NATIONAL UNIVERSITY OF PUBLIC SERVICE

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SYNOPSIS
of the doctoral (PhD) dissertation

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The theory and linguistic-rhetorical toolkit of Russian information warfare

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Content

1. Presentation of the scientific problem

The most general description of the investigated phenomenon, possibly covering all variations could sound like this: misleading the public, media consumers and political decision-makers, influencing their thinking and actions by means of distorted, manipulated information that does not reflect reality and by media products that contain such information.

In recent years, especially since 2016, fake news, disinformation and propaganda have become an everyday topic in press and public discourse, and the number of publications on the subject has also increased dramatically. The phenomenon is mostly associated with Russia, as it first came into the limelight as the supposed tool of Russian interference during the Ukraine crisis beginning in 2014, the Brexit referendum and the 2016 US presidential election, but it has now become known that other states also use it, many times probably copying the Russian model. Thus, this activity, originating in the toolbox of intelligence services, came to play an important role in global foreign and domestic politics.

In connection with the Covid19 pandemic, it could be observed that not only Russian disinformation exploited the issue with great intensity and fabricated various narratives, but China also spread conspiracy theories and other narratives about the origin of the virus. With the Russian invasion of Ukraine in 2022 and in connection with the Russo-Ukrainian war, European societies and the global public opinion have since been confronted with the problem on a daily basis. Through the almost unlimited sharing of content and accelerated flow of information made possible by Internet news sites, social networks, video sharing portals, and the spread of smartphones, manipulation by information has become a factor influencing global politics and everyday life.

In spite of the topicality and practical implications of the subject, the number of scientific publications dealing with the issue is insignificant compared to the amount of press articles, journalistic writings, reports prepared by research institutes and state bodies. This paper aims to compensate for this shortcoming.

With the increased interest in influencing by information in recent years, the use of concepts and terminology shows a rather colourful picture: it seems that there is no consensus on how to call it, so many people use a variety of terms: fake news, propaganda, disinformation, information warfare, hybrid warfare etc.

The terminological confusion is likely partly caused by the fact that it is a subject that does not fall within the scope of a single discipline, as approaches from communication studies, information theory, military science, political science, but also international relations theory,

sociology, social psychology, linguistics or philosophy, are all justified. The terminology used may therefore also depend on the discipline from which the respective author approaches the question. The complexity of the phenomenon may justify an interdisciplinary approach, which this work seeks to highlight.

2. Research aims, questions and hypotheses

The main goal of the research is to examine the nature of Russian informational influencing activity, and particularly the linguistic-rhetorical-logical tools it uses.

This, of course, requires an examination of the phenomenon and the concept itself, so the first question to be asked is what the phenomenon is we are dealing with, which is referred to by various names: fake news, disinformation, information warfare, propaganda, etc.; what do these terms mean, what kind of historical background they have and which one is most appropriate for the present research. In addition to clarifying the concepts and outlining their historical background, the goal is also to systematize and classify them.

In addition, the dissertation aims to contribute to knowledge in the field by studying the phenomenon from a linguistic and logico-rhetorical approach, and by using empirical research to explore the linguistic and logico-rhetorical tools of Russian information warfare, i.e. the techniques used in texts by media considered to be mouthpieces of Russian propaganda in order to achieve the desired effect.

Research questions and hypotheses:

1. What differences can be discovered between information warfare, disinformation, propaganda and other related concepts based on the criteria of the various relevant disciplines, and how can they be most accurately defined and conceptualized?

1. hypothesis: An interdisciplinary analysis of the phenomenon and concepts will lead to more precise definitions and will provide a framework for the analysis of Russian information warfare.

2. What linguistic tools does Russian informational influencing use?

Hypothesis 2: The most important linguistic tools of Russian informational influencing are the vocabulary used to manipulate emotions and the use of false reasoning schemes (fallacies).

3. Which linguistic features can be detected using Natural Language Processing (NLP) as distinguishing features of propaganda texts?

