said that climatologists have already tried all options, and now they can only observe the situation or comment it. “Someone who has not understand that climate change is huge problem up to now, will never understand it anymore.”

Not only Respondent No. 4 but also other climatologists claimed that it is not easy to present certain knowledge and inform public. Negative information has the opposite effect and rather discourage people. However, positive information “calm” public, what has discouraging effect as well. Thus, this situation could be seen as quite impasse. How to communicate with public when you cannot neither talk about terrifying consequences of climate change, nor try to motivate people with good news?

When you follow media you understand that public opinion and discourse towards for example energy sector, is very influential for politicians in decision-making process. People in the Czech Republic or Slovakia do not like to see their coal mines closed because of possibility that miners would lose jobs. This could be strong tool for populist politicians (as we have seen in the United States with current President Donald Trump). (Gardner, 2017)

Energy sector is thus very "sensitive" topic, and I would argue that it is understandable that climatologists try to avoid discussions about certain measures. It could lead to indeed strong and aggressive reactions, or NIMBY effect. According to some of them, this is "thin ice". I had impression that some of them think that talking about concrete measures is not in their agenda because they could risk their reputation. Many of them were talking about other experts which should provide concrete measures for this issue.

This can correspond to research by Kotcher, Myers, Vraga, Stenhouse, and Maibach who tested six statements by fictional scientists on social network. They found out that only more controversial statements endangered the scientist´s credibility. They thus stated that scientists are freer in ways how to engage with public and advocacy then they tend to think. (Kotcher, Myers, Vraga, Stenhouse, and Maibach, 2017)

However, I would say that climatologists in the Czech Republic are generally rather discouraged to engage with public at all. There are of course exceptions, climatologists who are rather motivated to engage publicly to educate ordinary people.

3.2.1.3 Do not engage with ecologists!

However, based on my research, I would argue that the biggest obstacle and influential condition for climatologists´ engagement in society and in politics is previous experiences and era of climaskepticism in Czech society. Climatologists could think that they are risking their reputation by public engagement. When they engage publicly they are under pressure because they have to deal with certain specific circumstances in society – with our deeply rooted worldviews and opinions about climate change, ecology and environmentalism. In the interviews, many of them agreed that Czech Republic is rather unfavorable environment for their engagement.

Study of Lachapelle, Montpetit and Gauvin was focused on expert credibility and our worldviews. They claimed that the determining factor of whether we accept certain scientific statements is congruity/dissonance between expert frames and our worldviews. Another important elements are culture, ideology and media. Thus, there are contextual and cultural

biases in the ways how we perceive scientists and their opinions. (Lachapelle, Montpetit, Gauvin, 2014) This is valid also for my research because I argue that social context is very important for engagement of scientists.

I would argue that words of Respondent No. 2 are the best demonstration of Czech context. "For engagement, it is essentially important what the current discourse of environmentalism and green politics is. In Czech Republic, it has really bad reputation. It was constructed in recent decades, since Klaus etc. If you want to spit at someone, you choose the European Union or Greens, or just ecologists. And if they are invited somewhere, they can talk about their research but they endeavor to avoid discussion about concrete measures. We don´t do it, that´s fact. We don´t study how the measures should look like. There is indeed strong will to avoid connection with ecology or environmentalism. There´s deep aversion," said Respondent No. 2. "That´s why colleagues like Áč or Pecho are "regarded from the top" by expert public. You feel and see this perception in discussions."

Based on my research and observations during the interviews, I would argue that this discourse is still somehow present in the Czech society. And Klaus´ era was very determining for Czech climatologists´ engagement because this former President was mentioned by many of my respondents in interviews. Some of them however said that public perception has already shifted from climaskepticism and aversion towards lack of interest, but I would argue that these previous experiences are still influencing them, as well as part of public. Thus, I would like to analyze Klaus´ role more deeply.

Ten years ago, when IPCC published its Fourth Assessment Report in 2007, climatologists had to deal with quite strong reactions. "Crazy people called us and said that we have to be bribed by somebody. Then there was an article by Ondřej Neff: *Climatologists establish new religion*. It was saying that climatologists are worse than communists and they want to rule the world." I was personally very surprised that he recalled an article that came out eleven years ago.

"That was a really cold shower. And attacks were aggressive. At that time, I was quite publicly active person. It was also the time when famous Al Gore´s film The Inconvenient Truth came out. There were many debates which were really uncomfortable for us. Reactions were aggressive... I think that most of colleagues stopped engage publicly after that."

The article: *Climatologists establish new religion* is very demonstrative for those years. (Neff, 2007)

"What does it mean to be a physicist and a chemist and a biologist compared to climatologist! They do not only reach His size, but directly or indirectly fall into the circle of guilty persons. Climate change is not caused by people as such, but according to this concept by civilization, and it has to be curtailed and constrained and kicked into the corner. Absurd idea? Just as absurd as "man is changing the climate". Klaus's reference to religion is correct, but also wrong somehow. He is right that it is an ideological process based on faith and will rather than on facts. Mistake is that religion has no meaning without believers.

However, founding fathers of this new religion do not need believers. They need media and politics. They help them penetrate the structures of the state and government. And then they will be able to realize their destructive power. It is paradoxical that this success has been achieved at a time when the environment in all parameters - without their involvement - is improving. People live longer and are healthier, air and water are cleaner, there is greener. And strangely, instead of confidently laughing at the Apocalypse announcers, people will feel guilty like the little boy who hit the lamp and thought that he caused blackout.

It is possible, therefore, that when the climatologists flee, the psychiatrists' era will come. We will need the whole army of them." (Neff, 2007)

This article is important because it reflects the spirit of that time – prevalent discourse about climate change and climatologists. And it had to be well known and influential (my respondent recalled it after eleven years). I would argue that these words would absolutely discourage most of scientists from correcting public opinion and interpreting facts in the right way. When we consider also direct reactions which was mentioned by Respondent No. 2 such as aggressive behavior, and crazy people calling them, it is obvious that public engagement was very unpopular for these scientists. The discourse at that time had to be really strong and supported by influential elites such as former President.

Sociological publishing house (Sociologické nakladatelství) published a book by sociologist Petr Vidomus called "*It will warm up and that will be better"* (*Oteplí se a bude líp*). (Vidomus, 2018)

This sociologist conducted research on so called fighters against ecology in the Czech Republic. He focused on the phenomenon of the active Czech climaskepticism presented in public opinion during the presidency of Václav Klaus. He studied why Klaus' narrative has prevailed especially in the Czech climate debate at the time, and what strategies were used

by local climate skeptics to challenge scientific consensus on climate change. (Vidomus, 2018)

According to people such as Václav Klaus (former president, critic of climate change, ecology and environmentalism), Ivan Březina (a journalist and well known critic of environmentalist ideology) or Luboš Motl (Czech theoretical physicist and climaskeptic), climate change is not a problem that should be dealt by broader society. They considered it as a hoax that should ensure grants and subsidies for scientists and environmental activists. They claimed that ecological activism is more harmful for society than climate change. The book is based on qualitative research of resistance towards environmentalism and climatology. It is based on a series of interviews with Czech climate skeptics, climatologists and representatives of non-governmental organizations. (Vidomus, 2018)

According to Vidomus, the Czech climaskepticism had the strongest impact in years 2007 and 2008, when its organizational background consisted of think tanks with market attitude to the environment, and very prominent foreign protagonists who appeared in Prague. However, from 2011, the climate appeared in the agenda of several smaller associations, active individuals and virtual space. Vidomus described an informal group of physicists, geologists and economists who were around Klaus and mutually supported each other in their vision of harmful environmental policy. Some of them consider global warming to be even beneficial. (Vidomus, 2018)

He analyzed not only media strategies of climate skeptics, but also focused on their organization, material background, or political allies. He claimed that Czech context is very specific in the case of climate change. (Vidomus, 2018)

I found very useful for my research and understanding of the Czech context few determining points mentioned by Vidomus. One of them is the fact that impact of climate change is less noticeable and terrifying in Central Europe than in southern or northern regions. Other one could be transformation of the industry which started to produce significantly less emissions and thus, fulfilled the goals of Kyoto Protocol. Vidomus also stated that according to some polls, Czech society tends to focus rather on local environmental problems such as drinking water pollution than global problems such as climate change. (Vidomus, 2018)

Scientific claims by people without relevant education and knowledge were widely accepted by public in those years. Non-scientists such as politicians and journalists were talking about climate change because it was quite popular and hot topic. They became trusted

source of information. Václav Klaus was seen not only as political authority but also as expert in economics. He then published various books in which he stated that climate alarmism is dangerous attack on human freedom, prosperity in world, and even natural environment itself. (Klaus, 2007) Non-scientists thus filled the gap between public and the real experts.

I would say that this could cause that issue of climate change is de-scientized in the Czech Republic. That means that people probably listen more to media and politicians than to climatologists. Some of them told me that climate change even shifted from climaskepticism to current lack of interest. Social context is therefore very influential for climatologists´ engagement. It could strongly discourage them by many ways – misunderstanding of people, individual interests, era of climaskpeticism, etc. However, some climatologists told me that the most important actors are politicians. They should bring the new issues, which should be discussed, dealt with, politicized and even securitized. And climatologists should therefore fulfil the role of experts who provide them with their knowledge and research.

