

How Does Information Manipulation Interfere with Normal Brain Function? The Disruption of Neuroethics in War-Time Mass Media

Oksana HOTSUR¹

Olena DANYLINA²

Nataliia ZOZULIA³

Valentyna STIEKOLSHCHYKOVA⁴

Olena PORPULIT⁵

Anna DANKO-SLIPTSOVA⁶

¹ PhD (Social Communication), Associate Professor
Department of Journalism and Mass
Communication Media, Institute of Jurisprudence,
Ukraine

[ORCID ID:0000-0002-6589-0011](https://orcid.org/0000-0002-6589-0011)
oksana.i.hotsur@lpnu.ua

² Candidate of Philological Sciences, Associate
professor, Professor of Journalism (Educational-
Scientific Institute of International Relations and
Social Sciences)

ORCID ID: <https://orcid.org/0000-0002-2649-8818>
heledana@gmail.com

³ Candidate of Philological Sciences, Associate
Professor, Associate Professor of the Department of
Information Analysis and Information Security,
National Transport University

ORCID ID: <https://orcid.org/0000-0002-0180-1219>
nzozulya@ukr.net

⁴ PhD in Social Communications, Associate
Professor, The Head of the Department of
Journalism and Philology, Pylyp Orlyk International
Classical University

ORCID ID: <https://orcid.org/0000-0002-2076-971X>
vagantsva@gmail.com

⁵ Candidate of Philological Sciences, Associate
professor, Associate professor at the Department of
Social Psychology, Odessa I.I.Mechnikov National
University

ORCID ID: <https://orcid.org/0000-0002-5118-305X>
porpulit@ukr.net

⁶ PhD in Political Sciences, Associate Professor of
the Department of Foreign Languages, Philology
and Journalism of Kyiv University of Intellectual
Property and Law, National University "Odessa Law
Academy"

ORCID ID: <https://orcid.org/0000-0003-2263-2917>
danko_anna@ukr.net

Abstract: The article describes massive changes in the brain function of mass-media recipients. It is written within the relevant neuro social state of the Ukrainian mass media society in the conditions of undeclared military censorship and counter-propaganda. The material for analysis was two groups of data: content analysis of news media and a sociological survey of citizens for the presence of cognitive dissonance and lies that can violate neuroethics, namely, forming a distorted picture of the world, creating long-term deprivation and inadequate neural connections.

The purpose of such research was to find out the regular influence of affective and defamatory infospace on the brains of people whose countries are at war. We clarified the nature of the newest manipulations in the media and around ethical issues, the state of research on the neuroethics of manipulations, comparing the nature of war journalistic manipulations in Russian and Ukrainian media and the objectification and explanation of neuroethical violations in Ukrainian media through the techniques of lying, silencing, avoidance, analysis, self-counting, etc.

The authors used methods of theoretical, statistical, comparative and systemic analysis, content analysis, sociological methods of collecting background data and neuro interpretive methods for the received input data.

The result of the article was a systematization of the manipulation of the brain in a state of permanent tension; in particular, we identified ways of institutional avoidance or deception and diagnosis of specific neuroethical threats and consequences among the population (emotional dependency, deprivation, emotional-cognitive dissonance, lack of entitlement to accurate truth, the difference between the content of the national and local media, etc.)

Keywords: *Change in Brain Function, Information Deficit, Neuro Ethical Rights, Neuro Manipulative Technologies, Emotional-Cognitive Manipulations, Mythologizing and Heroization.*

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Introduction

At the current stage of scientific and technological progress, thanks to which everyone's ability to use a variety of information and communication channels is rapidly increasing, the possibility of manipulation of consciousness and disruption of the normal functioning of the brain "in working mode" is growing. In this regard, it becomes relevant to determine the nature of manipulation and manipulative influence that can be used by information and communication channels for their personal purposes, which may not coincide with the wishes of the recipients of information and their natural right to preserve their neuro subjective integrity. Observance of neuroethics and psychohygiene in the postcolonial democratic world of the 21st century has been established and observed for a long time on the basis of both legal documents and moral, value and natural self-regulation of participants of mass-media discourse. But in 2022 - 2023 the destructive use of pseudo-ideological and military-political narratives that do not correspond to either truth or post-truth increased, Europe faced a massive violation of neuroethics due to the informational invasion of reactionary totalitarianism by Russia, followed by Iran and China.