Hypothesis 3: With the help of Natural Language Processing, it is possible to detect the proportion of words with emotional content in propaganda texts, which can be placed along a positive-negative emotional scale, and from the proportion of words related to perception, referring to insight and certitude, it can be shown that the communication has a deceptive purpose.

4. What kind of faulty reasonings (fallacies) are characteristic of Russian propaganda texts and what function do they serve?

Hypothesis 4: An informal logical analysis of Russian propaganda texts can be used to identify the most frequently used faulty reasonings (fallacies) in Russian propaganda texts, which can lead to a distorted perception of reality by the recipient.

3. Overview of research methodology

The empirical part of the dissertation uses the method of discourse analysis and is based on the examination of the linguistic products of Russian information warfare. The quantitative part of the study uses the text analysis software LIWC, which gives an idea of certain characteristics of propaganda texts based on the measurement of psycholinguistic parameters and word frequency. The qualitative part of the study focuses on the analysis of different faulty reasoning schemes and narratives through manual/human analysis of the texts. The analysis is based on case studies: it examines Russian informational influencing activity in relation to various relevant recent international events through the publications of certain online news sites selected based on the methodology to be detailed later.

Research examining the linguistic characteristics of deceptive texts (*deception detection*) has an extensive literature. According to the Undeutsch hypothesis (1967)[1],

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[1] Udo Undeutsch, 'Analyse Der Aussage', in *Handbuch Der Psychologie*, vol. 11 Forensische Psychologie (Göttingen: Verlag für Psychologie Dr. C. J. Hogrefe, 1967), 125–73.

statements based on facts differ in style and quality from fictional ones; according to Zuckerman's four-factor theory (1981)[2], lying is expressed differently in terms of arousal, behavioral control, affective states, and cognitive complexity; and according to McCornack's information manipulation theory (2014), in the case of deception, the violation of Grice's Maxim of Quantity is the most common dues to omissions[3]. Various authors have identified a number of linguistic features that, according to their research, are typical of deceptive texts, however, there are often contradictions between these results. Deceptive texts have mostly been investigated using Natural Language Processing (NLP), with many studies using the LIWC text analysis software developed by James W. Pennebaker and his colleagues at the University of Texas.

The qualitative part of the dissertation uses the 2022 version of LIWC. The two main components of the LIWC software are the processing module and the dictionary. The processing module is the software itself, which analyses the given text files word by word. It compares the words with those in the dictionary file, which are classified into different categories. LIWC has an extensive dictionary that assigns one or more categories to each word. When LIWC analyses a text, it compares each word in the text against a list of dictionary words and then calculates the percentage of total words in the text that match each dictionary category.

Using the LIWC approach, we can look for psychological patterns within texts or between texts and individuals by quantifying different topics. Although the method was basically developed for psychological research and is mainly used for such purposes, it can also provide relevant information on propaganda texts in terms of the complexity of the texts, the attitude of the author, the manipulation of emotions and the dominance of certain topics. In addition to the above, the study also draws on the results of political psychology research. In the political psychology literature, three emotions are consistently highlighted as the basis of political cognition and behaviour: anxiety, enthusiasm and anger[4].

According to my knowledge, the deception detection method and in particular the LIWC text analysis software, the most widely used in this field of research has not yet been applied to the analysis of state propaganda, including texts specifically of Russian origin using informational influencing. In the course of the research, I used this program to analyse a corpus

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[2] Miron Zuckerman, Bella M. DePaulo, and Robert Rosenthal, „Verbal and nonverbal communication of deception", *Advances in Experimental Social Psychology* 14 (1981): 38, https://doi.org/10.1016/S0065-2601(08)60369-X.

[3] Steve McCornack et al., 'Information Manipulation Theory 2: A Propositional Theory of Deceptive Discourse Production', *Journal of Language and Social Psychology* 33, no. 4 (2014): 19.