3.2.2 MEDIA: Preference of catastrophe and sensation & no time to explain the issue properly

As we have seen, society, public opinion and general perception are strong determining conditions for engagement of climate scientists. However, as concept of co-production explains, there are another important elements in the system. I would argue that media are indeed influential in the whole process and play important and separate role. During my interviews with experts, media were mentioned and discussed indeed often. Most of my respondents agreed that media are very important actors which has serious impact on public opinion and politicians.

I will argue that media misunderstand climatology in the same way as ordinary people. Journalists often prefer to give a space to non-climatologists whose opinions resonate with their own attitudes. If they ask real climatologists they do not give them enough space to explain the issue appropriately. Some of my respondents had also negative experiences with journalists. I will also look at the way how media frame the issue of climate change. My findings resonate with respondents´ claims – media prefer catastrophe and sensation. I would argue that all of these conditions are rather discouraging for climatologists.

3.2.2.1 Misunderstanding of weather and climate

Generally, respondents talked about journalists and media in not very enthusiastic and positive way. The opposite was rather true. They were often disappointed by their work and explained me various shortcomings of Czech media. According to them, there is lack of interest and space for climatologists. The other important thing is that, just as ordinary people, media tend to present climate change in wrong way. There is also misunderstanding of distinction between weather and climate. Journalists also want to write about this topic in sensational way to attract attention and increase profit.

For example Respondent No. 1 thinks that journalists tend to replace terms such as climate and weather in a wrong way. And then they make incorrect conclusions. When the temperatures are extremely high, they used to write that climate change is happening. On the other hand, when it´s cold, climate change is not real.

"Unfortunately, serious knowledge is not interesting for the media. Media want to be sensational. This current cold weather is presented as sensation. I think that they are not willing to give space to climatologists. And if there is some space, they prefer to give it to an activist or a skeptic. There is no interest in serious science. I doubt whether Hyde Park is enough. Everybody thinks that he is able to talk about climate. In Czech Republic, it's like talking about football or our educational system. Everyone thinks that he knows much about weather and can say what he thinks. Scientific fields which are more separate from everyday life, are more valued and respected."

Respondent No. 7 told me that, despite many obstacles, part of climate scientists are still trying to be publicly active, which he considers to be a positive phenomenon. He claimed that the reason is the effort to get professional results into public awareness. Unfortunately, however, he thinks that media are not very willing to make interviews and publish them because they do not make a major contribution to their merchantability. He thinks that there is increased interest in information that is, for example, catastrophic. There is a lack of interest in serious contributions that describe the reality of the problem.

3.2.2.2 Bad experience

I was really surprised when I heard that one of my respondents (Respondent No. 5) has really bad experiences. Many times, certain journalists changed his statements – add or cut his words – and do not send him interview back for authorization.

He also talked that today´s media are manipulated by owners of publishing houses. And then editor-in-chiefs tend to be instructed which topics and in which way they should (can) write about.

"Many times, I had to disagree with interview with certain journalists because I knew that he would modify my answers without authorization. They used to erase some words or add different ones. Every interview should be sent you back and you should be able to edit it. However, it does not happen every time."

In this interview, Respondent No. 5 said me that, according to his opinion, media lost their function. Media are nowadays tool of interest groups. It happened various times to him that young journalists called him back after the interview because they wanted to change his statements. The reason was that editor-in-chief was not satisfied and preferred rather the different view. Media are, thus, deeply manipulated by interests of their owners.

Also TV shows could be biased. Respondent No. 1 said that the TV moderator does not usually have his own opinion. However, he has already watched many TV discussions where moderator was biased and it was quite impossible for an expert to persuade him. This is great disadvantage of some TV shows. In public debates there are all reactions - sometimes too alarmist, sometimes skeptical. It reflects opinions of the population.

However, most of my respondents said that they use opportunity and engage publicly when they are asked by journalists or TV. Of course, when they have enough time for such an engagement. However, there is usually not enough space and time to explain the topic exactly, what they see as enormous obstacle.

3.2.2.3 Non-climatologists

Another serious problem is that media tend to give space to non-climatologists and present their de facto laic views. It used to happen that there are ecologists, activists, or so called "popularizers of science", talking and trying to explain climate change and its consequences.

As Respondent No. 5 explained me: "Climatologists do not form big community. And it is indeed important to distinguish between climatologists and people who just present themselves as climate experts. And media often provide wrong information and thus influence this group and public opinion in the Czech Republic."

Thus, climatologists have to deal with lack of interest of media and even with false climate experts without relevant knowledge. Their opinions are often accepted by public and

it is quite hard to correct these untruths. Also former President Václav Klaus who presented his opinions very strongly, is not climatologist or scientist, but politician and economist. However, it did not discourage him from writing and publishing books about climate change. And he obviously became very influential opinion-leader for ordinary people.

In his book, Vidomus also wrote about importance of media attention and their discourse about climate change. In 2007, media published the highest number of articles concerning climate change, and thus also ordinary people saw this issue as high priority. At that time, around 84% of population perceived this problem as very serious. Exceptional publicity was caused by publishing the Forth Assessment Report of IPCC and activities by American Vice-President Al Gore. However, according to Vidomus, medialization in Czech Republic was supported by President Václav Klaus. (Vidomus, 2018)

At that time, he published a book called "*Blue, not Green Planet"*, in which he criticized the importance of anthropogenic impact. (Klaus, 2007) He had also some speeches about this issue – in American Congress and the United Nations. Klaus popularized climate change so much that it became one of the main topic in pre-election campaigns. His rival, Jan Švejnar, had just opposite opinions. (Vidomus, 2018)

3.2.2.4 Other obstacles

According to Respondent No. 1, there must however be certain conditions for engagement. And the environment for public engagement is not suitable when politicians do not ask. The issue of climate change is long-term and gets beyond just one election term. Thus, when politicians have no interests, media do not follow the issue as well. Journalists used to write about climate at the time of negotiations about Paris agreement. This attention however was not sufficient. "I have no problem when media ask me. However, the space they offer is very limited." He also supported the statement that it is impossible to explain the issue in such limited number of words or minutes.

"Today's media tend to use many shortcuts. They have not appropriate time to study the issues seriously. Sometimes there are some serious TV programs. Hyde Park could be one of them. But it was also presented in quite "sensational", or attractive manner - how it would look like in 50 years. These are shortcuts."

Respondent No. 1 declared that climate change is not at all hot topic in Czech Republic. Also its connection to security is marginalized. It could be connected to migration, food security or droughts, but nobody see these relations and nothing happens in this field.

I had impression that he is quite skeptical about public engagement of scientists, especially climatologists in Czech society.

His colleague, Respondent No. 2 also agreed that the issue of climate change is absent in Czech media. He explained it by fact that there is no politician who would lobby for, or fight against the issue of climate change. And media would write just about important issues which were politicized. “If there is a case of extreme weather, there would be a discussion as well. Of course, actual weather depends also on other factors, but it would at least start discussion and initiate politicians´ interests.”

According to Respondent No. 1, the problem is that there are also some uncertainties in climatology. Climatology cannot claim something as absolute truth, because it would lost something like scientific status. Scientists work with probabilities and scopes. However, this is not very attractive for media, when you cannot say something which is absolutely true but only probable, it is seen as doubtful.

Respondent No. 4 said that in the Czech media, interviews with climatologists sometimes appear. However, he criticized that in some of them, experts claimed that the Paris Agreement does not make much sense. There were also some non-public statements of some climate scientists who consider the IPCC report and its conclusions to be alarmist, or that it is not so important whether or not it will warm in the coming decades by two or three degrees Celsius.

Thus, different information come not only from experts of different fields who like to present their subjective opinion that are, unfortunately, perceived as valid by ordinary people. But even climatologists themselves used to present different views on certain issues, what could influence how media decide who should be ask to explain current events.

Respondent No. 5 and others agreed that few climatologists are publicly active. The reason is that there were certain deformations caused by media and politicians, and most of climate scientists currently think that they should focus on scientific publications and not the popular one. He thinks that this approach is wrong because it is essential to correct untruth. Thus, in his opinion, climatologists should be more active.

3.2.2.5 Framing by online media

However, I have analyzed certain Czech online media to see whether and how they usually present the issue of climate change. I chose online media such as ČT24.cz, iHned.cz, iDnes.cz, Aktuálně.cz, and Novinky.cz. I chose very simple method. I just put key words

such: climate change, climatologist (in Czech language) into the field for searching their articles, and look for the results. I would like to mention some titles of these articles which illustrate how Czech media frame the issue of climate change.

Internet website of ČT24, a state television that should objectively present world and domestic news, inform about climate change and its consequences the most often compared to other online media. They publish news about ozone layer, bears in Arctic, coral reefs, droughts, rising sea levels, migration, and extreme weather. The most of the news are rather global than domestic ones. They often present reports of foreign scientists and IPCC. However, also this medium tends to use words in titles which should attract attention.