This problem has become especially relevant in the context of the Ukrainian-Russian war, which has turned into a real war of meanings, a struggle for the minds and mental attitudes of people. The need to study the phenomena of mass consciousness and technologies of manipulating it, including by the media, is becoming extremely important. The tools of mythologizing the mass consciousness require special attention, because today they are activated by mythologists from the media on both sides of the confrontation, and mythological consciousness excites more archaic, deeper structures in the brain. The conditions of war proper do not only promote mythologizing, for at this time there is formed, first of all, the necessity of rallying around a leading idea, but also a simplified perception of a single truth, a reduced picture of the world according to the principle of distribution "our own" - "alien", The actualization of mechanisms of belief instead of critical analysis, the extreme emotionality of the perception of events, the manifestations of mass affectation, the ritualization of victories and defeats, the creation of a pantheon of heroes, the heroization of "insiders" and demonization of enemies, new points of reference of cosmogonies and eschatologies, the idealization of the "golden age of peace", etc.

The myth proved to be not only tenacious, but also capable of changing the way the brain works, even with the awareness of the

conventionality of all virtual things. An outstanding Ukrainian specialist in the field of mass communications (Rizun, 2003) long ago noted that manipulation techniques use mechanisms of mythologizing, which are deep brain processes of the unconscious level, and also use mass-like phenomena (collective unconscious, anxieties, rumours and intuitive formation of a mass-social picture of the world). The scientist recommended: *In order to weaken the processes of massification, if necessary, it is necessary to follow the path of managing these processes, careful public monitoring of their functioning and the results of that functioning. Ideas-myths lead to self-satisfaction, self-deception and, as a result, to undesirable consequences of the process of "intoxication" of the masses*, (Rizun, 2003). It would seem that the brain of Europeans understood these mechanisms long ago, but proved unprepared for the malignant and unprecedented invasion, when in the usual information flows that satisfy its gnoseological needs, there appeared a constant affective tension, lies or / and ambivalence.

Relevance of the article. Since the beginning of Russia's occupation of Eastern Ukraine in 2014, Ukrainian scientists have been actively investigating the problem of media manipulation. But such studies have focused only on the "enemy side," and the neuroethical risks to the brain have not been studied at all. We understand that the psychological effects of hiding, silencing, heroizing, and mythologizing are created with a good purpose, but scientists must understand how neurocognitive processes change in Ukrainian perceivers and create a stable picture of the world during the war.

Last year, our researchers paid special attention to media manipulation in Russia itself in order to understand the phenomenon of neuro programming of its citizens (Alyukov, 2022). They also study the neurocognitive nature of fakes, which appear to be effective at "adding a grain of truth" in a Goebbels style (Levitskaya & Fedorov, 2020). The closest to our research are works on the symbolic and mythological mechanisms of Ukrainian counter-propaganda and the generation of meanings in the context of Ukrainian identity (Gabor et al. 2022). However, in no article or monograph have we found coverage of neuroethical issues of neurorelevant manipulation in mass communication (MC) and mass media, so the question remains open: *How to provide people with information and at the same time ensure their natural right to information about physically and psychologically traumatic events that affect everyone?*

We will try to find out what mass destructive information phenomena affect the war-overloaded brain of Ukrainians, but in general **the goal** of our article is polylateral: we will compare the general

manipulative features of the Russian and Ukrainian media in order to understand the difference in the neuromechanisms and ethics of such manipulations. We will also analyze Ukrainian news content to understand what manipulation mechanisms are used in the Ukrainian mass media and what neuroethical norms / interference violations are used. For this, we used different but complementary methods: content analysis, comparative analysis, projection of media manipulations on neuroethical rights and neuropsychological consequences for society. Regarding the latter, we conducted a non-selective survey of the adult population of Ukraine in different regions (Odesa, Kyiv, Lviv, Kharkiv) in the mode of a structured conversation without the organization of special conditions (conversations with passers-by on the street).