[4] Elizabeth Suhay and Cengiz Erisen, 'The Role of Anger in the Biased Assimilation of Political Information', *Political Psychology* xx, no. xx (2018): 4, https://doi.org/10.1111/pops.12463.

compiled from texts of Russian state-backed Internet news sites, and compared them with other texts of the same genre and topic published in media considered to be independent and objective. I have collected 'disinformation' or 'propaganda' texts from Internet news sites that are generally considered to be propaganda sites, news sources that regularly publish misleading information, and that are known to be funded, directly or indirectly, by the Russian state.

The other part of the analysis was done without the help of software and focused on detecting reasoning errors and fallacies that cannot be detected by computer-assisted analysis. The analyses of Russian disinformation and propaganda texts have so far focused almost exclusively on content elements, primarily on the analysis and classification of different narratives, and have made little use of the possibilities of logico-rhetorical analysis[5].

The study is inductive, i.e. relying on the detectable features of the corpus compiled on the basis of the given criteria, and on the differences between these features and the reference corpus, it tries to establish the linguistic features of Russian propaganda texts and the flawed, misleading argumentation schemes used.

In order to be able to carry out a quantitative analysis of Russian propaganda texts with the help of LIWC, a preferably representative sample of texts published in Russian propaganda media was necessary. In applied linguistics, such text collections, text compilations, are called corpora.

In compiling a corpus representing Russian propaganda, I tried to take into account the following criteria:

1. It should contain texts from news sites where there is a clear Russian state affiliation or reasonable presumption of it, and they are commonly regarded as propaganda sites;

2. It should preferably contain articles from the most important, most read news sites;

3. It should contain articles on a variety of topics, dealing with controversial issues in connection with which, according to Western perception, a lot of Russian disinformation and propaganda texts have been published;

4. The articles should be from a specific time span, which ensures the greatest possible thematic agreement between them (preferably covering the same specific events);

5. In addition to news articles, it should also include opinion pieces as it cannot be assumed that the average reader would distinguish between them;

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[5] One of the few exceptions: 'The Manipulative Techniques of Russia's Information Campaign' (Riga: NATO StratCom COE Center for International Studies, 2015), https://stratcomcoe.org/publications/the-manipulative-techniques-of-the-russian-information-campaign-against-ukraine/154.

6. The selection of articles should be automated if possible with as little regard as possible to the content and style of each article.

Two English and two Russian-language media outlets were chosen for the corpus in order to represent the propaganda texts intended for the Russian-speaking, mostly domestic audience, as well as the foreign, typically Western, audience. However, I treated these two types of texts as a single unit and did not separate them for the purposes of the analysis. The four selected Russian media are the news sites of *RT* (*Russia Today*), *Sputniknews*, *RIA* and *RIAFAN*, and the topics covered are the Covid19 vaccination, the poisoning case of Russian opposition politician Alexei Navalny and the Russo-Ukrainian war. The corpus contains 711 articles, with a total of about 1060 A/4 pages or 268 thousand words. The articles will cover a wide time span, with smaller and larger intervals from August 2020 to April 2022.

LIWC provides quantified values for the proportion of each linguistic element in the text (as well as the length of sentences). To be able to interpret and compare these values, it is necessary to know the proportion of the same elements in texts of similar genre, topic and language. In order to be able to compare the examined corpus with texts that are similar in all respects, but do not serve propaganda purposes and are presumably not (or to a much lesser extent) using informational influencing tools, it was necessary to build another corpus, that plays a similar role to the control groups known from medical experiments. Thus, the original and the control/reference corpus together form parallel corpora.

When creating the reference corpus, I considered the following aspects:

1. It should be derived from media outlets that are identical in their formal and technical characteristics to the ones in the original corpus (Internet news sites where news and opinion articles appear several times a day);

2. It should be derived from media outlets that that are widely regarded as objective, authoritative, reliable and which are the least likely to be accused of fake news, propaganda and informational influencing;

3. Similarly to the original corpus, it should be drawn from several different media outlets (the more different media outlets are used, the easier it is to offset the specificities resulting from individual editorial practices);

4. It should be of the same order of magnitude as the original corpus (since the reference corpus is not being analysed, but is only being used as a sample, it was not considered necessary to build a corpus of exactly the same size);

5. The topic of the articles from which it is compiled should match the original corpus as closely as possible (it was implemented by searching the archives of the news sites for identical keywords/tags);

6. The time of creation of the writings should be as close as possible to each other (I tried to enter the same starting times for the search, where this was possible).