For example: "Bad news: Ozone layer is thinning, scientists alarm", "Polar bears are slimmer and they will be probably extinct in 70 years. Alarming study forecasts the end of Arctic kings", "2017 was the second warmest year in history of measuring according to NASA. Critical limit is approaching, scientists urge", "The worst scenario is the most probable. World could get warmer by 5 degree Celsius", "Extreme hurricanes, killing heat waves and happening climate change. Weather in 2017 was wild", "The world is getting drier. If the temperature rises by another 2 degrees, forth of the Earth will be drier". (ČT24, 2017; Bartoníček, 2017; Piskala, 2017; ČT24, 2018a, 2018b, 2018c, 2018d, 2018e)

Thus, it is obvious that also this medium tend to present climate change news in catastrophic way which is somehow attractive. However, they also tend to ask climatologists for their opinions, mainly in special programs like Hyde Park or The Questions of Václav Moravec when they try to explain complex issues more deeply. Some of my respondents have already appeared in these TV programs.

Also Český rozhlas (Czech broadcasting) invites Czech climatologists as Jaroslav Rožnovský or Miroslav Trnka to present their opinions in its radio programmes. (Šulcová, 2015; Strouhalová and Wojtič, 2017)

Another online medium, iDnes.cz, does not offer so much space for the issue of climate change. The number of articles is much smaller than in case of ČT24. Its readers could reach articles such as: "Climate change will cause migration crisis. It will affect Europe, study says", "Nature´s revenge against humanity. Sea devours Albanian coast", "Snow in Sahara, frost in Florida. It´s not normal, climatologist says", "We need a bit of global warming, Trump reacts to snow and frost in USA", "Scientists warns about the doomsday. There won´t be enough food, Czech ecologist says", "Water in dams is warming

and worsening. It couldn´t be worse, hydro biologist says". (iDnes, 2017a, 2017b, 2017c; Vyroubalová, 2018a, 2018b; Ferebauer, 2017)

In this case, we see also many similar words which should create an impression of catastrophe and attract attention. There are also titles that tend to connect articles with scientific studies and experts opinions. I would argue that this is used as strategy to raise credibility and validity of these articles, and ensure readers that they are based on scientific truths and verified facts.

We also see that they tend to ask Czech experts – hydro biologist, ecologist, climatologist... Article: "Snow in Sahara, frost in Florida. It´s not normal, climatologist says", is an interview with one of my respondents, Radim Tolasz. (Vyroubalová, 2018a)

iHned.cz, internet website of print newspaper Hospodářske noviny, tend to inform about climate change when it is connected with economy and politics. However, number of articles that I have reached was really small. They dealt mainly with political and economic strategies of the European Union, the French President Macron, the United Nations or private business companies. However, it is related with the focus of this medium and its specific readers. (iHned, 2017)

Aktuálně.cz is another case study of medium which inform in sensational and attractive way. I have come across articles such as: "Scientists say: Climate change is worse than it was expected", "Extreme heats will be killing, a new study says. They can kill around 150 000 people in Europe a year", "How Czech people destroy Planet. They eat beef and heat too much". The number of articles on aktualne.cz is also very limited. (Aktuálně.cz, 2012; Vařaková, 2017; Hronová, 2015)

However, some older articles published at the time of Klaus´ presidency presented climate change as a theory: "Theory of warming has new allies. They will gain billions." (Klekner, 2012) Aktuálně.cz also offer space for other experts than climatologists, e.g. so called "popularizers of science".

Novinky.cz publish similar articles as the previous media that I have mentioned. It also news such as: "Climate change will cause heats that will kill also healthy people", "The extreme weather has already cost Europe billions of crowns. And it will be worst", "Climate is changing more quickly than we have expected". The last article is an interview with one of my respondent, Jan Pretel. However, also Novinky.cz give space to non-climatologists. (Novinky.cz, 2017; Ginter and Mrázová, 2017; Pergle, 2015)

Therefore, as we have seen in a simple analysis of just a few online media, the way they frame climate change is similar. And it corresponds to answers of my respondents in many aspects. Most of the Czech media do not have the separate section for climate change, or even pollution, natural environment, or anything else which would cover this area. We could compare it with e.g. TheGuardian which has section Environment, or Slovak online medium, HNonline.sk, with section Global.

Czech media publish mostly alarming and sensational news which should attract reader´s attention. Many of my respondents were complaining about the fact that media prefer rather sensation and catastrophic news than real scientific facts and explanations. The words which are used in titles are quite similar.

I would also argue that this issue is not covered well. Number of articles were in almost all cases rather low. Thus, the narrative or discourse about climate change is that it is catastrophic and alarming, but generally we do not care about it because information and news are rather rare. Websites which would cover issue of climate change objectively and deeply were rather not so popular ones with impact on less readers, e.g. denikreferendum.cz or obnovitelne.cz.

My respondents also claimed that serious obstacle for public engagement is that many media offer space to non-climatologists because their opinions are more attractive. I have indeed come across interviews with other experts, non-climatologists and so called "popularizers of science".

The most of the news are based on reports of foreign scientists. When it comes to domestic issues, media tend to deal mostly with droughts sometimes with connection to food security. There appeared also articles about forestry and fish. And of course, many articles were focus on current weather – actual extreme heat, drought or frost.

Thus, as many of my respondents said, climate change is not hot topic for Czech media and current conditions are sometimes not in favor for their engagement. On one hand, many of them seemed to me deeply discouraged by current situation and simply claimed that they have no time for such engagement which could be even disagreeable for them.

On the other hand, however, most of them were determined to engage publicly through media. They claimed that it is more than needed because of current discourse of climate change and its status in Czech society. They answered me that it is important to change and correct public opinion. Current discourse and media could be discouraging as well as motivating condition for climatologists´ engagement.

Thus, there are many important and influential conditions for climatologists´ engagement. Media misunderstand the issue of climate change. They tend to give space to non-climatologists. If they ask climatologists for opinion they do not give them appropriate space to explain the issue. Media also prefer sensation and catastrophe, thus climate change could be sometimes seen as quite boring topic to write about. I would argue that all these conditions are rather discouraging for climatologists´ engagement.

3.2.3 POLITICS: Misunderstanding, lack of interest, resistance and also pragmatic attitude

In this subsection, I will be focus on the political element in Jasanoff´s concept of co-production. Just as ordinary people and journalists, also politicians do not understand the issue of climate change properly. They have as well their own interests and opinions. Their attitudes towards climate change vary (it depends for example on political party). Thus, they choose which experts they want to listen to or not. Previous experience with climaskepticism is very important and deeply influential even nowadays. I would argue that also these structural conditions are rather discouraging for climatologists´ engagement. However, there is a certain kind of engagement of climatologists in politics and shift towards a pragmatic attitude towards climate change (at least on level of ministries).

Politics is indeed important element in Jasanoff´s concept of co-production. It should influence science and society, and vice versa. Thus, I was asking my respondents also about this field in the Czech Republic and its impact on scientific community.

I have analyzed above that the issue of climate change was hot topic on political agenda during the presidency of Václav Klaus. According to most of respondents, this was very important because it created the discourse about climate change in the Czech Republic. However, what is the situation today? Are politicians more willing to listen to scientists? Or there is still lack of interest? And how this situation influence scientists´ engagement as experts?

As I have already mentioned above, politicians are rarely interested in knowledge and science, especially in Czech context. They want to promote certain policies and issue, and thus, sometimes they could use arguments of scientists and experts to legitimize their opinions. (Haas, 2004)

Respondent No. 5 supported this argument when he said: “Politicians are just politicians. I know any of them who has adequate knowledge in the field. If you want to

work somewhere, you have to have certain education, however, to work as a minister, it is not needed. Minister has his own expert group which is supposed to give him advices." However, this expert group is chosen in the way to support the preferred opinions and views, and thus, it is not composed of objective and neutral experts who provide important facts which should be resolved.

Respondent No. 6 told me that politicians cannot understand the whole complexity of this problem. They used to simplify it too much, sometimes they even trivialize it. They say: "It´s important fighting against climate change." However, what does it mean fighting against climate change? He thinks that in some cases climate change is misused to attract public attention to get people forget about another important political issues. Politicians pretend that they try to solve this important problem and that they do something.

3.2.3.1 Pragmatic attitude of ministries

However, according to many of my respondents, there is certain development in the situation. At least on the level of Ministries and other agencies which have to have strategic plans for future. According to Respondent No. 8, Ministry of the Environment was interested in this issue in the last four years during the government of Bohuslav Sobotka. They collaborated with scientists.

At the same time, there is significant pressure from the European Union. He thinks that this is the first time politicians indeed realized how climate change threatens us. In his opinion, it is a combination of understanding the problem and the pressure of voters who experience real-life effects of climate - like drought, other extremes.

Respondent No. 2 agreed that politicians have now more pragmatic attitude towards this, but it is still not hot topic in Czech Republic. Attacks on ecologists or environmentalism are still happening, but there are nowadays another issues – refugees, Islam. It´s not very interesting topic anymore. However, he agreed that ministries need strategic plans for the future and sometimes they ask scientists for cooperation.