The presupposition of the article is the postulate that regular disruption of media neuroethics (unlike other types of ethics) generally changes the work of the brain, which is already in a state of prolonged arousal, derivation and frustration. We believe that such disturbances have a latent and programmed effect and, as a consequence, steady changes and new reflexes in the neural connections of percipients without their consent and coherence with the already existing connections. The inviolability of the latter and their immanent belonging to the personality can be equated to cases of any interference in personal space - intimate life, housing, the system of personal values.

In our work, we will use the term neuro manipulation rather than neurotechnology, because we understand that the difference here is not in the brain or the so-called agent mechanism, but in the personal attitude and emotional reaction to the consequences of such an influence.

The international significance of the article lies in the fact that currently the attention of the entire civilized world is focused on Ukrainian media content, which is waiting for the victory of democratic forces over authoritarian ones. Also, for the first time in science, we conducted an analysis of neuroethically relevant manipulations not by the enemy side, but by a country that defends itself and professes democratic values.

The ethics of the article are determined by: a) the need of Ukrainian society to realize their rights to information; b) voluntary participation of respondents in data collection; c) non-disclosure of state secrets, insider sources, confidential data of survey participants, etc.

How is information technology destroying the brain?

In our opinion, the oversaturation of infospace with negative and unreliable news plays on basic human instincts. Two destructive tendencies are possible during war: qualitative (distortion, defamation) and quantitative (excessive affectivity). The constant stimulation of fear (as well as instant gratification) can lead to addiction, which can adversely affect brain function, mental health and well-being. The neuroethics of information technology therefore becomes a particularly sensitive area in times of geopolitical peripeteia.

A dangerous trend for the human brain has been that neuromanipulation is not yet a separate practice: it has penetrated and become part of socio-cultural discourses, economic practices, PR, politics, etc. The general essence of neurotechnologies in the mode of the latest practically oriented sciences is based on several key metaprinciples, which are correlated with the style of the current culture and the type of socio-economic relations. Here, it is appropriate to mention the successful post-industrial term *neurocapitalism* of scientists Hess and Jokeit (2010), which replaced "wild capitalism" with its hierarchies, institutional control and labor obligation of the lower layers of the population. At that time, the citizens of the Western world were dominated by the cognitive behavioral mechanisms of guilt, duty and taboo. Currently, moods of proactivity, personal fulfilment and comfort prevail. But it was precisely in such seemingly fertile socio-cultural conditions that there was a lot of room for positively connoted manipulations: companies, politicians and the mass media offer chances, goods, development and knowledge. But it is in such a seemingly fertile sociocultural environment that much space for legitimate, positively coded manipulation has emerged: companies, politicians, and the media offer chances, goods, development, learning. We have also observed this in Ukraine since the end of the 1990s. But the current nature of the manipulations is again very reminiscent of the period of "wild" industrial capitalism: the mass media space is modulated according to the instructions: *it is not possible, I believe / I do not believe, it is vital*, etc. The general neuro social dissonance is caused by the fact that the brains of Ukrainians have been stimulated by the lack of hermeticity for more than twenty years, and people have been inspired by manipulative and often really effective theories and practices of personal development, opportunities and openness of the world for everyone.