In order to minimise subjective bias in the selection of media that are considered objective and trustworthy, I have examined several different press rankings that list the least biased and most objective news sites. Based on these, as well as taking certain technical aspects into account, I selected the following four English-language media outlets: *ABC News*, *AP*, *Financial Times*, *Reuters*. The reference corpus consists of 120 articles and about 100,000 words of text (approximately 300 A/4 pages).

For the corpus of Russian-language propaganda texts, a reference corpus of texts in Russian has also been created from media outlets not affiliated with the Russian state, which are considered reliable. However, due to technical reasons – the 2022 version of LIWC does not have a Russian dictionary, and the earlier, 2007 version, according to my observations, is not sensitive enough to detect the features under investigation – the software-assisted analysis ended up covering only the English texts, so this reference corpus was not used.

4. Brief summary of the chapters of the study

The first chapter clarifies the basic concepts, outlines the various terms related to and describing informational influencing, presents their origins, the most relevant literature dealing with the definition of these terms, and critically interprets and compares the definitions of each author and their interpretation of the given concept. In the subchapter summarizing and classifying the concepts, I tried to classify and systematize them based on, among other aspects, the Jakobsonian model of communication, pointing out the differences between them based on different systems of criteria.

The second chapter presents the methodology of the empirical study. I review the literature on content analysis, research on the characteristics of deceptive texts, and present the LIWC-22 software based on psycholinguistic parameters, which I use to conduct the quantitative part of the research. The main outlines of the quantitative and qualitative research conducted are given in this section.

The third chapter presents the corpus of texts under study and the principles of its compilation.

The fourth chapter presents the results of the quantitative, software-based study, the frequency of words belonging to different categories of LIWC in the examined text corpus compared to the reference corpus; and the conclusions drawn from the results concerning the psycholinguistic features of Russian propaganda texts and the manipulation efforts that can be inferred from them from the perspective of deception detection.

The fifth chapter describes in detail the nature and types of fallacies or false reasonings, on which the qualitative part of the study is based, and summarises the fallacies identified in the examined corpus comparing their frequency and drawing conclusions based on them regarding the tendencies of deception and manipulation in the Russian texts under study.

The sixth chapter summarises the results of the dissertation: it presents the interdisciplinary context of the study, the results of the research, examines the fulfilment of the hypotheses and answers the research questions, summarises the new scientific results achieved, and finally discusses the practical relevance of the research results and possible future research directions.

5. Summarised conclusions

In the chapter summarizing and classifying the concepts, I concluded that while reflexive control provides the theoretical basis for informational influencing, the concepts of fake news, propaganda, disinformation, active measures and psychological warfare describe its practical implementations.

On the basis of the Jakobsonian model of communication, the analysed concepts can be distinguished on the basis of truthfulness (message), transparency of origin (sender), field of application (context) and receiver. Thus, a distinction can be made between the essentially true (albeit biased) white propaganda, the essentially false black propaganda, fake news and disinformation, and the mixed grey propaganda; propaganda and psychological warfare coming from a known source, fake news coming from an uncertain source and disinformation from an unknown or covert source (where the covert nature does not necessarily refer to the origin/sender, but the recipient can also be covert); propaganda and fake news used in the public sphere, civilian life and in peacetime, psychological warfare used in the military sphere/war time, and disinformation used in the secret service/intelligence sphere located between the two; disinformation aimed primarily at decision-makers, propaganda and fake news aimed at the population, and psychological warfare aimed at enemy forces (and possibly the hinterland).