Respondent No. 2 named me for example Ministry of Transport. Others mentioned Ministry of Economy or Ministry of Environment. In these cases, there should be mainly cooperation with Czech hydro meteorological institute – CHMI, as the main government´s advising body in such cases. However, as my respondents said me, there exists cooperation also with scientists in universities on some projects, concerning for example urban planning.

Not only respondents from CHMI, but also other coming from universities, named this institution as the first one that government tends to ask about information and expertise. CHMI tries to give politicians the right information and offer solutions. But it´s quite slow process, "because the main obstacle is the legislation and often the factual impossibility to implement the necessary measures in the landscape that is related to the ownership relations - e.g. in agriculture, 80% of the land is farmed by people who have leased it. They have leased it often for just short term, so they are less motivated to protect the land and the country," explained Respondent No. 8.

As it was already said, politicians have to decide about very complex issues as climate change. There are however another interests they should deal with. Very important fact is that climate change has consequences for business as some of my respondents explained. The first one affected is agriculture. It has to deal with droughts. When business is affected politicians have to do something and communicate the situation also with public.

Respondent No. 1 agreed that politicians are also limited by some circumstances. They can´t close all factories which produce emissions. It is impossible to close one entire sector immediately. There should be a dialogue between different parties. And then, all aspects should be tackled and communicated towards public. There should be consonance between adaptation and mitigation. Such complex topic is then not very attractive for politicians. As media, also politicians mostly talk about it only in case of catastrophe. At that time, they made some decisions, do necessary measures, etc.

Czech politicians mostly try to resolve the problems of droughts and water security which are the most important consequences of climate change that should be tackled. Many of my respondents mentioned these issues during our interviews.

In 2017, Sobotka's government approved the Concept for Drought Protection for the Czech Republic. This document was written by the Ministry of agriculture and Ministry of environment and it should serve as a basis for measures to help prevent drought and limit the impact of climate change on the environment and the population. Some experts focusing on the prevention of extraordinary events in the Czech Republic, such as droughts or floods, argued that this document does not sufficiently address the major issues, including safety issues, public involvement, energy transformation, industry and self-government, and intensive agriculture. (Dostál, 2017)

Ministry of Environment has also its Strategy for adaptation to climate change in Czech Republic. (MŽP, 2015) The fact that politicians promote these issues supported the

arguments of my respondents. Many of them said to me that politicians are interested in climate change just in case of catastrophe or emergency. Water security and droughts are the most dangerous issues for Czech Republic and society, and they have already have to challenge them many times before.

3.2.3.2 Paris Agreement in the Chamber of Deputies

According to Respondent No. 3, most politicians in the developed world work with climatologists more often to find solutions. The contact between experts and politicians is much stronger abroad. Respondent No. 1 agreed that foreign politicians ask and want information. In the Czech Republic, politicians were hesitating whether climate change is important enough to have an international document such as Paris agreement. My respondent told that they thought that climatologists just want to get funding and justify their existence. The process of approving the Paris Agreement in the Chamber of Deputies is an example.

This case was mentioned also by Vidomus in his book. "In June 2017, the Czech Republic was one of the last states within the EU that have not yet ratified the 2015 Paris Climate Agreement, to which the countries have signed up. At the same time, newly elected US President Donald Trump has announced that US would step down from this global agreement despite the fact that the US was one of the largest CO2 emitters. Last but not least, after a several-year pause (which he called the retreat from the front pages managed by environmentalists), the former Czech President, Václav Klaus, also returned to the theme of climate: he expressed himself again in his Institute, and somewhat unexpectedly, he published a new book." (Vidomus, 2018: 11)

So, what was happening at that time in the Chamber of Deputies? Which arguments were used by politicians to support or deny the importance of climate change?

Member of Parliament from not only ODS disagreed with Paris agreement. Milan Urban, member of ČSSD, said that this so called innocent material would have many serious consequences. He argued that without clear strategy that would be used to meet the commitments, he could not support the document. (Bartoníček, 2017; ČT24, 2017; iDnes, 2017; iUhli, 2017; Černý, 2017)

The main opponents of Paris agreement were sixteen members of Parliaments who were at the same time, members of political party ODS. Jan Zahradník played one of the main role in the negotiations. He wanted to postpone ratification. It would mean that the new government would have to deal with this issue once again. However, it did not happen and

Paris agreement was ratified and then signed by Czech President Miloš Zeman. (ParlamentníListy.cz, 2017)

In his speech in the Parliament, Jan Zahradník claimed that this agreement does not tackle the main factors that cause climate change. He criticized the focus on emissions, but mainly the argument that climate change is caused by human activity and production of energy for our use. He mentioned alternative scientific opinions which emphasize the impact of deforestation and lack of water in natural environment as cause of climate change and the most important issues that have to be tackled. (ParlamentníListy.cz, 2017)

He talked and stressed mainly about water security and mentioned Syria as an example of this phenomena. Zahradník said that in case of ratification of Paris agreement, Czech Republic would have to challenge many absurdities – such as taxation of fossil fuels, energy insecurity, energy shortages, mainly in winter. Paris agreement would cause decrease of prosperity, loss of competitiveness, degradation of landscape, sustainability of agriculture and even increase climate change itself. (ParlamentníListy.cz, 2017)

He labeled fight against climate change as business with indeed high profits. He criticized the annual budget of 100 billion of US dollars that should be used by developing countries where the regimes are many times undemocratic and corrupted. Zahradník mentioned also subsidies for renewable energy projects which are also many times misused as well. Then he was talking about Trump´s decision of US withdrawal and questioned the role of China as new leader in fight against climate change. (ParlamentníListy.cz, 2017)

Another member of ODS, Tomáš Vaněk, presented his opinions on the official website of ODS. He used quite similar arguments as Jan Zahradník. He criticized the annual budget of 100 billions of dollars for developing countries, the role of China, subsidies for renewable energy projects, financing green activists, etc. He claimed that there is ideology behind Paris agreement. The common agenda of "saving the world" should serve as a reason to establish one European super state. He question the climate change as a theory that cannot be scientifically tested. Chairman of ODS, Zbyněk Stanura supported these arguments. (Vaněk, 2017)

However, most of politicians and ministers supported this Agreement and claimed that it would bring many benefits for Czech Republic. On the other hand, the long process of approval was an international shame according to them. Minister of Environment emphasized that there are no additional commitments that Czech Republic would have to

fulfil. (Bartoníček, 2017; ČT24, 2017; iDnes, 2017; iUhli, 2017; Černý, 2017). The Agreement was finally approved and ratified.

3.2.3.3 Discourse is improving

The narrative of some politicians correspond with thoughts and arguments of Václav Klaus. We could observe the similar trend in the United States with the President Donald Trump who is famous climaskeptic. Thus, the eleven years old discourse is still present at least in one party and could have an impact.

Therefore, my respondents were right when they were talking about the still present impact of Klaus´ arguments. However, we see that the trend is improving. Nowadays, this discourse is used by only few politicians, mainly from one specific political party whose impact on decision-making is not so strong because of the number of their mandates. However, they could still postpone decisions just like ratifications of international documents what somehow isolated the Czech Republic on international level as the last that ratified it.

As my respondents said, trend is shifting towards lack of interest or kind a pragmatic attitude. They agreed that just like media or ordinary people, we see that a catastrophe has to happen to attract attention of politicians, public and media. Thus, mostly the issues of water security and droughts are tackled in the Czech context as the most dangerous ones (according to e.g. Respondent No. 1, Respondent No. 3).

On the other hand, there exists also pragmatic view. Ministries and agencies have to have strategic plans for the future, so they sometimes contact scientists, mainly the CHMI, but also from another institutions. In these documents, we can find words as security used many times, thus, I would argue that the perception of climate change as a threat to environmental, water, food, or energy security is now somehow established in general discourse.

Therefore, I would argue that this situation influences scientists´ engagement as security experts in politics. They are mostly willing to engage and participate in projects to provide their scientific expertise. They are even willing to go and lecture in Senate and Parliament. However, I would say that they are still somehow affected by the discourse of climaskepticism. Most of them told me that politicians are not interested in, and know nothing about the issue. In addition, climate change is topic that has consequences on business, agriculture, energy sector, thus it is quite sensitive and complex topic.

Therefore, just as ordinary people and media also politicians misunderstand the issue of climate change. They tend to listen to experts whose opinions resonate with their own attitudes and thus they could prefer non-climatologists´ arguments. The previous era of climaskpeticism is still somehow influential and present (at least in one political party). However, some climatologists are engaged in politics on certain level. I would argue that this engagement is still at low level and climatologists are not real security experts. However, I will be focused on security expertise later on.

3.2.4 CO-PRODUCTION: Science, culture & power are interdependent

Thus, I have analyzed three different but interdependent and strongly related fields which influence each other, but all of them influence also science. This was also my presumption before the whole analysis and expert interviews with scientists. This argument was based on Jasanoff´s concept of co-production.

