

Scientific Activity in the Field of Forensic Science is the Methodology Basis Forensic Researches Under Martial Law

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In its essence, research method is a pool of techniques, methods and operations of practical and theoretical actions of person aimed at learning about an object. Foreign scientific schools often do not distinguish between methodology and research methods. Domestic scientific tradition considers methodology as a teaching about scientific method of cognition or as a system of scientific which principles research is based and on which determining totality of its cognitive means, methods and techniques. Another important basis for differentiating methods is the division by the degree of their influence on preservation of objects of forensic examination. The purpose of this work (for which achievement general scientific, separate and special methods are applied) is to investigate the issues of methodology of forensic science, methods and techniques of expert research in the conditions of martial law and global threats related to crimes of Russian aggressor against Ukraine. Analysis of terms and concepts was carried out, their own definitions were proposed and the need to improve the scientific and methodological provisions of forensic expert activity was emphasized. Despite objective problems associated with martial law, scientists and experts of the system of forensic science

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institutions of Ukraine persistently continue their scientific activities, since specific expertise application in the form of expert conclusion is a guarantee of expert provision of justice in the state. At the same time, solution of forensic examination tasks should be based on a reliable, modern scientific and methodical base requiring scientific research on theoretical and methodological issues. Analysis of regulatory control of accounting of forensic science methods was carried out. According to results of consideration of issues of international cooperation in the field of forensic science during the war, urgent problems were singled out, including involvement of foreign experts in conducting forensic examinations in Ukraine which requires regulatory control in the Law of Ukraine "On Judicial Examination". The R&D topic of (on the example of National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute») related to the challenges of the war was studied that confirmed relevance of issues raised for the modern stage of development of forensic science.

Keywords: forensic science; methodology; methods; method; forensic expert activity; scientific and methodological support.

Research Problem Formulation

Methodology (Greek, *μεθοδολογία*: teaching about method) is: "1. The doctrine of the scientific method of knowledge and transformation of the world, its philosophical and theoretical basis. <...> 2. Pool of research techniques used in any science according to specifics of its *cognition object*¹. Since the cornerstone of methodology concept "is the method of cognition, it should be understood that in its essence the method is a set of techniques, methods and operations of practical and theoretical actions of a person aimed at object cognition; in science, it is a means of obtaining new results of knowledge. In forensic science, the choice of method always depends on object, topic and tasks of research, and pool of cognitive methods

is a method of expert research, which is a special method of forensic examination. The concept dualism of method and methodology of forensic research reveals complexity of these concepts. Methods of knowledge are divided into general for all sciences, separate and special. Methodology of forensic examination has always been based on the results of scientific research on development of its theoretical and methodological provisions. These processes continue even during the war of Russian aggressor against Ukraine: today, forensic experts are faced with new tasks that cannot be solved without proper development of scientific and methodological basis of forensic examination, since forensic examination is a reliable source of evidence in any type of legal proceedings. in particular, in

1 *Методологія / Академічний тлумачний словник української мови* : в 11 т. // за ред. І. К. Білодіда. Київ, 1970—1980. Т. 4. 1973. С. 692. URL: <http://sum.in.ua/s/Metodologhija> (date accessed: 20.09.2023).

criminal ones for war crimes committed by the occupiers against the Ukrainian people.

Article Purpose

Investigate actual issues of forensic science methodology in the conditions of martial law and global threats related to the crimes of Russian aggressor against Ukraine; determine the main trends, issues and prospects of scientific research through the topic prism of research papers in the field of forensic science.

Research methods

Achieve the goal, general scientific (in particular, dialectical, comparison,

description, analysis, synthesis, induction, deduction, etc.), individual and special methods of scientific research were used.

Analysis of Essential Researches and Publications

We have repeatedly drawn attention to various aspects of forensic science methodology in a number of research papers² and have come to the conclusion that, for the most part, representatives of foreign scientific schools do not distinguish between methodology and research methods³. In the domestic scientific tradition, methodology is considered as a teaching about scientific method of cognition or as a system of scientific

- 2 Сімакова-Єфремян Е. Б. Теорія і методологія комплексної експертизи контактної-слідової взаємодії об'єктів : монографія. Харків, 2004. 176 с. ; Ї ж. Загальна теорія судової експертизи як основа методології проведення комплексних судово-експертних досліджень. *Вісник Академії правових наук України*. 2006. № 3 (46). С. 225–235. URL: https://dspace.nlu.edu.ua/bitstream/123456789/720/1/VestnikAprN3_2006.pdf (date accessed: 02.08.2023) ; Ї ж. До питання про методи та методики експертних досліджень. *Сучасні проблеми розвитку судової експертизи* : зб. мат-лів засід. «кругл. столу», присвяч. 10-річ. створ. Севаст. від-ня ХНДІСЕ ім. Засл. проф. М. С. Бокаріуса (Севастополь, 10–11.06.2010). Харків, 2010. С. 31–33 ; Ї ж. Проблеми методичного забезпечення комплексних експертних досліджень. *Теорія та практика судової експертизи і криміналістики*. 2013. Вип. 13. С. 225–232; Ї ж. Комплексні судово-експертні дослідження: теорія та практика : монографія. Харків, 2016. 456 с.
- 3 Див., напр.: Miller G. A. The cognitive revolution: a historical perspective. *Trends in Cognitive Sciences*. 2003. Vol. 7. Is. 3. Pp. 141–144. DOI: [10.1016/S1364-6613\(03\)00029-9](https://doi.org/10.1016/S1364-6613(03)00029-9) (date accessed: 30.08.2023) ; Bailenson J. N., Beall A. C., Loomis J., Blascovich J., Turk M. Transformed Social Interaction, Augmented Gaze, and Social Influence in Immersive Virtual Environments. *Human Communication Research*. 2005. Vol. 31. No. 4. Pp. 511–537. URL: https://www.academia.edu/2846170/Transformed_social_interaction_augmented_gaze_and_social_influence_in_immersive_virtual_environments (date accessed: 30.08.2023) ; Cappella J. N. & Pelachaud C. Rules for responsive robots: Using human interactions to build virtual interactions // Vangelisti A. L., Reis H. T. & Fitzpatrick M. (Eds.). *Stability and change in relationships*. Cambridge, 2002. Pp. 325–354. DOI: [10.1017/CBO9780511499876.018](https://doi.org/10.1017/CBO9780511499876.018) (date accessed: 30.08.2023) ; Craig R. T. Cognitive science: A new approach to cognition, language, and communication. *Quarterly Journal of Speech*. 1978. No. 64. Pp. 439–467 ; Idem. Communication theory as a field. *Communication Theory*. 1999. No. 9 (2). Pp. 119–161 ; Kendon A. Movement Coordination in Social Interaction: Some Examples Described. *Acta Psychologica*. 1970. No. 32 (2). Pp. 101–125. DOI: [10.1016/0001-6918\(70\)90094-6](https://doi.org/10.1016/0001-6918(70)90094-6) (date accessed: 30.08.2023) ; Lee K. M. & Nass C. The Multiple Source Effect and Synthesized Speech: Doubly-Disembodied Language as a Conceptual Framework. *Human Communication Research*. 2004. No. 30 (2). Pp. 182–207. DOI: [10.1093/hcr/30.2.182](https://doi.org/10.1093/hcr/30.2.182) (date accessed: 30.08.2023) ; MacLeod C. M. Half a century of research on the Stroop Effect: An integrative review. *Psychological Bulletin*. 1991. No. 109 (2). Pp. 163–203. DOI: [10.1037/0033-2909.109.2.163](https://doi.org/10.1037/0033-2909.109.2.163) (date accessed: 30.08.2023) ; Medin D. L., Ross B. H., Markman A. B. Cognitive Psychology. 3rd ed.