The ability to decode the activity of neural connections, achieved by empirical science, was originally supposed to be used for therapeutic and rehabilitation purposes, but futuristic and now synchronous research has

shown: now it is possible not just to wait for the probable result of neuro manipulative technologies, but to accurately predict brain reaction, behaviour and even people thoughts (Roelfsema et al. 2018). This opens up unlimited opportunities for marketers, media professionals and interested political institutions. At the same time, acute neuroethical questions arise regarding the societal and personal psychological consequences of using NBIC (*nano-bio-info-cognito*) technologies (Lynch, 2004). We can now see, on a living Ukrainian example, how the human brain can change on a massive scale, and it is not even so much a matter of technology as of the excessive sensitivity of the brain to them, as well as to everything new and to sudden social and historical changes.

The problem of neuroethics of manipulation should be considered as a derivative of Jokeit's (2010) neurocapitalism, where the means and possibilities of influence are also a new type of commodity on the same level as information and resources. The neuroethical relevance of such an influence depends not on the methods, but on the consequences of manipulation. Yes, many gadgets, applications, household devices and gaming technologies contain neuro manipulation. Paek (2020) focused on the consumer (private) use of manipulative techniques and their medically controlled impact: obviously the subject of neuroethical research is somewhere in the middle. But we believe that the limit of relevance passes along the markers of mass, criticality / non-criticality on the part of users and predictability / unpredictability of distant destructive consequences. The greatest danger to the human brain in such a commodity-manipulative environment is the various types of addiction: TV addiction, gamer addiction, shopaholism, Internet addiction, etc.

In the context of our article we were interested in how the effects of war-time media production on the brain are now being investigated in scientific discourse. We proceeded from the assumption that during war there is increased news dependence, expectation of positive change and lack of it, as well as a decrease in the intensity and range of any habitual positive stimuli (deprivation). We found only sporadic research on the mechanisms of counterpropaganda and stopping the fake news flooding into Ukraine, concerning attention to narratives, ways of monitoring fakes and defamations, and providing consumers of mass media discourse with a wide palette of tools Haigh, Haigh & Kozak (2018). Achievements in these areas in Ukraine and Western Europe finally formed into such intermediate scientific disciplines as media education, media literacy, military journalism, etc. In general, foreign research focuses not on the ethical, legal or

psychohygienic needs of the percipients, but on the means of countering the appearance and spread of fake information.

We consider valuable the recent study by Bengel (2022), directed at the preservation of national, ethnic, cultural and personal subject identity in a manipulative environment. The author analyzes the facts and qualitative attributions of the division of manipulative discourse into "clear black and white", which produces a "cognitive middle" that is little-known and obscured for the perceiver. Ukrainian military discourse is characterized by the absence of such a middle ground, but there is also an understanding by ordinary people that such a middle ground exists. Bengel's observations on mass psychogenic influences such as information attacks, informational invasions of social networks and cognitive-emotional formation-control of public opinion, which have their own specificity in Ukraine, are valuable. It will be revealed to the best of the ability of the authors of this article in the following sections.

Political technologists and military analysts note that the Ukrainian-Russian war is the first large-scale conflict that takes place, is observed, recorded and discussed online. At the same time, the brain of the Western world's average person is trapped in constant negative stimulation by the affective-phobic principle of waiting and avoiding mortal danger. However, among the studied neuroethically significant manipulations the description of operational-tactical and instantaneous processes (information throws, attacks, fakes, etc.) prevails (Chen et al. 2022) write about such processes as the use of cognitive-information weapons (network penetration, public opinion attack and information incidents), which once again confirms the hybrid nature of war. Scientists discuss the prospects of international institutional struggle, but do not take into account the factor of accumulation. This is exactly what we observe in Ukrainians: first – affect and panic, then – adaptation / maladaptation (apathy, depression, apprehension, change of position and activity), then – fatigue, cognitive re-inventory and personal change / construction of a new socio-political picture of the world. It is in the latter that there is a danger of forming inadequate long-term neural connections due to months of counter-propaganda with elements of manipulation, which will be discussed further.