In this section, I will summarize my findings and relate them to this concept to demonstrate the validity of my argument. I would argue that these structural conditions are rather discouraging for climatologists, but some of them could be motivated and try to change such situation – thus, they are active at a certain level and engage publicly. However, I would argue that it depends on epistemic community they are part of – some epistemic community are motivated by structural conditions, other ones are discouraged.

Jasanoff´s concept of co-production is based on mutual relationship between science (knowledge), society (culture) and politics (power). I wanted to apply this definition on the way how society, politics and media influence science – engagement of scientists. However, these structural conditions should be influenced by scientific knowledge as well. This knowledge comes from international level rather than domestic one. I would argue that mutual relationship between domestic scientific field and other elements of co-production is not balanced. In the next part, I will argue that structural conditions and co-production are deeply important also for concepts from Security Studies.

As I have already mentioned various times, Jasanoff´s idea is based on the presumption that science (knowledge), politics (power), and society (culture) influence each other. (Jasanoff, 2004) Scientific knowledge is not something neutral and independent, it is also somehow influenced by society and politics that means the specific context and environment in which scientists do their research and present their results. Scientific knowledge is a product of social construction. Thus, it is not apolitical. (Jasanoff, 2004)

I was focused on this definition of co-production which highlights mutual relationship, and I would argue that when scientific knowledge enters the society and politics, and mainly the specific Czech context, it became influenced by general narrative, previous experiences, various interests, opinions of people, politicians, stakeholders, lobby groups, business, etc. It´s no more neutral, but many actors tend to present and frame it in different ways.

Thus, we have one knowledge of climate change, but many perceptions and opinions about it. As my respondents said, there is not one general narrative and discourse about climate change in society or in politics. We see that people differ. These differences are based on the age, current social status, business interests, political preferences, previous experiences, opinion-leaders, etc.

3.2.4.1 Society

Young people are more willing to listen to experts. They are more prepared to hear the inconvenient truth. The older ones are sometimes affected by Klaus´ period. This former President established very strong general climaskeptical narrative which is somehow and sometimes still present in Czech society. Some of my respondents told me that they have to still deal with some arguments based on Klaus´ books or statements. This could obviously discourage climatologists from public engagement.

However, many of them said that nowadays, people generally understand climate change as an important issue which should be dealt with. There is some shift from resistance and denial of this knowledge to acceptance. However, this acceptance is rather passive than active. People say that we should do something about this problem but they are not willing to accept changes which would negatively affect their lifestyle, desires, goals and habits. There is also strong NIMBY (Not In My Backyard) effect. They agree with certain changes but not in places where they live.

This could be also very discouraging for scientists. They do not want to be seen as someone who want people to change their way of living. That would create a negative image of them.

Another obstacle is the general misunderstanding of scientific terms weather and climate. People tend to use these different terms interchangeably. They base their arguments on actual weather and weather forecast. When it´s hot, they are more willing to agree that climate change and global warming is real. When it´s cold, they do not perceive this

knowledge as valid anymore. They often tell that scientists are wrong, because not even weather forecast are right and precise.

However, many scientists claim that they have not time to still correct and clarify this basic misunderstandings. It´s significant obstacle in communication with public because ordinary people often do not understand the basic terms and thus, they could understand what scientists are saying in indeed different way.

On the contrary, I had impression that this context is for certain of my respondents motivating. They claimed that scientists should try to correct the misunderstanding in society and educate people. They should present the results of their research and popularize issues which are important for society. Some of them told me that this is a kind of moral duty and obligation for scientists. Thus, it is very interesting that one context could have different effects on certain scientists. However, I would argue that it is deeply influenced by their epistemic community – certain are motivated by structural conditions and other ones discouraged.

Another important circumstance is that weather is concerning everybody. Thus, ordinary people like to talk about weather and they think they somehow understand climatology. Some of my respondents told me that climatology is perceived by society as a discipline which is not so complex and difficult like for example mathematics, physics, etc. I would argue, that climatology has specific position. I would compare to the one of social sciences.

People generally differentiate between certain scientific fields. They perceive some of them more complex (and thus, more "scientific" and neutral) and the others as simpler (and thus, they have impression that it is easy to talk about them). I would say that this is traditionally problem of social sciences. However, based on my expert interviews, I have impression that some climatologists deal with this problematic perception of ordinary people. These framings and perception influence whether they engage publicly or not, and whether people listen to them or not.

Also experts of other fields somehow tend to think that they understand climate, climatology, and climate change. They tend to present their subjective opinions publicly and shape what people think and how they perceive the whole issue. Almost most of my respondents claimed that this is indeed significant problem for them. Non-climatologists frame the whole issue, but what is worse, media tend to offer them more space.

3.2.4.2 Media

Media was another very important field I was focused on. Jasanoff is not dealing with media as an actor, but through my expert interviews we were talking about media as an important and very influential actor many times, thus I have decided that I should analyze them separately. Another reason was that media should offer space for climatologists´ engagement. They should be a tool how they could reach public and society.

However, as I have analyzed based on interviews, media do not offer much space to climatologists. They prefer rather non-climatologists and their opinions which are sometimes more attractive. However, most of my respondents said that media sometimes ask them to make an interview or appear in TV discussion. And climatologists are mostly willing to engage in these ways.

There are however also certain obstacles they have to deal with. Journalists also do not understand the difference between climate and weather. They are sometimes biased and choose respondents who have similar opinions. Media are also not much interested in the issue of climate change. Most of the articles that I have reached were rather global news translated and taken from news agencies or foreign media.

These articles and news tend to be rather sensational and catastrophic. The words are similar and chosen to attract attention and raise number of readers. Journalists simply need sensation because of profit. Serious and more analytical articles are not read by many people and do not contribute to popularity of medium.

Climate change is issue only if something catastrophic is happening. If we deal with extreme weather, journalists tend to write about it, but when everything is as usual, this topic is indeed not interesting. Most of my respondents said that this is really no hot topic, neither in society, politics nor in media.

One of my respondents has also very negative experiences with some journalists who changed his answers. They added or cut some words and publish interviews without his authorization. He said to me that in his opinion, media are manipulated by their owners who prefer certain narrative and topics.

All of these circumstances could be discouraging climatologists from public engagement. However, many of them told me that they still engage publicly, agree with interviews or go to discuss the issue on TV.

3.2.4.3 Politics

The last very influential domain which has impact on climatologists is politics. As in previous cases, there is also generally the lack of interest in the climate change as topic which should be dealt with. However, political environment has also changed. The strong climaskeptical narrative of former President is still somehow presented in opinions of some politicians. Mainly ODS party tends to use his arguments in debates concerning climate change and necessary measures which should be adopted.

Klaus´ era was indeed special and influential for also current context, worldviews and opinions. As we have seen, the Czech Republic was the last country who ratified the Paris agreement. This was caused mainly by reluctance of ODS party and some politicians. They should label this international document as very harmful and even against the constitution.

These politicians succeeded in postponing the ratification which could somehow harms image of Czech Republic on international level because for certain period of time, the Czech republic was not progressing as other international actors. It is obvious that the context and circumstances in Czech Republic are indeed special concerning the issue of climate change. One strong politician with influential narrative was able to shape and frame the issue for many years. However, this effect is weakening, and we shifted into the period of general lack of interest.

The really interesting point for me was when my of my respondents remembers an article which appeared on internet eleven years ago. Author used indeed strong words and deeply harm image of climatology as serious scientific discipline. This article is very illustrative and it demonstrates the general narrative and discourse of time when it was written. As this respondent said to me this has so strong effect on some scientists that it somehow influences them still until nowadays.

Thus, it is understandable that some climatologists are still more or less reluctant to engage more actively. I had impression that they do not want to be labeled as alarmists. They want to stay serious and neutral. They want to avoid discussions about concrete measures that should be adopt because of climate change. Some of these measures could be uncomfortable for people, thus they would perceive them negatively. I would say that many climatologists are very cautious of what and how they would say and how they would engage. Some of them really perceive public engagement as “thin ice”.

It is interesting that even they use labels such as “alarmist” in case of scientists who engage more actively. They think that some of them warn and scare people too much which is not appropriate.

3.2.4.4 Mutual relationship

Therefore, scientists´ engagement is strongly influenced by specific Czech context (society, politics and media) – which are structural conditions for their (dis)engagement. However, I would argue that the mutual influence (co-production) is in this case stronger in one direction than in the other. Society and politics tend to influence science more than science influences them.

Based on theory and literature review, I would argue that scientists should be ideally perceived as security experts and providing their knowledge and scientific facts as important and necessary expertise in decision-making process. I will be focused on security expertise and securitization later on.

Politicians should themselves engage scientists and ask them for expertise. This is however somehow happening. Certain ministries need this knowledge in formulating some strategies for future. Scientists are sometimes also engaged in some projects in for example urban planning or others. However, I would say that this occurs rather rarely, and scientists are more or less supposed to dedicate themselves to research.

Co-production is present in the way how society and politics influenced and is still influencing, changing and framing their status in society, general narrative of climate change and their public engagement and activities.