principles on which research is based and which determine totality of its cognitive means, methods and techniques⁴. Most often, methodology is interpreted as the theory of research methods or as their system. The method is understood as an algorithm of sequential actions of the researcher with the aim of solving a specific scientific task. It is necessary to agree with the ideas of scientists that the methodology is a set of methods and means of research built in a certain sequence, including techniques and various operations with actual material⁵.

As we have already noted, an important methodology component of the is the method, belonging to the methodology structure, its concept,

although development of its leading principles and techniques, sequence of their use is determined primarily by conceptual principles. The method is mostly a pool of techniques and means that are most often used in a certain sequence. Decisive importance for development of forensic methods is not only influence of scientific and technical progress, but also the conditions in which a specific branch of scientific knowledge is located in the country (for example, the political, economic and epidemiological situation, military operations, other force majeure circumstances). Currently, we see how Russian aggression affects the choice of scientific topics in the field of forensic science.

Austin, TX, 2001. 633 p. ; Stroop J. R. Studies of Interference in Serial Verbal Reactions. *Journal of Experimental Psychology*. 1935. No. 18. Pp. 643–662. DOI: 10.1037/h0054651 (date accessed: 30.08.2023) ; Thagard P. Mind: Introduction to Cognitive Science. 2nd ed. London, England, 2005. 280 p. ; Walther J. B. Computer-Mediated Communication: Impersonal, Interpersonal, and Hyperpersonal Interaction. *Communication Research*. 1996. Vol. 23. Is. 1. Pp. 3–43. DOI: 10.1177/009365096023001001 (date accessed: 30.08.2023) та ін.

- 4 Див., напр.: Булгат М. С. Зовнішні функції України та тенденції їх розвитку : дис. ... канд. юрид. наук. Київ, 2014. 237 с. ; Цвік М. В., Петришин О. В., Авраменко Л. В. та ін. Загальна теорія держави і права : підруч. для студ. юрид. вищ. навч. закл. / за ред. М. В. Цвіка. Харків, 2009. 584 с. URL: https://library.nlu.edu.ua/POLN_TEXT/KNIGI_2009/TEorijaDerjav_2009.pdf (date accessed: 30.08.2023) ; Кириленко І. С. Локальна нормотворчість в сучасному суспільстві: теоретико-правові аспекти : дис. ... канд. юрид. наук. Київ, 2014. 220 с. ; Козюбра М. І. Праворозуміння: поняття, типи та рівні. *Право України*. 2010. № 4. С. 10–21. URL: https://www.pravoua.com.ua/ua/store/pravoukr/pravoukr_2010_4/ (date accessed: 30.08.2023) ; Мала енциклопедія теорії держави і права / за заг. ред. Ю. Л. Бошицького. Київ, 2010. 368 с. ; Манжул І. В. Визначення методів пізнання в науковій літературі. *Бюлетень Міністерства юстиції України*. 2012. № 11. С. 11–17. URL: http://nbuv.gov.ua/UJRN/bmj_u_2012_11_4 (date accessed: 30.08.2023) ; Рабінович П. М. Категорії та закони діалектики – актуальний інструмент сучасного правопізнання (за матеріалами практики Страсбурзького суду). *Вісник Національної академії правових наук України*. 2009. № 4 (59). С. 8–19 ; Цехмістрова Г. С. Основи наукових досліджень : навч. посіб. Київ, 2003. 240 с. URL: <http://www.info-library.com.ua/books-book-96.html> (date accessed: 09.06.2016) ; Циппеліус Р. Юридична методологія / Роман Корнута (пер., адапт., прикл. з права Укр. і спис. термін.). Київ, 2004. 176 с.
- 5 Доклад. див.: Гросс Г. Руководство для судебных следователей как система криминалистики. Киев, 2021. 1080 с. ; Колесниченко А. Н. Общие положения методики расследования отдельных видов преступлений // Лисиченко В. К., Гончаренко В. И., Салтевский М. В. и др. Советская криминалистика. Методика расследования отдельных видов преступлений / под ред. В. К. Лисиченко. Киев, 1988. С. 7–15 ; Шепітько В. Ю., Коновалова В. О., Журавель В. А., Глібо В. М., Дудніков А. Л., Шевчук В. М. Криміналістика : підручник / за ред. В. Ю. Шепітька. 4-те вид., перероб. і допов. Харків, 2008. 464 с. URL: <https://law.sspu.edu.ua/files/documents/books/library/17/shepitko.pdf> (date accessed: 30.08.2023).

Main Content Presentation

First of all, we note that based on the results of the generalization of literary sources, it is possible to single out the main trends in the development of methods of forensic examination, specified in techniques and methods that are used by researchers and which collectively make up methodology of expert research. Thus, in Ukrainian special literature, I. V. Manzhul investigated the issue of defining methods of cognition: she conducted an analysis of literary sources on the issues of defining and classifying general scientific, special legal and other methods of cognition, their interrelationship, interdependence while research⁶. In particular, the researcher states that in legal science there has not been a single classification of methods of knowledge of phenomena and processes of real reality: the authors single out and group methods of knowledge in accordance with the tasks set regarding the completeness and comprehensiveness of the selected research, and for this they can apply only systems of interconnected and interdependent methods, since this choice is determined by the nature and essence of a specific phenomenon⁷.