Therefore, one of the key conclusions of the above review correlates with the words of Franke about the latency of certain types of manipulation. Neuro manipulation differs from others in secrecy from the object of influence: *under manipulation, in most cases, we must understand mental influence made secretly, therefore, to the detriment of those to whom it is directed*, Franke (1964, p. 43).

The deep structures of the human brain undergo mythological reprogramming: a revival of belief in conspiracy theories, paranoid attitudes regarding possible secret world conspiracies, neo- and re-mythologization. The neurosomatic final reaction of such reprogramming is an increase in brain reactivity, anxiety, and an advantage of reflexive functions over higher ones.

In this context, we were also interested in how the issue of neuromanipulation is regulated by the states. We saw that in the last 10 years the governments of the leading countries have invested more than 500,000 dollars in the study of psychological and engineering technologies of manipulation in the media, first of all - social networks (Bradshaw & Howard, 2018). This emphasis is connected with the low control of the content of these networks and the great emotional and cognitive attachment to them of the majority of people who have access to the Internet. On the other hand, the situation with the accredited mass media seems to have been resolved and regulated by journalistic ethics, deontology and the mandatory use of fact-checking. However, in countries with a special socio-political situation (state of emergency and martial law), even the most reliable and official mass media are forced to use special damping psychotechnologies to avoid panic, maintain the working level of stress, etc.

Features of media manipulations during the war in Ukraine

As unfortunate as it is to admit, after studying Ukraine's regulatory policies during the war, it became clear: the peculiar "brain famine" associated with the urge for objectivity was determined by military censorship and military mythological reactionism. Before starting the analysis of neuroethical violations of the rights of Ukrainian citizens in their perception of media military-political content, we consider it necessary to remind: censorship is prohibited in Ukraine (Article 15 of the Constitution of Ukraine), and the "Law of Ukraine "On Information" (1992) does not allow silence by media and officials socially significant information. Note that only in March 2022 President Volodymyr Zelenskiy signed an order on the non-disclosure of information that could be used by the enemy to harm our state ORDER № 73 of the Commander-in-Chief of the Armed Forces of Ukraine (2022). It is in the last document that it is indicated that data on losses among the military and civilian population cannot be published by journalists due to the danger of using such information by the enemy. It does not mention informational and legal restrictions and psychosocial consequences for the population. This aspect is carried out unannounced and "by default" by the authorities and the media. However, we risk

identifying, describing and analyzing neuroethical and cognitive-affective markers and consequences of information deficit for Ukrainians.

A preliminary study of the factual material showed that the Ukrainian variant of manipulation in the regime of counter-propaganda and military censorship differs from the fake manipulative nature of the Russian mass media hostile to Ukraine. First of all, this difference is related to lies and silence. However, we analyzed 187 Ukrainian news publications and compared 124 Russian publications and saw a number of differences, which are presented in the table below in terms of patterns or generalized categories (**Table 1**).

Table 1. *Differences in emotional and cognitive types of military-related manipulations in the Ukrainian and Russian mass media*

Ukrainian mass media	Russian mass media
Selective video editing	Staged scenes
Relatively justified heroization	Unfounded heroization
Positivism (resistance to real facts)	Speculativeism (resistance to ideas)
Defamation	Idealization
Suppression	Lie
Hiding own losses	Downplaying own losses
Exaggeration of enemy losses	Absolutization of the successes of the Russian army
Rationalization of argumentation	Mystification of facts
Taking into account the sensitivity of groups of perceivers	Taking into account the chauvinistic attitudes of perceivers
Strategic management	Doctrinality
Promoting the future development and well-being of Ukrainians	Promotion of the idealistic and missionary role of the Russian people
Sacrifice for the sake of freedom	Sacrifice for the sake of justice
Hyperbole	Meiosis
Metonymy	Metaphor
Proactiveness	Reactance
Paranoidness	Schizophrenia

The table is filled by the authors based on generalizations and conceptualization.