According to the Jasanoff´s concept, scientists and their knowledge should also influence society and public. It is true that current attitude of politicians and ordinary people is more or less acceptance of climate change, however I would argue that this is rather caused by trends and events on international level. Without the COP21 (Conference of the United Nations in Paris in 2015) and the Paris Agreement, the issue of climate change would not be dealt with by politicians or by journalists.

International environment, actors and narrative contributed and influenced domestic discourse and attitude more significantly. However, despite the general acceptance, there is still some reluctance present in society and politics.

People perceive climate change as threat but they would not agree with necessary measures which would change their habits, desires and way of living. According to Jasanoff,

knowledge would have impact on how we live. Thus, climate change would lead to lesser consumption, more sustainable lifestyle, use of renewable sources of energy, etc. However, in these cases, we see a kind of resistance.

Many domains such as energy sector, agriculture, industry and business would be somehow affected by exceptional measures adopted because of fighting against climate change. However, there are interests of many people, not only the ordinary ones, but also many stakeholders, lobby groups, businessmen, etc. Their interests have to be considered by politicians in decision-making. Thus, they could not regard only scientific facts. This topic becomes very sensitive.

Thus, it is obvious that co-production is not so ideal in this case. And I would argue that mutually influential relationship between science, politics and society, which is definition of Jasanoff´s concept, is not so balanced. During my research and analysis, I have seen an obvious dominance. Impact of society and politics on science was stronger than vice versa in the specific Czech context. Knowledge somehow influences culture and power, but not really intensively, and many times, there are stronger trends such as international pressure.

From the perspective of climate change, Czech context and circumstances are indeed important and essential. The context composed of society, media and politicians are structural conditions for climatologists´ engagement. My argument is that co-production is not balanced in the Czech case. I have argued that climatologists are more influenced by media, politicians and society than vice versa. However, co-production is present also in this case. Society and politics are influenced by scientific knowledge. However, this knowledge and influence come rather from international actors than the domestic ones. Domestic structural conditions are on the first sight rather negative and discouraging for climatologists´ engagement. However, some of them react to the context differently, and they are rather motivated to correct misunderstanding and popularize the issue.

Therefore, co-production focused on science, society, and politics is important to understand how and why climatologists engage – on political or societal level. In the next part, I will argue that structural conditions are very important also for concepts of Security Studies.

3.3 SECURITY EXPERTISE: Structural conditions and status of climatologists

In the previous sections, I was focused on engagement of climatologists in security politics and structural conditions for their engagement or disengagement. My research was indeed untraditional for Security Studies. However, I will argue that it contributes to concepts of Security Studies such as security expertise and securitization.

My findings provide another perspective on these concepts. I will argue that structural conditions (context of certain state/society) are crucially important for successful securitization and security expertise. In this part, I will be focused on the impact of structural conditions on status of climatologists as security experts. There are numerous important structural conditions that I have identified during my research and I will present some of them in this part – such as their skills, organization in which they work, perception of climate change, sensitivity of the issue, attitude of politicians, etc. As there is no specific definition of security expert, I will argue that it is rather based on context. I will argue that when structural conditions change, the status of experts change as well.

3.3.1 Skills

There is no general definition of what does it mean to be an expert. We have only many terms and labels which are used interchangeably: intellectual, scientist, professional. However, a person has to have certain knowledge and/or authority to claim this knowledge. (Berling & Bueger, 2015)

A person could obtain an expert status based on his knowledge and skills, or by attribution of status by audience (Berling and Bueger, 2015). I find this argument very important and valid for my research. During my expert interviews, almost all of my respondents were talking about non-climatologists, pseudo-experts who think that they could present their opinions, that are de facto subjective and non-scientific.

However, they obtained certain status by audience who is willing to listen to them and consider their opinions. In many cases, they do not possess necessary knowledge and education, they do not understand certain terms. However, they think that their opinions are valid, and they somehow obtained authority by audience.

Another very important point is that to be an expert someone have to possess knowledge and skills. In this case, I would emphasize the importance of skills. During one interview, one respondent was explaining me that engagement of scientists is important, but

they mostly do not possess skills to do this. Scientists generally do not know how to communicate with public and with politicians. They were educated to be detailed as much as possible.

However, there is necessary to use some generalizations and shortcuts in communication with public. Also language and words have to be chosen very carefully to make public and politicians understand complex problems and issues. Scientists generally do not know how to do it, how to talk about difficult issues shortly and simply. The lack of skills could be discouraging for them. And it could offer space for other who have necessary communicative skills but not appropriate scientific knowledge.

3.3.2 Organizations

Experts are not only individuals, but also organization and institutions could offer their security and other type of expertise for decision-makers – IPCC is an excellent example. I would argue that international organizations and institutions played more significant and influential role in decision-making process than domestic actors who could serve as security experts and offer their knowledge.

Czech politicians rather listen to international type of expertise such as IPCC reports, and start to consider certain issues only because of international trends and shifts (e.g. COP21 and Paris agreement). Thus, domestic players were not so important, they were rather marginalized. My perspective could correspond with understanding of expertise as a process or mechanism, thus as an actor-network approach. (Halfon, 2006; Bueger and Villumsen, 2007)

The other type of expertise could be so called distributed agency – communities with shared knowledge. These could be just epistemic communities of Haas, which I have analyzed above. (Bigo, 2000; Slaughter, 2004; Adler, 2005)

Brysse, Oreskes, O´Reilly, and Oppenheimer analyzed cultural norms of scientific community which should determine whether scientists are more conservative and avoid communication with public (Brysse, Oreskes, O´Reilly and Oppenheimer, 2013). However, I would argue that it indeed depends on institution where scientists work. It determines whether and how much they engage and not, but also whether they are engaged by politicians as experts. CHMI is an illustrative example.

Many of my respondents labeled this institution as state advisor in issue of climate change. When state agencies and institutions want certain expertise, they ask CHMI. Thus,

scientists working there are able to engage more with politics and be somehow part of decision-making process. Scientists in other institutions such as university have another duties which are indeed time-consuming, thus according to them, they have no time for public or political engagement.

3.3.3 Capital

I would argue that scientists´ status is influenced also by the field itself. Science as a field has its own rules and expectations. There are certain types of capital which could be obtained through different practices, and thus, different type of behavior. (Latour, 1983; Bourdieu, 2004; Berling, 2011) Scientists could achieve different types of capital – economic (e.g. financial resources, grants), cultural (knowledge, experiences), social capital (networks, relationships, memberships), and symbolic capital (prestige, honor, other forms of recognition). (Berling, 2011; Salter, 2013)

My assumption was that climatologists would answer differently on my question concerning type of capital which they prefer. I assumed that they want to achieve certain type of capital, and thus, they do necessary practices which are needed. However, most of them were rather confused by my question. They said that they have to fulfill certain requirements such as number of academic articles published in scientific journals, or that they have to try to obtain grants and financial support for e.g. university.

I would argue that their practices, whether they engage publicly or try to do a kind of expertise, depend on institution that employ them. This determines what they have to do and how much time they have for another activities such as engagement. I have analyzed this more deeply in previous part focused on the concept of epistemic communities.

3.3.4 Sensitive issue

However, it is necessary to focus on structural conditions to understand status of climatologists in society. I would argue that structural conditions also determine whether they could obtain security expert status.

Climatologists are indeed limited in what they can and cannot claim. And as we have seen above, climate change could include very sensitive issues and interests of many important groups.

Moreover, people themselves would not agree with certain measures which should make them lower their comfortability and affect their lifestyle. There is also strong NIMBY

effect that I have already mentioned. Thus, there are many unpopular measures which could negatively affect scientist´s image.

Another important thing is that climate change is connected to business, agriculture and industry. As I have already stated, politicians cannot close all polluting factories or adopt some similar radical measures. There are business interests. However, scientists themselves very often told me that talking about measures is not their task. They all agree that their main task is to do research.

Most of them claimed that another task is to present their results to public and politicians, in case they consider these findings as important. Most of them said that another experts (e.g. economists) should analyze possible measures and recommend the most suitable ones. Climatologists should therefore only provide their knowledge. Measures are rather about their subjective opinion.

3.3.5 Perception of climate change

Therefore, is there a certain shift in status of climatologists or scientists as Sheila Jasanoff claimed? Scientific status should have shifted and developed into political role that important also for securitization and security politics. (Jasanoff, 2005) Security experts should clarify an extraordinary situation to public and propose some necessary measures. (Berling and Bueger, 2015) However, I would argue that Czech society does not perceive climate change as so urgent problem. Nowadays, as my respondents said, people generally understand that climate change is a problem and issue, but they are not willing to adopt necessary measures.

Moreover, climatologists are generally indeed cautious of what they say. They want to avoid being alarmistic or connected with ecologists. Their image was also deeply harmed by climaskepticism which was present in Czech Republic for many years, and this narrative is sometimes still used by certain people, also in politics.

Perception depends on context, but I would argue that climate change is understood as security issue on global level. The example could be already mentioned COP21 and many international initiatives. However, climate change has impact on various fields of security – societal, economic, energy, human, food, etc. However, I had also impression that my respondents perceived urgency of climate change differently.