E. B. Simakova-Yefremian's research results on the survey of forensic experts on differentiation of methods of forensic examination indicate a lack of unanimity in this matter: 37% divide the methods into 3 categories (general (general scientific), separate and special); 30% – into two categories (general (general scientific) and special), and 33% either give their own small differentiations that differ from those indicated, or give unacceptable answers at all: they mix the concepts of stage and method of expert research, technique (method) with research method. As the scientist notes, survey results indicate the need for a detailed analysis of differentiation of forensic science methods⁸, although decades have passed since the distribution of methods by degrees of commonality and subordination, this classification is still the most correct to this day, because thanks to it is possible to get an idea of the hierarchy of this construction: comprehensive dialectical method and methods of logic (abstraction, analysis, synthesis, induction, deduction, idealization, construction of hypotheses, analogy, etc.); general cognitive methods (observation, measurement, description, planning, experiment, modeling, etc.); separate instrumental (microscopic (in

- 6 Див.: Бачинін В. А., Журавський В. С., Панов М. І. Філософія права : словник. Київ, 2003. 404 с. ; Волинка К. Г. Теорія держави і права : навч. посіб. 2-ге вид., стер. Київ, 2006. 235 с. ; Сухонос В. В. Теорія держави і права : підручник. Суми, 2014. 544 с. URL: https://essuir.sumdu.edu.ua/bitstream-download/123456789/47858/1/Sukhonos_ml_TDP_uchebnik.pdf (date accessed: 30.08.2023) ; Філософія права : навч. посіб. / за ред. О. Г. Данильяна. Київ, 2009. 269 с. ; Ржевська В. С. Право держави на самооборону в світлі розвитку юридичних гарантій міжнародної безпеки : автореф. дис. ... канд. юрид. наук. Київ, 2003. 22 с. ; Шляхтун П. П. Політологія: історія та теорія : підручник. Київ, 2010. 472 с. ; Галака С. П. Ядерне нерозповсюдження у світовій практиці : автореф. дис. ... д-ра політ. наук. Київ, 2006. 26 с. ; Шейко В. М., Кушнаренко Н. М. Організація та методика дослідницької діяльності : підручник. 5-те вид., стер. Київ, 2006. 307 с. ; Скакун О. Ф. Теорія держави і права : підручник. Харків, 2001. 656 с. URL: https://duikt.edu.ua/uploads/l_948_39072050.pdf (date accessed: 30.08.2023).
- 7 Манжұл І. В. Зазнач. твір. URL: http://nbuv.gov.ua/UJRN/bmju_2012_11_4 (date accessed: 30.08.2023).
- 8 Сімакова-Єфреміян Е. Б. Комплексні судово-експертні дослідження С. 168.

particular, measuring), photographic, chemical, spectral, chromatographic, X-ray, physical and technical, mathematical and other auxiliary technical methods); special methods, the functions of which are performed by specialized methods of forensic research.

We draw attention to another important basis for the differentiation of methods – the division by the degree of their influence on the preservation of objects of forensic examination (methods that damage (destroy) the object, or those that leave the object unchanged). Undoubtedly, the prerogative should be given to gentle methods. This narrative meets the requirements of the Law of Ukraine: *On Judicial Examination* (hereinafter referred to as Specialized Law) regarding the damage or loss of objects of research during the conduct of forensic expertise only to the extent that it is necessary for the research (Art. 5)⁹. Sometimes the choice of a gentle research method plays a decisive role when evaluating the results of the research by the court: we are talking about situations when, in order to find out the truth in the case, court deems it necessary to involve a forensic expert to conduct a repeated or additional research of the object. It is clear that when an object is destroyed or damaged due to the use of a destructive method of expert research, this fact can negatively affect adoption of a judicial decision.

Another issue on which I would like to focus attention is the accounting of the methods of conducting forensic examinations. According to Art. 9 of the Profile Law, methods of conducting

forensic examinations (except forensic medical and forensic psychiatric) are subject to attestation and state registration in accordance with the procedure determined by the Cabinet of Ministers of Ukraine (hereinafter referred to as *CabMin*)¹⁰. In July 2008, the Resolution of the CMU approved the Procedure for Certification and State Registration of Forensic Science Methods¹¹, according to which the rules for maintaining the relevant Register of Forensic Expertise Methods (hereinafter - the Register) were determined. In the aforementioned Procedure, the concept of methodology as a result of scientific work, which contains a system of research methods that are applied in the process of successive actions of an expert in order to perform a certain expert task, is fixed at the legislative level. Organizational and methodological principles of maintaining the Register are determined by the Ministry of Justice of Ukraine. The methods submitted for state registration are considered by the Coordination Council on Forensic Expertise Problems under the Ministry of Justice of Ukraine, created in accordance with Art. 8 of the relevant Law for consideration of the most important issues of the development of forensic examination, which are of an interdepartmental nature. The Coordination Council includes representatives of the administrations of almost all state forensic expert institutions (Ministry of Justice, Ministry of Internal Affairs, State Border Services, Ministry of Healthcare, Security Service of Ukraine) and the community of forensic experts

9 Про судову експертизу : Закон України від 25.02.1994 р. № 4038-XII (зі змін. та допов.). URL: <https://zakon.rada.gov.ua/laws/show/4038-12#Text> (date accessed: 02.09.2023).

10 Там само.

11 Порядок атестації та державної реєстрації методик проведення судових експертиз : затв. постановою КМУ від 02.07.2008 р. № 595 (зі змін. та допов.). URL: <https://zakon.rada.gov.ua/laws/show/595-2008-%D0%BF#Text> (date accessed: 02.09.2023).

who do not work in State institutions. Each technique proposed for consideration is subject to study by the members of the Coordination Council, in case of a positive decision on state registration, it is given a corresponding registration number and relevant data about it are entered in the Register¹². The procedure for its formation and maintenance is stipulated in the Procedure for maintaining the Register of forensic examination methods. The register is an official electronic database, maintained for the purpose of creating an information fund on the availability of methods of conducting forensic examinations, certified and recommended for implementation in expert practice. Information from the Register is open for requests by law enforcement agencies, courts and interested legal entities and individuals. During the martial law, access to this Register was temporarily closed, but it was later reopened. The registration code of the method, type (subspecies, genus) of expertise or field of knowledge, the method name, name of the specialized institution that developed it, year of creation and the date of the decision on its state registration, etc., are recorded in the Register. Any person has free access to the Register, and in the event of a request from law enforcement agencies, courts and legal entities and individuals regarding relevant methodology, an extract from the Register is provided. In addition, if the methodology does not have any restrictions on its circulation, the Ministry of Justice can provide its text to the customer upon appropriate request. The issue of restricting access to methods that contain confidential information has been a subject of discussion for a long time, because the methods of forensic

research belong to sources marked as *Restricted*. The main purpose of such *marking* is to prevent criminal elements from accessing certain information. Criminals can use such information for an illegal purpose (for example, regarding the component composition of narcotics, psychotropic substances, explosives, features of the manufacture of weapons and ammunition, explosive devices, forgery of documents, etc.). At the same time, we can state that the Internet is full of information about similar cases. Free circulation of such information is especially dangerous during martial law. We believe that restricting access to confidential information from the Register is preventive in the fight against crime.

The register has a user-friendly structure and principles of construction allowing even persons who do not possess specific expertise to use information from: by types of forensic expert specializations based on the object approach (depending on the object). Integrative methods of complex research, based on sets of techniques, methods and methods of research from various fields of special knowledge, are combined into a separate group.