From this summary, we can conclude that violations of neuroethics by the Russian mass media in the coverage of military operations are based on a qualitatively distorted depiction of life (massive changes in brain function are characterized by the metaphor *schizoidism*), while in the Ukrainian mass media the manipulations are quantitative in nature - aggravation, exaggeration, overvaluation of national ideas and heroism (massive changes in brain function are characterized by the metaphor of *paranoia*). In general, Russian manipulation more violates the neuroethics of the recipients, as it includes irrational pseudo-arguments and retroactive influences on the restoration of once significant, but now mythologized greatness and achievements. Silence as a "soft" form of deception is characteristic of the Ukrainian mass media and during almost 10 months of the war caused many dissonant aspects, which we will write about below.

Thus, Ukrainian manipulative counter-propaganda offers a deceptive *picture* of a war world with a benevolent purpose, so it is important to consider the pros and cons of neuro arguments.

For Ukrainians, among all the basic needs, the problem of biological and neuro identical security, which the authorities cannot currently provide de facto, finally took first place. That is why it widely uses provisions of military censorship, counter-propaganda and even unpopular instruments of humanitarian policy. During the sociological stage of the study, 136 out of 150 randomly interviewed adult Ukrainian citizens admitted that they reflexively turn on the front-alarm at the beginning of the day or several times a day. Such a compulsive appeal to news platforms indicates emotional and cognitive shifts in the mental health of Ukrainians, for whom the main thing is to learn the new truth about the war.

But here we discovered an unexpected and massive cognitive dissonance. Let's consider this in more detail. We conducted a content analysis of 15 of the most popular Ukrainian news and news-analytical sites (the largest are Urkainska Pravda, Zenzor.net, Ukr net), newspapers ("Den", "Chas-Time", "Dilo", "Dzerkalo Tyzhnia") and news programs ("Maraphon Ednyi Novyny", "TSN-novyny"), and for geographical completeness - more than 30 text-based regional mass media in all regions of Ukraine, except Crimea and the occupied territory of the East. We noticed a striking dissonance, which somehow turned out to be unresolved from the point of view of internal politics, journalistic ethics and information security. Thus, no national mass media reported statistics or individual cases of mass death of Ukrainian soldiers in battle. Instead, in regional (city, district and village) mass media, journalists report on the death of specific members of the

community every day, in 85% of cases - with personal information (surname, first name, photo, place of residence and family), circumstances and related losses. Readers have suspicion, dissatisfaction, dissonance, and even irritation due to mass media inconsistency, which can be presented in the form of a pseudo-assertion: *On the Ukrainian scale, the losses are small, or we do not know about them (we are not allowed to find out), but at the level of communities and cities, daily we lose dozens of soldiers and see all the horror of the situation of their death.* Therefore, the local mass media are not guided by general censorship recommendations and each submits connotatively colored information about specific stories of specific losses. To some extent, this is an echo of the long-standing tendency of the Ukrainian mass media: the national media is emotionally neutral, while the marginal ones are colored and focused on personal vicissitudes. It is clear that against a background of nationwide "neuroticism," such dualism greatly contributes to the splitting of the brain and the growth of paranoid symptoms (hypervigilance, suspicion, belief in the hidden).

The question arises: is the right to the truth and emotional involvement in public grievances stronger than the often unrecognized right to informational and neurocognitive security? Do mass media editors and pro-government structures have to form neural connections and basic attitudes that do not correspond to reality for almost a year?