truthfulness (message)	essentially true (biased) (*white*) propaganda	mixed (*grey*) propaganda	essentially false fake news, disinformation, (*black*) propaganda
transparency of origin (sender)	known propaganda, psychological warfare	unknown or uncertain fake news	covert disinformation
field of application (context)	public sphere, civilian life/peacetime propaganda, fake news	intelligence sphere/ „permanent war" disinformation	military sphere/war psychological warfare
receiver	population propaganda, fake news	enemy forces (and hinterland) psychological warfare	decision-makers disinformation

Classification of the concepts based on the Jakobsonian model

A third possible classification tries to place the concepts in relation to each other based on the purpose they are intended to achieve and the depth and extent to which they are intended to influence the recipient. Thus, the concepts are arranged along a scale, starting with fake news aimed at deceiving, followed by disinformation aimed at influencing decision-making in certain specific cases, then psychological warfare aimed at influencing thinking and attitudes, while at the end of the scale is propaganda aimed at indoctrination.

It was also concluded that disinformation is part of active measures in the terminology of intelligence services, while in the interpretation of current military science, disinformation is an element and a possible form of hybrid warfare.

The empirical part of the dissertation was aimed at establishing the linguistic characteristics of propaganda texts and was based on the methodological principles of content analysis. By analysing the frequency of words belonging to different psycholinguistic categories with the help of the LIWC software, the quantitative study found that there was a highly significant difference (well over 20%) between the texts of the two corpora in the

following parameters: insight, certitude, anger, moralization, conversational (spoken language) style, including netspeak in favour of the corpus of Russian media outlets, while the anxiety and politeness parameters were in favour of the reference corpus. The following parameters show a difference of around 20% or slightly more in favour of the reference corpus: authenticity (complex category), positive emotions, perception (including movement, spatial and auditory perceptions). According to the results of the study, the most important features of Russian propaganda texts are the informal, spoken language style, including netspeak, i.e. vocabulary typical of Internet language use, a much higher proportion of vocabulary expressing anger, a higher frequency of words related to moralization, as well as a higher proportion of words referring to insight (subjective information processing) and certainty/insistence.

These results can be interpreted as revealing in the corpus of propaganda articles both signs of manipulation of emotions, i.e. propagandistic purposes (anger, moralization, prominent role of conversational style), and deceptive, i.e. disinformation tendencies (increased presence of vocabulary referring to insight, certitude, lower proportion of vocabulary referring to perception). These results are in line with a number of findings in the literature on the characteristics of deceptive texts (Mihalcea and Strapparava 2009; Zhou et al. 2020). The results of the study are also instructive in that they show that software tools can be used to detect the manipulative nature of Russian propaganda articles, and that the LIWC-2022 software can be used to quantify the propagandistic nature of certain texts. However, for practical application, further studies would be needed, based on a wider range of media and setting specific thresholds.

The qualitative study was also based on the corpus used in the quantitative part, but used a manual, human rather than software-based method of analysis to detect features that indicate the manipulative nature of the texts. For this, I used the category of faulty reasoning (fallacies) and examined the presence of 40 different such types of false reasoning, 5 other manipulative devices sometimes also called fallacies, and 3 deceptive techniques identified by me in the corpus compiled of articles from Russian propaganda outlets. Of these, I was able to detect the presence of a total of 29 fallacies and 6 other devices/techniques. By far the most common of these is the fallacy of loaded language, which was also detected by computer-assisted analysis. Furthermore, the examined texts used with a high frequency the intentional fallacy (when malicious intent is attributed to an action or statement of a character to be portrayed in a negative light), the defamatory, slanderous *ad hominem*/*ad personam* argument, the Nazi card/*reductio ad Hitlerum* (occurs almost exclusively in topics related to the Russo-Ukrainian war), and the appeal to false authority (*argumentum ad verecundiam*). *Tu quoque* reasoning (whataboutism),

jumping to conclusions (*secundum quid*) and accusation in a mirror can also be considered quite common.