Let us briefly consider the main principles of using methods of various fields of science and technology in forensic examination. We have already noted above that forensic examination as a means of knowledge uses the methods of dialectics: theory of human knowledge, epistemology of any phenomena and processes that must be considered in development, step by step, from ignorance to knowledge. This process is observed during every forensic research. Thereby forensic expert should thoroughly know all categories and laws of dialectics, as well as other general

¹² Порядок ведення Реєстру методик проведення судових експертиз : затв. наказом Міністерства України від 02.10.2008 р. № 1666/5 (зі змін. та допов.). URL: <https://zakon.rada.gov.ua/laws/show/z0924-08#Text> (date accessed: 02.09.2023).

methods of cognition (those used in all spheres of activity). Separate methods of cognition (characteristic for certain branches of science) are a reliable toolkit of forensic experts: they are a component of special methods, the functions of which are performed by methods of conducting forensic examinations. It is the nature of researched objects that plays an important role when choosing individual research methods. After all, the last link in the distribution of methods of forensic examination are special ones, that is, those that are characteristic only for forensic examination. Considering the fact that such special methods are used only for conducting forensic examination, it is worth noting that they are developed precisely for this purpose. Thus,, in order to determine the amount of material damage caused to the owner as a result of the destruction of the motor vehicle (for example, from artillery fire), a special technique has been developed that allows you to find it out step by step. The method of determining the amount of material damage caused to the owner of a real estate object (for example, damaged (destroyed) by a missile strike) is a special method typical for forensic construction and technical expertise, etc.

Therefore, method of forensic research should be understood as a system of methods (techniques, technical means) used to study objects of forensic examination and establish facts related to the subject of a certain type, type and subtype of forensic examination. In our opinion, the following definition of methodology of forensic expert research is more complete and correct: it is the result of scientific and technical activity in the form of a normative document

containing information about the subject and tasks of the research, typical questions that are asked to forensic expert (experts) about circumstances research objects, requirements for the subject of forensic examination, technical conditions for conducting research regarding the selection of methods (standardized and non-standardized), assessment of their suitability and measurement uncertainty, equipment, measurement traceability, initial standards and sample substances, procedures for selecting experimental samples, algorithm of sequential actions forensic expert for the purpose of performing a certain expert task and evaluating obtained results¹³.

The purpose of this research paper is to analyze the specific features of methodological support in connection with emergence of new tasks of expert justice support related to the challenges of war. Today, the entire expert community takes care of the scientific and methodological support of those areas of forensic activity in Ukraine that are primarily related to the investigation of the crimes of Russian aggressor against the Ukrainian people.

Scientific field of activity in which one of the authors of this research paper relates to research on issues of using the results of road technical expertise as a source of evidence in criminal proceedings. The fact that in connection with the emergence of new tasks related to the challenges of Russia war against Ukraine, the amount of road engineering studies has increased significantly is attracting attention. Before the attack of Russian aggressor on Ukraine, the main issues of this type of forensic examination were the need to develop theoretical, legal and practical issues

13 Сімакова-Єфремян Е. Б. Комплексні судово-експертні дослідження С. 184.

regarding state policy in the field of road safety and the methodological databases¹⁴ of road engineering research as a tool for combating crimes in road construction¹⁵. With the beginning of the insidious war of the Russian aggressor against our country, the issue of recording and investigating (using special knowledge) war crimes of the Russian Federation (in particular, those related to the destruction of the road infrastructure of our country) became relevant to this day¹⁶. In this regard, significant assistance for the community

of Ukrainian experts comes from foreign partners.

Integration issues of forensic expert activities of Ukrainian specialists and international cooperation in the field of forensic science are relevant for any period of its development in Ukraine, but they acquired special importance during the Russian aggression against our state. It is about the fact that in this difficult time for Ukraine, support of international partners acquires a new meaning in the aspect of solving the most difficult

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- 16 Півньов Є. До проблем методичного забезпечення судової дорожньо-технічної експертизи під час війни. *Актуальні питання судової експертизи та криміналістики* : зб. мат-лів міжнар. наук.-практ. конф. з нагоди ювіл. видат. учен.: 95-річ. від дня народж. Л. Ю. Ароцкера («Ароцкерівські читання») і 105-річ. від дня народж. М. В. Салтєвського (Харків, 19.05.2023). Харків, 2023. С. 239–241. URL: [https://www.hniise.gov.ua/uploads/files/public-folder/2023_tezy_konference28_compressed_compressed_compressed%20\(1\)-181-360.pdf](https://www.hniise.gov.ua/uploads/files/public-folder/2023_tezy_konference28_compressed_compressed_compressed%20(1)-181-360.pdf) (date accessed: 23.08.2023) ; Його ж. Проблемні питання експертних досліджень із визначення шкоди та відшкодування збитків, завданих Україні внаслідок збройної агресії російської федерації. *Проблематика документального оформлення, визначення шкоди та відшкодування збитків, завданих Україні та її громадянам внаслідок збройної агресії Російської Федерації* : тези наук.-практ. конф. (Харків, 22.06.2022). Харків, 2022. С. 106–110. URL: http://nauka.nlu.edu.ua/nauka/download/zbirniki_konf/Tezi_konf_22_06_2022.pdf (date accessed: 05.09.2023) ; Його ж. Деякі аспекти розширення меж предмету дорожньо-технічної експертизи в умовах війни та відновлення України у повоєнний період. *Актуальні питання судово-експертної діяльності в умовах воєнного стану та повоєнний період* : мат-ли Всеукр. наук.-практ. конф. (Одеса — Львів, 28.09.2022). Львів, 2022. С. 121–123. URL: <http://ndekc.lviv.ua/pdf/174.pdf> (date accessed: 20.08.2023) ; Його ж. Адаптація до викликів війни пріоритетних напрямів наукових досліджень у сфері судової експертизи. *Актуальні питання судової експертології, криміналістики та кримінального процесу* : мат-ли IV Міжнар. наук.-практ. конф. (Київ, 16.12.2022). Київ, 2022. С. 383–386. URL: https://m3rkxutm8pk3eqapl5ynjvb3gtps8uao.cdn-freehost.com.ua/wp-content/uploads/2023/07/konf_4_kndise_2022.pdf (date accessed: 20.08.2023).

problems of expert justice provision. In general, the support of the European and world community for the people of Ukraine is a powerful lever of influence on the course of this bloody war. Thus, at the beginning of the Russian aggression, the members of the European Network of Forensic Science Institutes excluded representatives of Russia and Belarus from their membership. In this way, European experts demonstrated us their support.

On February 24, 2022, at 4 a.m., President of the Russian Federation, Putin, announced a “special military operation”, and on his order, a full-scale armed invasion of the territory of Ukraine began. Kharkiv, where the National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute» (hereinafter referred to as NSC «Hon. Prof. M. S. Bokarius FSI»), from the first day until today, maintains a strong defense on the border with the aggressor, and forensic experts and scientists with their conscientious daily work bring victory closer. European partners did not stand aside, but in every possible way help to solve the most diverse issues of expert justice provision. As we have already noted, the judicial experts faced an important task: to record and calculate the damages caused by the racist invasion. Thus, thanks to European partners, the forensic institutions of Ukraine received 3D scanners, which are used to examine destroyed objects of residential, industrial and road infrastructure.

