Media security of megascience projects: legal experts training

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Abstract. The article discusses the problems of legal experts training to ensure the effective functioning of global research infrastructures (megascience projects) in the context of information-worldview security of media (including Internet communication). The activity of legal experts in the field of megascience projects implies risk management of media security within which the ranking of media waves and the prevention of illegal speech actions are carried out. The work of a legal expert in the field of media security is greatly interdisciplinary and requires exclusively developed management skills. This specialist acts precisely within the framework of information risk management coordinating and moderating the work of the organization's structural units. A highly qualified specialist in this area, in addition to fundamental legal knowledge, should also possess creative, heuristic expert thinking, be able to analyze, generalize, screen out and differentiate incoming information in the media stream. It is vital for the objective legal-linguistic examination of defamatory, fake and extremist-terrorist discourse. The basis for the formation of such an expert thinking can be the provisions of forensic expertology as a synthetic legal science that studies the patterns of using special knowledge in legal proceedings. The developments in the field of forensic speech science (which studies speech traces of offenses in the media sphere) are particularly valuable for the training of lawyers in the field of media security. The authors consider the classification of speech offenses against media security of megascience projects and justify that legal education in the megascience field is the training of a wide-profile specialist who is able to apply deep legal and linguistic knowledge in a progressively increasing set of situations and experiences, challenges and threats to media security of megascience projects; who can easily adapt; who is ready to acquire new competencies, learn and grow, find his/her own place in a rapidly changing world.

1. Introduction
Megascience projects include fundamental research works that allow to develop advanced technologies and ensure sustainable development in the world.

Analyzing the features of unique megascience installations, D. M. Moshkova and D. L. Lozovsky indicate that such installations are large unique scientific complexes within which fundamental experimental research works are carried out; the research is aimed at obtaining new knowledge about society, environment, and human development [1].

The most famous international megascience projects, in which Russia participates, (in one form or another including through the State Atomic Energy Corporation “Rosatom”) are: ITER - International Thermonuclear Experimental Reactor; CERN (Conseil Européen pour la Recherche Nucléaire) - European Organization for Nuclear Research; FAIR - Facility for Antiproton and Ion Research.
The main directions of activity of the Government of the Russian Federation for the period up to 2024 approved by the Government of the Russian Federation on September 29, 2018\(^1\) (Section 2.2.2. “Advanced infrastructure for research and development in the Russian Federation”) indicate that international research is being carried out on 4 unique megascience installations in Russia:

- at the International Center for Neutron Research on the basis of the high-flux reactor “PIK” (beam research complex);
- in the ring photon source SKIF (Siberian ring photon source);
- in the Complex of superconducting rings on colliding beams of heavy ions NICA;
- in the 4th generation Specialized Synchrotron Radiation Source SSRS-4.

2. Megascience and research infrastructure

A.O. Chetverikov notes that the term “megascience” denotes all projects designed to obtain cutting-edge knowledge, “more precisely, the structures, devices, and other infrastructure underlying these projects” [2]. In our opinion, it is inappropriate to narrow the definition of a project to its material tools - infrastructure, since a megascience project is a complex information and material system that requires not only large-scale engineering surveys (structures, installations, etc.), but also enormous intellectual resources, information, organizational, legal, and methodological support. Thus, a megascience project necessarily includes not only a physical (material), but also a mental-digital scientific component.

The designation “global / large research infrastructure” is often used instead of “megascience-class project” while the term “infrastructure” can be considered not only in a purely material paradigm. Thus, the draft federal law “On scholarly, scientific, technical and innovative activities in the Russian Federation”\(^2\) defines the infrastructure of scholarly, scientific, technical, and innovative activities as a set of subjects and tools that provide material, technical, financial, organizational, methodological, informational, consulting, and other types of support for scholarly, scientific, technical and innovative activities and objects used for the specified support (clause 8 of article 2).

3. Media security of megascience projects

Megascience projects involve breakthrough scientific research, neither the process nor the result of which is accessible to the understanding of the general public. It causes the possibility of the virus-like spread of destructive and manipulative information in the media. The objective “elitism” of scientific mega-knowledge makes it possible to manipulate news feeds with the activities of global research infrastructures, carrying out information “injections” of defamatory, fake, and even terrorist discourse.

New technologies can be presented by manipulators as alien, dangerous, murderous contrary to human nature or social structure. It is enough to recall the massive information attacks on the launching project of the Large Hadron Collider (LHC) in Europe (CERN's project) that was equated to the apocalypse.

During the COVID-19 virus pandemic, the population was completely immersed in digital environment, so that it became easier to manipulate people’s minds in the Internet.

Thus, despite the restrictive regime of self-isolation in Dagestan and North Ossetia (Russia), aggressive protests against the installation of fifth-generation Internet towers (5G) flared up in these republics. In North Ossetia it ended not with verbal threats, but with the burning of a cell tower. As a result, the whole settlement remained without communication with the outside world\(^3\).