Since in compiling the corpus I took care to ensure that it was as representative as possible of Russian propaganda media texts (Russian and English, foreign and domestic, state and private, with different editorial practices), assuming the representativeness of the corpus, these false arguments can be described as manipulative techniques typical of Russian propaganda texts.

Based on this, it can be concluded that false arguments are significantly present in the examined Russian propaganda texts and constitute an important element of the manipulative toolkit. It can also be stated that after the Russian invasion of Ukraine in 2022, under the conditions of war, the frequency of false arguments in Russian propaganda texts decreased, and their place was taken by falsehoods, narratives containing false information which means that false arguments belong to the 'soft' toolbox of Russian informational influencing/propaganda, while in situations of escalation, direct deception and disinformation take their place.

The analysis of fallacies and the psycholinguistic (software-assisted) analysis capture different aspects of the same technique and the same text characteristics, but both show that the examined Russian propaganda texts try to manipulate the reader by creating negative, hostile emotions on the one hand, and by subjective interpretation of the available information and false cause-and-effect relationships based on them on the other. In this way, the results of the two types of analysis are mutually reinforcing.

The basic premise of the research was that in the products of Russian informational influencing, in propaganda texts, deceptiveness can be detected not only by fact-checking but also by examining linguistic features. Although the linguistic features of deceptive texts have been examined in a number of previous studies, to my knowledge, no such analysis has been carried out specifically for Russian propaganda texts. While these analyses have focused on psycholinguistic features (such as the analysis using LIWC-22 in this dissertation), the detection of fallacies in propaganda texts has received less attention recently.

Both the quantitative and qualitative parts of the empirical study confirmed the initial assumption that Russian propaganda texts have linguistic features that allow to detect and verify the deceptive nature of the texts without fact-checking. This also means that these texts differ in their linguistic characteristics from other texts, such as news articles from authoritative media that strive for objectivity and impartiality. This difference can be seen primarily in the use of linguistic devices aimed at stirring up negative emotions and hostile feelings and the frequent use of logically false arguments i. e. fallacies.

Answers to the research question:

1. What differences can be discovered between information warfare, disinformation, propaganda and other related concepts based on the criteria of the various relevant disciplines, and how can they be most accurately defined and conceptualized?

The concepts/terms of information warfare, propaganda, disinformation, fake news, psychological warfare, reflexive control, active measures, hybrid warfare originate from different spheres (military, intelligence, press) and essentially capture different aspects of the same phenomenon, the essence of which is influencing through information, by using manipulative means (non-transparent, violating the rules of logic and objective information, affecting emotions). This means the dissemination of not necessarily false, but often only misleading and deceptive information, for this reason disinformation and fake news do not describe the investigated phenomenon accurately enough; active measures and hybrid warfare on the other hand refer to a more complex activity, of which the dissemination of misleading information is only one branch.

The term that captures the phenomenon most comprehensively and is probably the most widely used is propaganda, applied in the fields of communication studies and sociology, however, is not accurate in that propaganda can be not only false, manipulative and deceptive (black and grey propaganda), but also based on real information and serving the public good (white propaganda). Another possible concept is that of information warfare, which is also comprehensive enough to describe the phenomenon, but its Western (primarily American) and Russian interpretations differ significantly, and the original Western interpretation also includes activities (cyber warfare) that are different from the examined phenomenon. Although it is possible to observe that the Russian interpretation focusing primarily on elements of psychological warfare has an effect on the Western interpretation, as a result of which, removed from its original meaning, it could be used as an umbrella term to capture various informational influencing activities, including military and secret service areas of application. However, because of the abovementioned problems, I think it would be more appropriate to use a term that does not have the same broad meaning as those listed above; this could be the term *informational influencing*, which cannot be linked to a specific field of application and is not restrictive in the sense that it can refer not only to the use of false information. One criticism, however, is that this term could be extended to all linguistic products, not only those of

manipulative nature, since the purpose of every linguistic act is to produce some effect to influence the listener.