Here is another example of international material and technical support: the Office of the Prosecutor General of Ukraine (with the assistance of the Ministry of Justice) together with the

Chargé d'affaires of the French Republic in Ukraine, Benjamin Rorig, handed over a unique mobile laboratory for the express analysis of the DNA of the dead, found in the places of mass burials, to NSC «Hon. Prof. M. S. Bokarius FSI». The scale of the crimes committed by the occupiers is enormous: the population of Bucha, Irpen, Mariupol, Iziurm and many other cities and towns of Ukraine suffered mass genocide. The use of a mobile laboratory by the employees of the NSC «Hon. Prof. M. S. Bokarius FSI» National Center on the order of law enforcement agencies is an invaluable aid for the identification of unidentified victims of genocide, as confirmed by European observers. International cooperation is also embodied in joint projects with European institutions Panacea Cooperative Research and ARTEC Europe: NSC «Hon. Prof. M. S. Bokarius FSI» specialists successfully use Skeleton•ID software provided by foreign partners for person identification (craniofacial overlay, comparison of faces, biological profiling and comparative radiography), etc.

There is a problem related to the need to simplify in the legislation of Ukraine the procedure for attracting foreign forensic experts to perform forensic examinations in our country. Thus, in the Monitoring Report of the Ministry of Justice of Ukraine for 2022¹⁷, three urgent problems are singled out: 1) involvement of foreign experts in conducting forensic examinations in Ukraine; 2) results of forensic examinations conducted abroad; 3) preservation of documents in conditions of war and/or state of emergency. In particular, it is proposed to settle the conflict between the provisions

17 Моніторинговий звіт-2022: судово-експертна діяльність та банкрутство / Мін'юст України : офіц. вебсайт. 08-02-2023. URL: <https://minjust.gov.ua/news/ministry/monitoringovy-zvit-2022-sudovo-ekspertna-diyalnist-ta-bankrutstvo> (date accessed: 02.09.2023).

of the European Convention on Mutual Assistance in Criminal Case ¹⁸ and its Protocols and Art. 571 of the Criminal Procedural Code of Ukraine ¹⁹.

In our opinion, since the order of criminal proceedings is determined exclusively by criminal procedural legislation, it is also necessary to improve the norms of the relevant Law, which contains relevant norms in the part of international cooperation. Yes, according to Part 1 of Art. 23: *Attracting experts from other states to jointly conduct forensic examinations* of this Law, “Heads of state specialized institutions conducting forensic examinations, in necessary cases, have the right, with the consent of the body or person who appointed the forensic examination, to include leading specialists in the composition of the expert commissions other states. Such joint expert commissions carry out forensic examinations according to the norms of the procedural legislation of Ukraine” ²⁰. On the other hand, according to the rules of the Criminal Procedure Code of Ukraine, the head of an expert institution does not have the right to involve an expert from a foreign country at all, since this does not belong to the competence of this head: his function is to organize the activities of judicial experts of the institution headed by him, and not to involve experts from foreign countries. Engagement of a forensic expert is the exclusive competence of the person (body) appointing the forensic expert. Therefore, the given issue needs regulatory regulation.

The last block of our scientific research is devoted to the analysis of researches and development (hereinafter referred to as R&D) according to the R&D Project of forensic science institutions (hereinafter referred to as FSI) of the Ministry of Justice of Ukraine for the year 2023 in the aspect of signs of feasibility of carrying out work under martial law or in the conditions of post-war reconstruction of the State.

First topic of research paper, that will be discussed, concerns development of the scientific and methodological manual: *Conceptual foundations of forensic science*. It seems that the topic has a purely theoretical nature and the question can arise: is it time to develop foundations of forensic science theory nowadays? However, everyone knows aphorism that practice without theory is blind, and theory without practice is dead and fruitless. This scientific and methodological manual will contain a comprehensive analysis of research by leading scientists and a generalization of expert practice on the issues of forensic science and its separate theories; methodologies of forensic expert activity; expert research process and its stages; forensic methods, their typification and registration; standardization of forensic expert activity; preventive activities of forensic expert; the form and content of the forensic expert’s conclusion, its evaluation and use in court proceedings; legal, organizational and information support of forensic expert activity; expert didactics and psychological foundations of expert activity, in particular, in the conditions of

18 Європейська конвенція про взаємну допомогу у кримінальних справах (Страсбург, 20 квітня 1959 року) : ратифік. із заявами і застережен. Законом України від 16.01.1998 р. № 44/98-ВР (зі змін. та допов.). URL: https://zakon.rada.gov.ua/laws/show/995_036#Text (date accessed: 02.08.2023).

19 Кримінальний процесуальний кодекс України від 13.04.2012 р. № 4651-VI (зі змін. та допов.). URL: <https://zakon.rada.gov.ua/laws/show/4651-17#Text> (date accessed: 02.08.2023).

20 Про судову експертизу URL: <https://zakon.rada.gov.ua/laws/show/4038-12#Text> (date accessed: 02.09.2023).

martial law and new challenges to expert provision of justice in Ukraine.

Development of methodological recommendations and test tasks for the electronic system of conducting automated testing of persons who have expressed the intention to obtain or confirm qualification of forensic expert is extremely necessary to increase the efficiency of expert provision of justice by in-demand expert specialties, need for specific expertise which will only grow over time. Use of test system for qualifying examinations will significantly increase the effectiveness of training forensic experts in wartime conditions.

No less important is development of methodological recommendations regarding implementation of requirements of international standards for research equipment in forensic institutions of Ukraine. It is in the conditions of martial law, when we receive the latest equipment from foreign partners that it is important to keep the issue of accreditation of forensic institutions in accordance with international standards at a high scientific level.

Development of Handbook of professional competences of forensic experts (in particular, in the conditions of martial law) will make possible to clearly define competencies of forensic experts, standardize and unify requirements for the profession of a forensic expert in specific expert specializations. As in conditions of war as during post-war restoration of the state, this is very important, because the question of the expert's competence is fundamental when evaluating the results of any forensic research.

The planned methodological guide for linguists on theoretical and methodological provisions of forensic linguistics concerns the conduct of semantic and textual research on speech acts of an offer, promise, acceptance or

incitement to provide any benefit, pressing issues of fight against corruption that have not lost their relevance in the conditions of war state.

It is difficult to overestimate the method improvement of forensic (semantic-textual) examination, multidisciplinary psychological and linguistic research in criminal proceedings regarding damage to the information security of the State (in particular, in the conditions of martial law). Development of modern recommendations regarding the technology of complex psychological-linguistic forensic research of information messages with the aim of establishing their influence on the consciousness and behavior of individuals is extremely relevant for the information security of the State. The results of this work will be useful to scientists and forensic experts who conduct research on the basis of specific expertise integration that is important for the application of measures to counter the manipulation of mass consciousness. The results of the R&D should be implemented during complex forensic psychological and linguistic examinations in forensic institutions of the Ministry of Justice, Security Council, and MIA of Ukraine.