\(^{1}\) The Main Directions of Activity of the Government of the Russian Federation for the Period up to 2024 approved by the Government of the Russian Federation on September 29, 2018. URL: http://government.ru/news/34168/ (accessed 08.09.2020)

\(^{2}\) Draft federal law ‘On scholarly, scientific, technical and innovative activities in the Russian Federation’ (Art. 53). Draft ID: 04/13/03-18/00079415. Version of March 28, 2018. Russian federal portal of draft regulatory legal acts. URL: https://regulation.gov.ru/projects/List/AdvancedSearch#npa= 79415 (accessed 08.09.2020)

\(^{3}\) Moskovsky Komsomolets newspaper: ‘Riot against 5G towers in Dagestan’. URL: https://www.mk.ru/politics/2020/05/29/v-dagestane-podnyali-bunt-protiv-vyshek-5g.html (accessed 08.09.2020)
Universal digitalization, globalization of information flows, and public relations are closely related to the phenomenon of “networkization”, that means the process of development of a system of global horizontal communications based on Internet practices that allow people to communicate with each other without traditional channels created by public institutions for socialization.

Mass introduction of information technologies has facilitated the emergence of new negative ways of influencing both the individual and society as a whole. According to N. B. Kirillova, the distinctive feature of the information society has become a focus on “ideas omnivorousness and compromise of aesthetic positions”.

Modern mass media have taken on a manipulative and managerial function, influencing the cultural, socio-psychological values of people, changing attitudes and patterns of behavior and reality perception, becoming a means of hidden coercion and manipulative influence.

Knowing the features of perception and conversion of information in a person's memory can be quite effective in manipulating public opinion.

Citizens become the object of mental aggression or information warfare, when a given subjective point of view is imposed on people using the mass-media.

The consumer of information services is not protected from the suggestive influence of mass-media discourse. M. R. Zheltukhina noted that mass-media manipulation is characterized by “adroitness, craftsmanship turning the addressee into a puppet and simultaneously creating the illusion of independence of the addressee’s decisions and actions”.

E. L. Dotsenko defines manipulation as “a type of psychological influence, the skillful execution of which leads to the hidden arousal of another person's intentions that do not coincide with his/her actual desires”.

In the case of mass-media, manipulation refers to actions aimed at programming the opinions, aspirations, goals, and mental states of crowds in order to control the population and its manageability.

In the context of the information-network society, information warfare changes its forms, adopting an increasingly sophisticated communicative toolkit of propaganda and manipulation.

Information “injections” in the media environment (primarily the Internet) are the reason not only for changing the axisphere of Internet users and their thinking paradigm through the imposition of “necessary” views on research infrastructures, but also for real physical violent actions that infringe on the safety of citizens, public order, and state structure.

The metaphorical idiom “media wave” appeared to denote the connection between an information “injection” and subsequent social changes. This term means the social environment excitation which “has its own frequency (mentions, distributions, the number of sources of information that enhance the media wave), propagation speed, life time, and range of action”. Moreover, provocative and defamatory content has the feature of virality; it spreads massively, and the media waves of its distribution form a “tornado media funnel”, the path into which is the user's virtual reality tunnel (under the conditions of Internet determinism, when our previous clicks determine the subsequent ones).

Thus, the normal functioning of global research infrastructures (megascience projects) requires legal support not only for financing these projects, international scientific and technical cooperation, etc., but also for the media security of these projects.

3.1. Speech offenses against media security of megascience projects

In the information field of global research infrastructures, the following speech actions, forming the offenses corpus delicti, can be performed:

- defamation (defamatory speech actions):
  1. civil-legal defamation: dissemination of information that does not correspond to reality and discredit honor, dignity or business reputation (Article 152 of the Civil Code of the Russian Federation);

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4 'Network society: basic concepts, concepts, development’. URL: http://fb.ru/article/458506/setevoe-obschestvo-osnovnyie-ponyatiya-konseptsii-razvitie (accessed 08.09.2020)
2. criminal-legal defamation: libel (Article 128.1 of the Criminal Code of the Russian Federation), insult to a representative of the authorities (Article 319 of the Criminal Code of the Russian Federation);

3. administrative-legal defamation: insult (Article 5.61 of the Administrative Code of the Russian Federation);
   - faking (faking speech actions): abuse of freedom of the media (parts 9 - 11, Article 13.15 of the Administrative Code of the Russian Federation)
   - verbal extremism (extremist speech actions): the threat of committing a terrorist act (Article 205 of the Criminal Code of the Russian Federation), knowingly false reporting of an act of terrorism (Article 207 of the Criminal Code of the Russian Federation).

It is worth noting that defamatory and faking speech actions can have not only the megascience projects themselves or their infrastructure facilities as a subject of speech (speech topic), but also organizations participating in the implementation of these projects, their employees and involved scientists. In such cases, a metonymic media transformation occurs: due to information attacks infringing on the honor, dignity and / or business reputation of an individual or the business reputation of a legal entity – the image (reputation) of a megascience project involving these persons suffers. Redirection of reputational harm to a legal entity from its employee happens within the metonymic media transformation.

In general, the security institution is designed to ensure the normal functioning of any system. Media is a broad concept that covers the entire set of information tools and techniques that serve to convey a message to a specific consumer.