However, there is another side of the problem that further accentuates this massive emotional-cognitive dissonance: the Ukrainian authorities, with the help of the mass media, are forced to somehow report on the losses, without naming them in total, so as not to cause mass panic, depression or other negative neurosocial consequences. For this, power structures or representatives of second-order structures (not the President himself or the Minister of Defense, but reference persons) use pseudo-messages, general summaries, which have the character of meiosis or "cognitive task". By a cognitive task, we mean an indirect or inaccurate message about military losses, which requires additional search, calculation, representation, guesswork, or a person's own epistemological decision about the nature and number of total losses. Below, in table 2, we present the facts and types of such "hiddenly downplayed" manipulative, or rather, speculative messages.

Table 2. *Manipulative and speculative reports in the media about losses in the Ukrainian-Russian war*

The month of the year 2022	The essence of the news report about losses	A way of avoiding the truth	Source
February (24)	On the first day of the attack, 57 Ukrainians were killed	Missing	The Ministry of Health Protection of Ukraine.
	At the time of notification, 1,300 soldiers were killed	Only official confirmed statistics	
March (12)	At the time of the announcement, 2,500 to 3,000 soldiers had died.	Approximate statistics	The president of Ukraine.
April (16)	Up to 100 soldiers are killed per day	Unconfirmed data	The president of Ukraine
June (1)	Up to 100 soldiers are killed per day	Unconfirmed data	The president of Ukraine
June (9)	From 100 to 200 military personnel are killed per day	The data do not match the previous ones	Minister of Defence of Ukraine
June (10)	Up to 10,000 defenders died at that moment	It is not clear who is included in this number, and it does not correspond to the totality of previous losses	The office of the President of Ukraine
June (20)	Up to 10,000 defenders died at that moment	For some reason, the data did not increase in 10 days	The office of the President of Ukraine
July (22)	About 30 defenders are killed per day	Total data requires counts of previous inaccurate reports	The office of the President of Ukraine
August (22)	A total of 9000 soldiers died	Disagrees with the previously mentioned larger figure	The president of Ukraine
September (23)	Dies five times less than the losses of the enemy	Avoiding specific numbers requires calculations and predictions	The main command of the Armed Forces

The month of the year 2022	The essence of the news report about losses	A way of avoiding the truth	Source
November (28)	101 female military personnel died	Avoiding a general answer to a question	The president of Ukraine
December (1)	Between 10,000 and 12,000 people died	The number has hardly changed since the summer and is doubtfully correlated with Russian losses of more than 80,000 people	The Ministry of Defence of Ukraine

The table is based on official data of the relevant press services.

It can be seen from the table that over time, evasion of direct answers, inconsistency with previous statements, and substitution of statistics for ratios increased along with the growth of Ukrainians' existential need to understand the situation.

On the other hand, the losses of the hostile side are reported daily in briefs and communiqués (with a few exceptions) with precise precision. It is notable that under the pressure of a social request for information about war victims, the authorities are sometimes forced to justify themselves or name figures that are frankly speculative in nature. For example, in July 2022, representatives of the Ministry of Defence of Ukraine explained the silence of losses as the need to disorient the enemy, (Knish, 2022), although historical and political analysis shows that this is not the case: the purpose of the silence is to create a simulation of calm in the Ukrainian media space. From many points of view, it is clear that the ethics of silence does not work on the Russian side, as the Ministry claimed: the Russians call their own, greatly exaggerated figures of Ukrainian losses, manipulate Russian public opinion with their help and do not take into account any Ukrainian data.

Thus, when studying neuroethical aspects of media activity on the background of total dysfunctionality of emotional and cognitive resources in all Ukrainians we understood: Ukrainians are experiencing changes in the work of the brain, which along with hyper-efficiency experiences informational derivation. Therefore, citizens indirectly signal the violation of neuroethical rights and needs, if not true, at least mono-conceptual information. With increased massification and emotionality, the collective

consciousness becomes, on the one hand, very vulnerable as an object of communicative manipulations, including mythological ones, and, on the other hand, resistant to communicative influences, conserved in myths of "their truth" and their own rightness.