Currently, along with Russia active military actions against Ukraine defending its territories from an aggressive full-scale invasion, there is another war that the attacker is resorting to; this is an information war. Since 2014, forensic linguistics has been protecting the information space of Ukraine, solving both issues related to the dissemination of information that threatens security of Ukrainian statehood (war propaganda, calls for the overthrow of the government and the constitutional order and the violation of territorial integrity, inciting enmity and hatred), as well as the question of establishing the authorship of such materials, as well as identifying

influence of various misleading factors on the authors during the compilation of problematic texts. To successfully combat the spread of harmful information, it is not enough to find its addressees, it is also important to identify the authors of problematic messages and deprive them of the opportunity to compose criminal texts. Taking into account the fact that suspects often deny their authorship or explain that they created them under pressure from other people or under the influence of external and internal circumstances, it is precisely improved technique of diagnostic autobiographical examination with developed tools for solving issues that can help to find out the truth regarding influence of various misleading factors on the author of a small text (in particular, a printed one).

Forensic Author Identification examination methodology will help in wartime to establish the authors of anonymous documents or any other texts in the mass media, etc., which influence formation of consciousness of readers or listeners, and will contribute to development of a system of measures to combat crimes about information security of the state.

It is relevant to develop the method of handwriting research of similar signatures of persons with the same surnames and the method of conducting multi-object forensic Handwriting analyses. In the conditions of martial law, this will make it possible to develop the methodology of handwriting researches, the need for which has increased significantly during the investigation of serious war crimes.

Undoubtedly, technique of determining the methods of manufacturing counterfeit bills in conditions of martial law will contribute to solving the issue of counterfeiting money. Phenomenon of forgery of currency signs was significantly

widespread during the war due to the constant migration of population of Ukraine.

Methodology of multidisciplinary research of icons with salaries will contain an algorithm for determining the value of icons while calculating the amount of damage caused by Russian invasion, their authenticity and belonging to cultural values. Icons are often the objects of criminal offenses: illegal movement across the border, theft, forgery, etc. Such crimes became particularly relevant during the war, when the Russian invaders hunted them down and kidnapped them with particular cynicism.

In the field of forensic trace evidence analysis, research on gas metering devices has not lost its relevance: in developed methodology, list of issues resolved by forensic examination of gas metering devices has been improved; a set of techniques and methods for researching these objects was developed when solving diagnostic and identification tasks; practical experience gained during examinations and expert studies on this topic is summarized. The study and analysis of information provided by Ukrainian manufacturing plants that produce devices for measuring gas consumption will make it possible to more effectively investigate the theft of gas both in private homes and at enterprises and organizations in conditions of martial law, and to compensate the state for stolen funds.

Development of methodological recommendations for the forensic investigation of products structurally similar to ancient weapons under martial law will contribute to the fight against the illegal circulation of cold weapons. This also applies to methodology of multidisciplinary research on Japanese cold weapons belonging to cultural values that have artistic, historical, ethnographic

and scientific significance. This technique in conditions of martial law will help to determine amount of damage caused to museums and private collections by the criminal actions of the occupiers.

Any research by scientists in the field of forensic explosive examination is certainly very relevant in war conditions. Creation of a scientific and methodical guide with a display of technical information about explosive charges, engineering mines, ammunition and the means of putting them into action, that are in service with law enforcement agencies of Ukraine and the countries of the post-Soviet space, will become a reliable tool for research on such objects, because during the war their research takes on a mass character. For the same reasons, a scientific and methodical manual with technical information on special pyrotechnic means of industrial production will contribute to the diagnosis of the mentioned means, which are in illegal circulation today. We consider the development of the *Forensic explosive examination* DSTU project to be no less relevant. Terms and definitions of concepts that in conditions of martial law will help to unify and standardize procedures of forensic explosive investigations according to international requirements.

Methodological recommendations for research on authenticity of digital images based on artificial intelligence will make possible to determine electronic montage of any digital images, which to this day remains quite problematic all over the world. This will increase effectiveness of the investigation of crimes related to forgery of images recorded on digital media. In addition, in conditions of martial law, general method of identifying a person based on oral speech is very relevant, which creation will facilitate the identification of persons who have spoken certain texts in

the mass media or during other types of communication.

In the field of forensic examination of materials, substances and products, topical topics of the R&D are planned to be implemented. The method of forensic investigation of altered light petroleum products, based on the relationship between their composition and dynamics of changes over time, is an important tool in the fight against theft of gasoline and other types of fuel that became massive during the war. Identification method of anabolic steroids, which is based on the use of a complex of chemical and instrumental methods, will contribute to the prevention of illegal circulation of prohibited substances both among the civilian population and in military formations.

Methodology use for the research on objects of biological origin will contribute to increasing effectiveness of research on biological objects, in particular grain and grain products, which mass theft is observed by the Russian aggressor. The Multidisciplinary methodology for research on tobacco and tobacco products will make possible to apply modern methodological approaches for diagnosis and identification during investigation of smuggling and other offenses in the sphere of tobacco and tobacco products circulation, which commission increased during the war. The method of forensic biological research on scales of freshwater and marine fish will be useful to forensic experts in martial law to calculate the amount of material damage caused to freshwater and marine reservoirs of Ukraine by missile strikes, aerial bombardment and artillery shelling both in protected areas and in fishing areas.

DNA analysis is a research method in demand during war to identify the bodies of dead persons. Methodical recommendations for conducting

a forensic molecular genetic examination using cryopreservation of human biological material under martial law conditions will help to identify both victims of artillery fire and bombing, the remains of which were discovered during dismantling of rubble, as well as living persons.

Methods of forensic engineering and transport examinations will make possible to unify and systematize methodological bases of the investigation of traffic collisions (hereinafter referred to as road accidents) that occur during the movement of both civilian transport and military vehicles and mechanisms on the roads of Ukraine during the war.

In the field of forensic engineering and transport examination, it is planned to develop methodological recommendations for expert research on braking parameters of modern trolleybuses on dry and wet asphalt concrete surfaces. In the conditions of martial law, this will contribute to the investigation of the mechanism of road accidents of urban electric transport in the event of its damage as a result of military operations.

In the field of forensic engineering and transport examination, it is provided for development of methodological recommendations for forensic research on braking parameters of vehicles of category M1 with electric and hybrid power plants, which will make possible to determine mechanism of road accidents (in particular, those that occurred on streets and roads damaged as a result of bombings and missile strikes).

Fire engineering specialists plan to develop methodological recommendations for investigating vehicle fires by using magnetic induction method under martial law conditions, that will create a reliable toolkit for investigating consequences of vehicle fires as a result of artillery shelling, aerial bombardment, and missile strikes.