They all agree that scientists/experts in climatology agree that climate change is happening, but they vary how deep the human impact on this phenomena is. And there are

some uncertainties also in climatology. One of my respondents said that these uncertainties should not be communicated towards public because it only harms the image of scientists as trustworthy experts.

He also said that there is difference between young and old climatologists. The elder ones do not want to somehow seen that climate change is so urgent problem. The younger ones, on the other hand, tend to be specialized in one concrete part of discipline, and thus, they lack some broader and complex view of the issue. This could lead to misunderstanding of some phenomena.

It is almost impossible to read all the new expert articles that are published. This respondent said me that there are thousands of such articles during a year. Thus, climate change and climatology is so complex discipline with so many consequences. It is easy to only choose certain articles which correspond with subjective opinion and use them as legitimization. This could lead to misunderstandings and different perceptions of climate change already on the scientific level.

3.3.6 Role of scientists

As there is no specific definition of what does it mean to be security expert it could be rather context-related. Also scientific status and engagement in security politics depends on particular society and its structure. (Rychnovská, Pasgaard, Berling, 2017) I would argue that in Czech Republic, scientists especially climatologists are not immediately perceived as also security experts. They have to obtain certain authority and acceptance by audience to be able to present their opinions. As I have already stated, politicians tend to choose experts according to institutions in which they work, or based on arguments they want to hear.

Society also shapes how a scientist see his or her role in this system, whether he or she perceives this role as security expert or try to be apolitical. (Rychnovská, Pasgaard, Berling, 2017) I would argue that this is indeed valid type of argumentation. In case of security expertise and status of scientists, structural conditions are definitely determining and deeply important for scientists. As we have already seen, also in Czech Republic there was a significant shift in the main narrative and perception of climatologists.

During the era of former President Klaus, climatologists were seen in very negative way, and the general narrative was indeed harmful for their status. However, this changed, and nowadays, they are more respected and accepted by society, media and politicians. Nevertheless, this could have still very influential impact on their behavior, as one

respondent explained me. Some of them really want to avoid public engagement. Thus, status of scientists is changing according to current structural conditions.

The ideal situation, in which scientists should behave as real security experts and be heard by public and politicians, is not happening in the Czech Republic. There are many obstacles for this model situation. I would argue that the most influential is the fact that climate change is not seen as urgent threat to our security. Another thing is that necessary measures would affect many interests, sectors and even comfortable life of ordinary people. There is also lack of interest in this topic, and lack of willingness to accept extraordinary measures. We have to also consider previous experiences and history of climaskepticism in Czech Republic. Another fact is that climatology has special status, because many pseudo-experts without relevant knowledge present their opinions.

I have presented few structural conditions that I identified as very influential. I would argue that my research and analysis approved my argument that to understand security expertise and role of scientists in politics, it is necessary to study and analyze the specific context – society (culture), politics (power), and science (knowledge) – and discourses which prevail in these unique circumstances. This could be reason why there is no general definition of security expert. When structural conditions change, status of climatologists change as well. The definition could be diversified and accommodated to circumstances – structural conditions.

3.4 SECURITIZATION – What are the obstacles for successful securitization concerning climatologists as security agents?

My analysis was focused on engagement of scientists in security politics. However, during my research, I have been dealing with many other important concepts – e.g. co-production which is not part of Security Studies. I would argue that my whole research and analysis have impact also on very important concept of Security Studies, securitization. I will argue that my research and analysis could provide evidence for Balzacq´s criticism of traditional securitization. I will also argue that it is necessary to analyze structural conditions to understand whether securitization of specific issue is possible or not.

3.4.1 Balzacq´s criticism

Securitization is traditionally understood as a concept of Copenhagen School. Its scholars framed it as a speech act. It is very interesting process when an issue becomes

securitized through illocutionary speech act of securitizing actor. He or she tries to persuade audience that a referent object is threatened, and thus, exceptional measures have to be applied to resolve a critical situation and avoid a dangerous threat. This whole process has its grammar, language, structure, etc. (Buzan, Waever and De Wilde, 1998)

However, concept of securitization came through its own important development. Later on, many scholars criticized and question the traditional view of illocutionary or speech act presented by Copenhagen School. And I would argue that my research validate their statements.

According to Balzacq, securitization has three another very important factors which determine whether the whole act would be successful or not. These are audience, context and securitizing agent. It is obvious that Copenhagen school was dealing with these elements as well, but I would say that they understood them from different perspective. (Balzacq, 2005)

Balzacq is arguing that securitization is not an illocutionary or speech act but rather pragmatic or strategic action. In his article, he was explaining that it is essentially important to know hidden frames and references of audience, whether this audience is ready to be persuaded by securitizing actor – it relates with the fact how audience perceive this actor; and also whether audience is able to legitimize a formal mandate to officials. (Balzacq, 2005)

The second element highlighted by Balzacq is context. Securitization is deeply context-dependent. It has impact on the listeners and the way how they perceive current situation. Thus, it depends on society and environment in which people live. It depends on their previous experiences, culture, norms and values. Balzacq was talking about so called Zeitgeist – the spirit of time. (Balzacq, 2005)

The third Balzacq´s argument is focused on the securitizing actor himself. It is necessary to ask question whether this actor is capable to choose appropriate words, metaphors and language to persuade the audience; how he or she perceive the situation, what are his skills and opinions; etc. Thus, it is important to focus on the status of this actor, his skills, determination, and willingness, to assume whether the securitization would be successful or not. (Balzacq, 2005)

Also another scholars agreed that securitization is more complex than originally presented by Copenhagen School. It is a social process which includes mutual relations of various actors, many practices and tools, and political and non-political agents.

Securitization is not only about discourse, but also about technologies (science), specific context and development of certain frames and perspectives. (Rychnovská and Daniel, 2015)

3.4.2 My research

I would argue that my research corresponded and validated all the arguments presented by Balzacq in his article. I was focused on or touched all the important conditions he described. The aim of my research was to study the elements which support or deny successful engagement of scientists in security politics. These elements (conditions) influence security expertise and role of scientists in securitization.

I was trying to understand the whole context through the concept of co-production from Science and Technology Studies. I was de facto focused on the Czech Zeitgeist – Czech context (structural conditions). I would argue that two Balzacq´s elements – context and audience – are indeed deeply interrelated and interdependent in my research. I was focused on Czech society, media and politics to understand how they perceive the issue of climate change – what is the prevalent discourse and frames.

I would argue that the whole context with its prevalent discourse is developing. It is obvious that there was shift from broad climaskpeticism in 2007 to indifference and a kind of acceptance. This is however caused by more various set of actors, facts, events and influences – e.g. political initiatives on international level which have strong impact on domestic politics.

It is obvious that securitization of climate change was de facto impossible in 2007, the main period of climaskepticism. Nowadays, it is still somehow possible but still quite sensitive because of strong impact of exceptional measures on certain people and stakeholders. I would argue that society and context is developing towards more suitable situation for securitization of climate change.

Another important condition is whether a securitizing actor is seen as trustworthy and what are his skills. In previous part, I was focused on status of climatologists, and I argued that this status is influenced by structural conditions. Experts and specialists should be engaged in security politics and securitization, mainly in scientific issues such as climate change. They could be securitizing actors as well, they just need to have certain status in society. However, this status is influenced by structural conditions of certain state.

I would argue that this element is evolving as well. Few years ago, climatologists had very negative reputation. However, the perspective is changing. They are now seen as more

trustworthy. Media engage them more and society is more willing to listen to them. Some of them are very active and try to present their results to public. Some even provide their knowledge to politicians or bureaucrats. This situation depends on many otherconditions as well (e.g. a type of institution where they work).

Therefore, I would argue that a really successful securitization including a climatologist as security expert is still impossible in Czech context. However, there are many significant shifts and developments. Some climatologists are nowadays more engaged, and determined or willing to influence public opinion. Also society (culture) and politics (power) are becoming more or less ready to listen to their arguments.

I would personally label current situation and climatologists´ engagement as indirect securitization or security expertise. They try to influence politicians (and thus, security politics and securitization of climate change) through educating public. People could start to understand climate change as important issue. And finally they could influence the whole decision-making process by simply voting for more "greener" party or politicians with similar perception of climate change.

Thus, my research could be used as an evidence for perspective on securitization presented by Balzacq and others. It also showed how it is necessary to use firstly sociological concepts to understand context, to be able to correctly analyze politics and its concrete spheres such as security. Security expertise and securitization are deeply context-related. The Czech Republic as well as climate change are very illustrative case studies.

Conclusion

At the beginning, I was interested in climate change as a threat and issue that should be securitized which is my personal opinion. I understood that securitization of climate change is happening on international level and also on domestic level in certain countries. Climate change is based on scientific knowledge, thus climatologists – scientists studying climate – are indeed important actors in this process. Therefore, I was focused on these potential actors in securitization, and I asked how they engage in security politics – this was my first research question.