3.2. The concept of media security of megascience projects

Media security of megascience projects is an activity aimed at protecting global research infrastructures and organizations participating in megascience projects, as well as individuals (scientists and administrators involved in megascience projects) from faking, defamatory and extremist-terrorist information attacks.

It should be noted that the beneficiaries of ensuring media security of megascience projects are not only the individuals and legal entities listed in the above definition, but civil society in general, that should be protected from misinformation about the functioning of global research infrastructures and potential violent actions that threaten life support facilities.

Moreover, ensuring media security is necessary to protect the business reputation of entities of scientific and technical cooperation, create a positive image of the megaprojects and attract Russian and foreign scientists, as well as to popularize the results of the implementation of these projects.

4. The training of lawyers in the field of media security of megascience projects

According to A.S. Ageicheva, ‘legislation in the field of the Internet lies at the nexus of the legal field and politics, since it directly affects the interests of society, human rights and freedoms. Therefore, it is impossible to study problems in the field of Internet legislation in isolation from political science and sociology’ [6]. Undoubtedly, this fact should be taken into account when training lawyers for the legal provision of media security of megascience projects. Moreover, in our opinion, it is equally important to consider the above threats to media security, taking into account the linguistic patterns of Internet communication and the communicative nature of speech actions that form the above offenses corpus delicti.

5 Metonymy is the act of referring to something using a word that describes one of its qualities or features (Cambridge Dictionary URL: https://dictionary.cambridge.org/dictionary/english/metonymy) (accessed 08.09.2020)
6 ‘Marketer notes’ website. URL: http://www.marketch.ru/marketing_dictionary/marketing_terms_m/ media/ (accessed 08.09.2020)
Thus, the training of lawyers in the field of media security of megascience projects should imply, along with traditional law disciplines, the study of innovative inter-branch areas of jurisprudence: information law, defamation law, digital law, science law, etc. - in synthesis with the disciplines of synthetic nature: forensic speech science (forensic linguistics), the theory of speech communication, linguo-legal conflictology, psycholinguistics, ethno-sociolinguistics, political linguistics, etc.

In addition, an important component of the educational training of such an expert lawyer is media education. According to UNESCO, media education should include theory classes and practical skills training in order to better understand tools of mass communication which are considered as a part of a specific and autonomous area of knowledge in pedagogical theory and practice: “all ways of studying, learning and teaching at all levels (primary, secondary, higher, adult education, lifelong education) and in all circumstances, the history, creativity, use and evaluation of media as practical and technical arts, as well as the place occupied by media in society, their social impact, the implication of media communication, participation, modification of the mode of perception they bring about, the role of creative work and access to media” [7].

A lawyer in the sphere of media security of megascience projects should have creative, heuristic expert thinking, be able to analyze, generalize, eliminate, rank and differentiate the information received in the media stream, that is necessary for an objective legal and linguistic study of speech traces of defamatory, faking and extremist-terrorist discourse.

It is also important to possess cognitive flexibility, quick analytic ability, high interpersonal sensitivity, proactive thinking aimed at preventing possible problems, determination of possible situations and at the same time insurance a state of readiness for possible information risks.

According to E. Wilson, “We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely” [8].

The basis for the formation of such expert thinking can be the provisions of forensic expertology as a synthetic legal science that studies the patterns of using special knowledge in legal proceedings. The developments in the field of forensic speech science (a theory based on forensic expertology) are particularly valuable for the training of lawyers in the field of media security of megascience projects. Speech traces are considered from different perspectives: 1) through the legal categories in which they are involved as corpus delicti; 2) within the framework of the sign nature (as a result of communicative activity); 3) as a source of forensically significant information (possessing diagnostic or identification-significant properties tied with a wrongful act) [9].

4.1. Media Security Risk Management

The activities of an expert lawyer in the field of media security of megascience class projects imply risk management of media security, within which media waves are ranked into the following three categories:

1. ignored (information counterattack on such a media wave will only increase its strength, since it will attract the attention of a larger audience);
2. required protection in the legal field (speech action forms the corpus delicti); interaction with a judicial lawyer is needed to prevent and resolve documentation and information conflicts;
3. required an information counterattack: building a communication strategy together with specialists in public relations and the press-office.

The process of risk management should accompany management decisions at all levels of megascience class projects, so the media risks management should be integrated into projects’ constituent parts (stages).

It is obvious that such work of an expert lawyer is of interdisciplinary nature and requires highly developed communicative and management skills: this specialist acts precisely as a manager and coordinates the work of large research infrastructure units (divisions / offices) within the framework of risk management.
5. Conclusion
The training of lawyers in the field of media security of megascience projects is the training of a “universal fighter” - multifunctional specialist. This is extremely relevant in today's rapidly changing VUCA-world, which is no longer divided into narrow specialists and generalists. As Ch. Fadel, M. Bialik and B. Trilling note, the most valuable specialists are the “versatilists who are able to apply depth of skill to a progressively widening scope of situations and experiences, gaining new competencies, building relationships, and assuming new roles” [10]. According to this concept, legal experts should be capable of constantly adapting, self-learning, self-improvement, and finding their place in a fast-changing information-networking VUCA-world.

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