Methodology development for conducting forensic examinations to establish the compliance of development of water objects and land belonging to the water fund with requirements of regulatory acts, in the conditions of martial law and post-war reconstruction of the country, will contribute to definition of criteria for such compliance and the adoption of well-founded decisions on provision of funds for these developments.

In conditions of martial law and post-war reconstruction of the country, introduction into expert practice of results of developed methods for determining the quality of construction and assembly and construction works, establishing their actual volumes and costs according to reporting documentation, as well as the dependence between repair and construction works and damage to adjacent premises will make possible to determine necessary criteria for compliance of such works according to specified parameters that will contribute to adoption of well-founded decisions on the provision of funds for these buildings and the conduct of forensic examinations at a qualitatively new level.

Methodology for conducting judicial land and technical examinations in cases related to the distribution of agricultural land plots in the conditions of martial law and post-war reconstruction of the country will make possible to use scientifically based criteria for establishing boundaries of land plots (in particular, those damaged as a result of artillery fire and missile strikes).

The methodology of forensic multidisciplinary research in case of a threat to people lives or the occurrence of other serious consequences during the operation of car gas stations, gas filling stations and gas filling points as a result of non-compliance with regulatory and

technical requirements, in the conditions of martial law and post-war reconstruction of the country, will contribute to solving the issue of compliance with regulatory and technical requirements for operation of gas stations damaged by Russia military actions against Ukraine.

Methodological recommendations for conducting forensic electrotechnical examinations of electronic devices for accounting for the consumed electric energy are based on the results of the generalization of the practical experience gained by specialists of the FSI of Ministry of Justice of Ukraine. Thanks to the information obtained from factories: manufacturers of indicators of the effect of a permanent magnetic field and electronic devices for accounting for the consumption of electric energy with protection against the action of a permanent magnetic and electromagnetic field, it will be possible to unify the approach to the complex electrotechnical and trace evidence research on accounting devices. It is planned to create an algorithm of actions of forensic experts to conduct forensic examinations on the consequences of damage to high-risk objects during the war.

Methodological recommendations for research on non-mechanical influence on operation of electric energy metering devices for the purpose of solving situational and diagnostic tasks in the conditions of martial law will become a reliable tool for detecting embezzlement of electric energy due to non-mechanical influence on metering devices, that will help to return funds for illegal use to the state budget of electricity both during the war and during the post-war reconstruction of the country.

Forensic heat engineering expertise is a new type of research that was recently launched at the initiative of specialists of NSC «Hon. Prof. M. S. Bokarius FSI»,

therefore the proposed method of expert research on heat engineering equipment is very relevant. In conditions of martial law and the post-war restoration of residential and industrial infrastructure, the introduction of a new methodology will contribute to the resolution of issues of compliance with temperature regimes of heating equipment operation.

Forensic examination in electronic communications is acutely lacking in scientific and methodological support, therefore the development of recommendations for research on hardware and software used to terminate voice traffic under martial law conditions will contribute to the detection of violations in this complex area.

Scientific and methodological recommendations for research on state of hazardous waste management at the enterprise will become a solid basis for expert support for the investigation of crimes in the field of ecology and will contribute to the reduction of the terms of conducting forensic engineering and environmental examinations, increase their effectiveness, ensure the completeness of research and enrich the possibilities of this type of examinations in the conditions of martial law and post-war restoration of the State.

Another R&D of environmental orientation is devoted to the analysis by instrumental and laboratory methods of quantitative and qualitative parameters of pollutant emissions from stationary sources and the concentration of pollutant substances in atmospheric air. In conditions of martial law and post-war reconstruction of the country, this scientific topic will contribute to development of algorithms for actions of forensic experts while determining compliance of environmental indicators with requirements for the concentration of

pollutants in the atmospheric air as a result of the use of chemical weapons prohibited by the laws and customs of war.

This year, scientists in the field of forensic economics focused their research on three areas of expert research: 1) taxation of certain transactions with capital assets under martial law; 2) use of budget funds in the conditions of martial law and post-war reconstruction of the country; 3) conducting forensic economic examinations taking into account the conclusions of other types of examinations. This will expand the possibilities of forensic and economic research into the issues of the State Budget not receiving revenues as a result of the military actions of the Russian aggressor.

Methodological recommendations on issues of conducting forensic expert examinations in consumer rights cases (expediency of using generally accepted approaches and methods depending on circumstances of the case under martial law) are designed to prevent violations of consumer rights. This issue is especially acute during the war, while control over quality of products is weakened to some extent.

In conditions of martial law, methodological recommendations for determining the value of certain types of fish and seafood during forensic commodity examinations will contribute to development of reliable algorithms for forensic research on the named products that do not meet quality requirements due to violations related to criminal actions of the occupiers.

Methodical recommendations on conducting forensic transport and commodity expert examinations of urban electric transport will make it possible to calculate amount of damage caused to the transport infrastructure of our State by illegal aggressor actions.

The updating of the automotive expert examination methodology for assessment of wheeled vehicles and their components imported into the customs territory of Ukraine under martial law and during subsequent post-war reconstruction of the country will contribute to amount determination of damage caused to the owners of wheeled vehicles as a result of their damage due to artillery shelling and aerial bombardment.

Another interesting topic is related to the creation of methodological recommendations for research on works of fine art as objects of copyright. In the field of intellectual property research, this will become a powerful lever for preventing copyright infringement in conditions of racist aggression.

Forensic psychological examination during the war is one of the most sought after researches. Guidelines for conducting forensic psychological research on crimes committed by group of persons under martial law will contribute to the investigation of group crimes committed by collaborators.

Guidelines for psychological examination of victims in criminal cases related to domestic violence will also be useful: they will make possible to find out factual data and circumstances of the case of domestic violence during the war.

Methods of forensic psychology analysis of minor suspects (accused) under martial law are relevant. The results of research in this direction are a certain safeguard against criminal acts committed by the specified category of persons during the war.

No less important for implementation in expert practice is methodology for expert psychologists with the aim of improving the organizational foundations of conducting a forensic psychological examination of emotional state of physiological affect

that in the conditions of martial law will contribute to establishment of factual data regarding individual (in particular, a war criminal).

Forensic psychologists have directed their efforts to development of guidelines for psychological analysis of raw data during forensic psychological examination under martial law conditions. The differential approaches developed thanks to this R&D will make possible to determine the ability or inability of the original data under circumstances of war crimes.

In conditions of martial law and the post-war reconstruction of the country, the development of the scientific and methodological manual: *Methodology of forensic psychological research* will contribute to development of a powerful methodological toolkit for the application of special psychological knowledge during investigation of war crimes.

In martial law conditions and the post-war reconstruction of the country, development of the scientific and methodological manual: *Methodology of forensic psychological research* will contribute to development of a powerful methodological toolkit for application of special psychological knowledge during the investigation of war crimes.