However, I wanted to go beyond this question, and discover structural conditions of their engagement or disengagement. I assumed that such findings could provide interesting insights and perspective on concepts of Security Studies.

I chose to do expert interviews with climatologists to obtain necessary data. I had also used my personal observations and additional data – such as articles, documents, etc. Based on consultation with analytic Klára Sutlovičová who is focused on climate change and is in contact with many climatologists, I contacted several of them. Some recommended me another scientists, thus the number of respondents increased. Eleven Czech climatologists agreed to answer my questions and provide me very interesting data.

I structured these data and my whole analysis into two parts. The first one was focused on the first research question. I was presenting how Czech climatologists engage publicly and on political level. They are generally not so much active. Most of them are willing to engage publicly – they appear in television debates or give an interview for journalists. Most of them highlighted that it is important to inform and educate public, but there are many obstacles for their engagement. Some of them are engaged even on political level – they help to amend and question for example official documents.

Climatologists´ engagement is also influenced and determined by institution where they work. I used a concept of epistemic community by Peter M. Haas. According to his definition, epistemic community is a network of authorities which share knowledge, norms and beliefs, and are accepted by audience. (Haas, 1992) Based on this definition, I identified not one, but more epistemic communities concerning Czech climatologists. Those working at universities have less time to engage than the ones from the Czech hydrometeorological institute or scientists of CzechGlobe. Ministries engage mostly climatologists in Czech hydrometeorological institute. On the other hand, CzechGlobe is very active, because its climatologists perceive engagement as part of their work.

In the second part, I went beyond my first research question and focused on structural conditions of (dis)engagement in my second research question. I wanted to discover the reason why is the level of their engagement like this. I was focused on three elements of the context – society, media and politics. All these elements were rather discouraging climatologists from political or even public engagement.

Some structural conditions were similar on all three levels. People, politicians and journalists mostly perceive weather as something easy to talk about. They misunderstand many scientific terms and concepts, and use them interchangeably. They have also many interests which could be in conflict with necessary measures. However, this could be valid also for many other countries, but the Czech Republic has many experiences with previous era of climaskepticism which worsen these elements and current context.

Climatologists could also perceive engagement as threat to their reputation. During the presidency of Václav Klaus, the prevailing discourse of climate change was very negative. It harmed image of these scientists and discouraged them from any engagement. This era of climaskepticism have repercussions even today. Thus, many climatologists have very negative experience with public engagement, and they rather stay inactive today.

After focusing on each element, I used the concept of co-production. Jasanoff´s concept is based on mutual relationship between science (knowledge), politics (power), and society (culture). However, I added also media as an element because I identified it as important.

The relationship between these elements is not so balanced. I argued that society, media and politics are influencing climatologists (in their engagement) more than vice versa. Knowledge of climatologists is influential, but this powerful knowledge comes from international level (e.g. IPCC or Paris Agreement, thus foreign scientists and politicians). Structural conditions of the Czech Republic are rather discouraging climatologists from engagement. However, there are some of them who are motivated by this context and do not stay inactive.

I argued that these findings provide interesting perspective on role of scientists, security expertise and securitization. It resonates with Thierry Balzacq´s arguments. In his articles, he criticized traditional perspective on securitization, and stressed another important elements such as context or audience. (Balzacq, 2005)

My research was precisely focused on context (structural conditions) and certain actors (politicians, media, audience, climatologists). I argued that these elements are

crucially important for successful securitization of issue such as climate change, but also for the role of security experts.

My Master´s Thesis was quite untraditional for Security Studies, but it should be seen rather as advantage than disadvantage. I combined concepts from different fields to analyze and understand a complex issue. And this type of research provided interesting results and perspective.

Level of engagement of climatologists is generally rather low. However, as I mentioned various times, situation is improving. Czech context shifted from indeed negative climaskepticism towards a lack of interest and even a kind of acceptance. Most of the Czech society, media and politicians started to see issue of climate change differently. Discourse is evolving. And one day, there will be maybe a Czech James E. Hansen.

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Master's Thesis Summary

This Master´s Thesis called „Climate expertise and security politics: the case of the Czech Republic“ examined engagement of Czech scientists who study climatology in society and politics. To analyze their engagement and participation this Thesis used different concepts from various studies – e.g. co-production and epistemic communities. It used data from expert interviews with Czech climatologists. The paper came to several conclusions. Czech climatologists are generally not so active publicly and in politics. They do not form one coherent epistemic community but several of them. This lack of coherence lowers probability of successful engagement and achievement of security expert status. This current situation is influenced by structural conditions – society (culture), politics (power) and media. These elements are rather discouraging climatologists from engagement in the Czech Republic. However, there are also some of them who are motivated by these negative conditions. The Czech Republic is very specific concerning its attitude and understanding of climate change, mainly because of unique history of climaskepticism and strong negative discourse of opinion-leaders. However, the situation, attitude and discourse of people and politicians are improving. This Thesis also argued that to understand securitization and security expertise it is necessary to focus also on structural conditions and context of a particular country.

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Project of master´s thesis

Climate expertise and security politics: the case of the Czech Republic

Name: **Viktória Pokorná**
Academic year: 2017/2018
Superviser*:* **Dagmar Rychnovská, Ph.D.**

Research question

How climate change experts (climatologists, scientists, academics, lobbyists and scholars) engage in security politics of climate change in Czech republic?

Research topic

Topic of climate change is nowadays de facto omnipresent. We are confronted with vast number of articles, information and evidence that climate change is really happening and its consequences are dangerous threats to our society and security. There are mainly experts such as scientists, climatologists, academics and various lobbyists who try to influence decision-makers and politicians to take inevitable steps and important actions to prevent the worst case scenario of climate change.

We see these actions and special policies in many countries such as Norway, Finland, Denmark, Canada, Germany and many others. Even poluter such as China finally understood the importance of climate policy. Also many actions are taken on global international level (Paris climate agreement). This trend led me to question the situation in our region. The lack of such climate change policies and activities in Czech republic, Slovakia or Poland. Our region is still somehow ignoring and marginalizing facts presented by various experts. Politicians still tend to support policies which are damaging our natural environment and accelarate climate change (for example investments in coal power plants). I would like to find out the reasons of this ignorance by examining relationship between climate change experts and security expertise because I think that quality and character of this relation could be crucial predictor of success of climate change policies.

Theory and concepts

I will use and apply mainly concept of security expertise. This theory of Security Studies is focused on ways how scientists and other security experts frame and shape threats and issues. It studies also their influence on society and their impact on our understanding of threats and security. Type of knowledge and specific language are indeed important. And this theory also examines who are security experts, how is their status constructed in particular society and how they use their status to influence politics. (Berling and Bueger, 2015) I will analyse mainly acticles by Trine V. Berling & Christian Bueger and other scholars who are focused on this concept. I will also use Peter Haas´s concept of epistemic communities, that should be understood as a group of professional, academic or scientific

experts who share the same knowledge and opinions and who influence decision-makers and policy. (Haas, 1992)

I think that during my research I will deal with another theories of Security Studies which are connected with security expertise, such as securitisation, strategic culture, politics of exception, framing, expert credibility and others. However, I will surely use also some theoretical concepts from Sociology, which tries to explain relationship between science and society, concretely concept of co-production of science, society and politics by Sheila Jasanoff because she explains how are these domains shaping and influencing each other. (Jasanoff, 2004)

Operationalization, analytical framework & methodology

I would like to apply these concepts and theory to understand the state of climate change experts in specific context of Czech republic. Firstly, I will try to discover which personalities are understood as experts of climate change in Czech republic and have specific social status. I will be focused mainly on scientists and academics but also on experts from various institutions such as think tanks and NGOs. However, I would like to be focused also on experts who lead projects about climate change and who try to lobby and influence decisions of politicians in for example energy politics which is highly connected with climate change. I suppose that these experts are mainly working in NGOs, think tanks and other institutions.

I will make interviews with some of them in which I will endeavour to answer my research question. I will analyse their answers and opinions by using mainly discourse analysis which will be my main methodological tool. I would like also to try to analyse their results and impact of their campaigns, academic papers, scientific or ordinary articles and other activities and compare these activities with real changes in politics and current official policy of climate change in Czech republic.

However, my main intention will be to state and specify relationship between climate change experts and security politics in Czech republic. I will try to state whether they securitise this topic and what are their impact on Czech politics.

Data

I will analyse interviews with climate change experts, their answers and opinions. I would also like to use results of their work (policy papers of NGOs, articles in media of these

experts, web pages, statistics, reports of campaigns, etc.) and compare them with current official policy and actions in climate change domain. Thus, I will also use articles about climate change policy and activities and official statements of government in Czech republic to see impact of Czech climate change experts.

Possible findings

I think that researchers have a certain kind of responsibility towards society and their research should lead to not only academic but mainly social and political outcomes. However, effort of scientists and experts leads to impasse without the will of policians and decision-makers. Thus, I think that relationship between them is mutual and indeed important. These are the reasons why I want to study and examine the relationship between climate change experts and security politics. I think that character and quality of this relationship could answer many crucial questions concerning climate change policies and activities and lead to another debate.

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