Conclusions and results. The first conclusion of the article concerns the results of the literature review. We noticed: the majority of new publications in leading scientometric journals on "Manipulation in the Media" concern the post-Soviet space, which indicates the low relevance of the problem in the Western world and its high importance in the countries of young democracies. There, scholars are still investigating manipulation in political discourse (Kenzhekanova et al. 2015) or the influence on public consciousness in the media (Arifkhanova, 2010). Other than that, massive changes in the roto-brain of military media persons percipients have not been investigated at all.

The use of pseudo-truth in the post-truth era previously seemed ineffective and even atavistic, but the new military and political conditions in Europe showed the opposite. The European brain of Ukrainians, accustomed to having access, if not to unambiguous, then at least to a variety of information, found itself in conditions of scarcity and distortion of external reality. The simplest type of neuro manipulation is the use of protective mental mechanisms of idealization, subjugation and projection onto reference persons. A typical phenomenon is the politicization of socially important changes (undeserved attribution of positive changes to politicians, the principle of advances and promises, image-creating technologies) (Gazizov & Nagovitsyna, 2017). However, it is gratifying that Ukrainian neurosociology began to pay attention to the observance of social and informational and communication rights of people who have special vectors of social sensitivity (Maksymchuk et al. 2022).

The important results of the article were the understanding and conceptualization of schizoid and paranoid tendencies on a mass scale. Also, after numerous conversations with ordinary people, we understood: neuro manipulation with the help of information, its absence (deprivation) in war conditions is always a pre-attack increase in communication at the subconscious level, which accumulates signals of hope or hopelessness. At the same time, people with a predominance of analytical thinking (mostly mature people, men) or people with developed intuition accumulate suspicion and a feeling of total deception. Neuro manipulation is always a change of attitude towards resources and methods of satisfying emotional

and rational needs. In peaceful, prosperous times, marketers, politicians and journalists, as a rule, are directed to play secondary problems to which perceptions are sensitive: fashion, travel, choosing the future course of society, development, entertainment, etc. However, during martial law, such biological and emotional-cognitive inquiries are sharply devalued, and agents of manipulation, defamation and substitution affect the holy of holies, that is, the bioethical realm of human survival and the right to knowledge and understanding of the state of affairs in this area. We found a significant difference between the manipulation of the mass media and advertising in peacetime (illogical, emotional-connotative or pseudoscientific arguments are used) and the neuro manipulation of the mass media of Ukraine during the war. In the latter case, the main tools turn out to silencing of one category of facts and the exaggerated coverage of another (lens effect). However, the worst consequence is that people are beginning to understand in their conversations, posts and public: they live in a protective cocoon of deceptive counter-propaganda and censorship "for the good". The secrecy of facts on the background of hyper-heroicization contributes to the proliferation of mass mythology, which we consider in the 21st century a rudimentary way of reflecting reality and contributes to the actualization of paranoid archetypes and transfer of the brain into semi-conscious mode. In general, mythologizing is one of the most actively used tools of modern media, which is facilitated by massification, collectivity, emotional suggestiveness and the focus on managing society on the part of the mass media.

Under conditions of increased massification and emotionality, the collective consciousness becomes, on the one hand, very vulnerable as an object of communicative manipulations, in particular mythological ones, and, on the other hand, such that it resists communicative influences, conserved in the myths of its truth and its own rightness. In a situation of such a communicative deafness of society, attempts at a scientific, demythologizing analysis of social myths and mythological tools of media influence, especially those of them that themselves became the cause of mental confrontation in society, and therefore one of the causes of the war of meanings, become especially relevant.

The research limitations. The authors hope that the subject of their article will soon be investigated on a wide range of mass media and sociological material. This will make it possible to imagine a complete and coherent picture of the violation of the neuroethics of the recipients with the

help of silencing, cognitive dissonance, generated by the nature of the multi-regional media and excessive mythologizing. Scientists should also make neuroimaging observations of the effects of destructive and defamatory mass-media information on the nervous system of today's man.

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