It has been established that influencing through information can be approached from a number of disciplines, but the most relevant and most promising seem to be communication studies, linguistics (including primarily psycholinguistics) and philosophy (epistemology, informal logic). At the same time, the research of some separate aspects of the phenomenon (history, organizational framework, social background) falls within the fields of military science/military history, security studies/history of secret services, history and social psychology.

2. What linguistic tools does Russian informational influencing use?

The most important linguistic tools of Russian informational influencing are vocabulary used to manipulate emotions and false reasoning schemes that use invalid logical constructs, thereby deceiving the receiver into accepting a message as true.

3. Which linguistic features can be detected using Natural Language Processing (NLP) as distinguishing features of propaganda texts?

The quantitative analysis applied in this research has proven that the methods of Natural Language Processing, the analysis of vocabulary along psycholinguistic categories, specifically the LIWC-22 text analysis software, are suitable for detecting a number of linguistic features of propaganda texts. Based on the analysis of the examined text corpus, it can be concluded that the main goal of Russian informational influencing by using these linguistic features and tools is to arouse negative emotions about the persons, countries and other entities that are to be presented in a negative light.

4. What kind of faulty reasonings (fallacies) are characteristic of Russian propaganda texts and what function do they serve?

The data in the corpus under study show that Russian propaganda texts use false reasonings (fallacies) with considerable frequency. Among these, the most frequently occurring are loaded language, the intentional fallacy, the defamatory, slanderous *ad hominem*/*ad personam* argument, the Nazi card/*reductio ad Hitlerum*, reference to false authority

(*argumentum ad verecundiam*), *tu quoque* fallacy (whataboutism), and jumping to conclusions (*secundum quid*).

6. Novel scientific findings

1. I was the first to examine the history of all significant concepts related to informational influencing, the most important attempts to describe and define them, and determined their relationship to each other, the connections, similarities and differences between them, classified and systematized them.

2. I was the first to examine the nature of informational influencing in a comprehensive interdisciplinary framework, drawing on the findings of military science, communication studies, security studies, linguistics (psycholinguistics) and philosophy (epistemology, informal logic), and applying the methods of the latter two disciplines.

3. I have proven that the method of Natural Language Processing (NLP), the analysis of vocabulary along psycholinguistic categories, is capable of detecting the linguistic means of deception and manipulation in the case of Russian propaganda texts.

4. I have shown that the identification of false arguments (fallacies) helps to analyse the deceptive messages of Russian propaganda texts and to prove their manipulative nature.

5. I have mapped the linguistic devices and features (psycholinguistic parameters and false arguments) that occur with significant frequency in the linguistic products of Russian informational influencing and can therefore be considered typical features of Russian propaganda.

7. Practical application of the research findings, recommendations

The theoretical part of the dissertation, the historical overview of concepts related to information warfare, the clarification and systematisation of concepts can be classified as basic research, however, these results indirectly also have practical significance, as they help to ensure conceptual accuracy and avoid conceptual confusion in future practical research on the

subject and the application of its results, and help to understand the nature of concepts related to information warfare.

The empirical part of the dissertation helps to recognize manipulative texts by identifying the linguistic tools of manipulation, as well as allows us to go beyond subjective evaluation to determine in a measurable, quantifiable and objectively identifiable way that a text fulfils a manipulative function, and offers tools to explain the manipulative nature of propaganda texts.

The quantitative study offers a possible approach (psycholinguistic analysis) for this, and also presents a software tool capable of detecting specific characteristics of propaganda texts that indicate manipulation. By using this well-known and easily accessible software (LIWC-22), it is possible to identify without human, manual analysis, if a given text differs from similar texts in certain identifiable psycholinguistic features and shows characteristics that are indicative of propaganda texts. To reliably identify these characteristics, it would be optimal to carry out further, broader studies (using a corpus of not only Russian media, but also of other countries, representing several different types of outlets and text types). However, it is important to emphasize that such an automated procedure always has its risks, and therefore great care must be taken in its use, to avoid it becoming a kind of superficial categorisation that 'pigeonholes' or 'stigmatises' texts on the basis of conformity or non-compliance with a given pattern.

The result of the qualitative study, the identification of typical fallacies, is of practical importance in helping to identify the false arguments that are commonly used in Russian (and presumably other) propaganda texts. The presentation of these false arguments and faulty logical constructs can play a major role in education, in training courses aimed at building resistance to propaganda and media awareness: it would be advisable to include the most common fallacies and ways to recognize them in educational curricula in order for students to acquire the ability to recognize misleading arguments and later become conscious media consumers and resistant against this kind of manipulation. (Furthermore, learning about fallacies could greatly improve debating skills and critical thinking in general.) In the spirit of protection against Russian informational manipulation and malign media influence, informational materials prepared for the general public should include information on recognizing the most common fallacies and strive to promote the ability to identify them.

The possible main directions for further development of the research are the expansion of the corpus of texts and the study of the informational influencing of other countries. The inclusion of additional media outlets and topics in the study could give a more accurate picture of the language, the psycholinguistic and informal logical features of Russian propaganda, which could also be compared with the results of the present study, and could refine, confirm or refute them. It would be extremely interesting to carry out a similar study of propaganda texts from other countries or non-state actors, both in English and in other languages. Among the state actors, China, the Chinese state propaganda and its background deserve particular attention. Regarding non-state actors, an important connection point can be the study of the propaganda materials of terrorist organizations from the point of view of what role the appearance of negative emotions in the language plays in the radicalization of the recipients, since, based on political psychological theories, a similar process can be reconstructed in the case of the examined propaganda texts.

8. List of the author's related publications

Sprūds, Andris, Anda Rožukalne, Klāvs Sedlenieks, Mārtiņš Daugulis, Diāna Potjomikna, Tölgyesi Beatrix, és Ilvija Bruģe. „Internet Trolling as a hybrid warfare tool: the case of Latvia". Riga: NATO Strategic Communications Centre of Excellence, 2016. január 25. https://stratcomcoe.org/publications/internet-trolling-as-a-hybrid-warfare-tool-the-case-of-latvia/160.

Sprūds, Andris, Ilvija Bruģe, Mārtiņš Daugulis, Klāvs Sedlenieks, Anda Rožukalne, Diāna Potjomkina, és Tölgyesi Beatrix. „Social Media as a Tool of Hybrid Warfare". Riga: NATO Stategic Communications Centre of Excellence, 2016. július 7. https://stratcomcoe.org/publications/social-media-as-a-tool-of-hybrid-warfare/177.

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9. Short academic biography of the author

Beatrix Tölgyesi was born in Budapest in 1984.

In 2010 and 2011, she graduated from the Eötvös Loránd University Faculty of Humanities in Hungarian language and literature and Russian language and literature.

During her studies here, she studied Lithuanian language and literature at the University of Vilnius for two semesters.

In 2012, she attended a three-month training course on European Studies and Russian-EU relations at the Europainstitut Klaus Mehnert in Kaliningrad. In 2016, she graduated from the Master's programmes Russian and Central and East European Studies and Baltic Sea Region Studies at the University of Glasgow and the University of Tartu.

She started her PhD studies at the Doctoral School of Political Theory of Pázmány Péter Catholic University in 2017 and after its closure in 2020, continued her studies at the Doctoral School of Military Sciences of the National University of Public Service.

As a student of the literary historian and Baltic scholar Endre Bojtár, she participated in the editing of the Lithuanian-Hungarian dictionary published in 2007. She has translated books from Lithuanian, Latvian and Russian languages.

She has taught Lithuanian and Latvian languages at the Institute of Slavonic and Baltic Philology at ELTE.

Beatrix Tölgyesi is the author of 23 publications in the Repository of Hungarian Scientific Works in the fields of security policy, international studies, literary history and linguistics.

She holds advanced language qualifications (C1 and C2 level) in English, German, Polish, Lithuanian and Latvian.