Historical and archaeological expertise is also the property of the specialists of NSC «Hon. Prof. M. S. Bokarius FSI»: it was on their initiative that this forensic science area was started. Method of multidisciplinary research on archaeological heritage objects in order to determine damage caused to the State in the event of their damage or destruction in conditions of military operations is an important task for calculating the damage caused by illegal actions of the aggressor to the archaeological heritage objects.

It is quite clear that forensic military examination is directly related to solving

issues of expert provision of justice during war. Thus, methodical regulations that will be used to perform forensic military examinations on the use of automobile and armored vehicles of military formations will become an important factor in determining the facts and circumstances of the case. For the first time, a methodology will be developed to determine (from a military and technical point of view) the compliance of the procedure for the use of automobile and armored vehicles of military formations established by regulatory documents for conducting forensic military examinations in specialty 16.1 *Military research*. Working results should be used in the activities of expert institutions of the Ministry of Justice, the Security Council and the Ministry of Internal Affairs of Ukraine.

Methodology of conducting forensic military examinations regarding investigation of aviation incidents, damage to aircraft and aircraft of the Armed Forces of Ukraine, other military formations formed in accordance with the laws of Ukraine under martial law conditions will make possible to establish the factual data and circumstances of the case during the investigation of crimes committed, in particular, during military operations.

Introduction into expert practice of guidelines and the algorithm of actions of forensic expert during the performance of forensic military examinations with participation of military research specialists regarding compliance of actions (inaction) of officials of the Armed Forces of Ukraine and other military formations with requirements for ensuring anti-aircraft defense of missile, ammunition and other storage sites weapons at arsenals, bases and warehouses under martial law conditions will contribute to objective investigation of illegal actions of military subjects in the field of air defense.

Military experts are working on guidelines for implementation of provisions on planning, application, management and support of the Armed Forces of Ukraine, taking into account requirements of NATO standards, that in conditions of martial law will help to expertly determine the compliance of activities in this area with the mentioned standards.

Forensic gemology examination is a fairly new area of expert research, first introduced on the basis of the NSC «Hon. Prof. M. S. Bokarius FSI». Gemologists develop guidelines for conducting forensic gemological research on precious stones, precious stones of organogenic origin, as well as diamonds. These directions of scientific and methodological support in conditions of martial law and post-war reconstruction of the country will help to find out the extent of damages from the illegal actions of the Russian aggressor, related to the theft of precious stones. At the same time, work continues on creation of a scientific and methodological manual: *Forensic gemological examination: theoretical, legal and organizational principles*. Undoubtedly, in conditions of martial law, this manual will become a reliable regulator of methodological provisions for the study of objects of forensic gemological examination as the subject of crimes of the Russian military during occupation of peaceful territories of Ukraine.

In the end, we note that the forensic veterinary examination in the system of FSI of the Ministry of Justice of Ukraine was also started for the first time in the National Center of ISE. The planned method of chemical and toxicological analysis of objects of forensic veterinary examination under martial law conditions will make it possible to find out the factual data and circumstances of the case regarding cruelty to animals as a result of the use of chemical and other weapons by

the Russian military. Methods of forensic-veterinary examination of a live sub-expert animal and animal corpses in their various states and types of death in war conditions are quite in demand in expert practice. Use of these methods will contribute to the objective investigation of crimes of cruelty to animals during military operations and establishment of the causes of death of animals.

Conclusions

Based on the results of our research, we can reach the following conclusions. In its essence, the research method is a set of techniques, methods and operations of practical and theoretical actions of a person aimed at learning about an object. In the writings of representatives of foreign scientific schools, there is a prevailing tendency not to distinguish between methodology and research methods. In the domestic scientific tradition, methodology is considered as a teaching about the scientific method of cognition or as a system of scientific principles on which the research is based and on which basis researcher chooses a set of cognitive means, methods and methods of research. Another important basis for differentiating methods is the division by degree of their influence on preservation of objects of forensic examination. It has been proven that international assistance contributes to the progressive development of forensic expertise, at the same time it is emphasized the need to introduce changes in national legislation to regulate the issues of involving foreign forensic experts. Expediency of carrying out scientific topics of a methodological nature in conditions of martial law or in the conditions of post-war restoration of the state is argued. Authors prove

their position regarding implementation relevance of scientific topics precisely in connection with the Russian aggression against Ukraine.

Наукова діяльність у галузі судової експертизи — основа методології судово-експертних досліджень в умовах воєнного стану

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За своєю сутністю метод дослідження є сукупністю прийомів, способів та операцій практичних і теоретичних дій людини, спрямованих на пізнання об'єкта. Зарубіжні наукові школи найчастіше не розмежовують методологію й методи дослідження. Вітчизняна наукова традиція розглядає методологію як учення про науковий метод пізнання або як систему наукових принципів, на яких ґрунтується дослідження та якими обумовлено сукупність його пізнавальних засобів, методів і прийомів. Інша важлива підстава для диференціювання методів — розподіл за ступенем їхнього впливу на збереження об'єктів судової експертизи. Мета цієї роботи (для досягнення якої застосовано загальнонаукові, окремі та спеціальні методи) — дослідити питання методології судової експертизи, методів і методик експертних досліджень в умовах воєнного стану та глобальних загроз, пов'язаних зі злочинами російського агресора проти України. Проведено аналіз термінів і понять, запропоновано власні визначення й наголошено на необхідності вдосконалити науково-методичні положення судово-експертної діяльності. Незважаючи на об'єктивні проблеми, пов'язані із воєнним станом, науковці й експерти-практики системи судово-експертних установ України наполегливо продовжують наукову діяльність, оскільки застосування спеціальних знань у формі висновку експерта є гарантією експертного забезпе-

чення правосуддя в державі. Водночас розв'язання завдань судової експертизи має ґрунтуватися на надійній, сучасній науково-методичній базі, що потребує наукових розвідок із теоретичних і методичних питань. Проведено аналіз нормативного регулювання обліку методик проведення судових експертиз. За результатами розгляду питань міжнародної співпраці в галузі судової експертизи під час війни виокремлено нагальні проблеми, серед яких — залучення іноземних експертів до проведення судових експертиз в Україні, що потребує нормативного врегулювання в Законі України «Про судову експертизу». Вивчено тематику науково-дослідних робіт (на прикладі Національного наукового центру «Інститут судових експертиз ім. Засл. проф. М. С. Бокаріуса»), пов'язаної із викликами війни, що підтвердило актуальність порушених питань для сучасного етапу розвитку судової експертизи.

Ключові слова: *судова експертиза; методологія; методика; метод; судово-експертна діяльність; науково-методичне забезпечення.*

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The authors declares that there is no conflict of interest related to this topic; although Ella Simakova-Yefremian is a member of the advisory board of the collection, he did not participate in the decision to publish and this article is subject to a full process of expert verification and editing.

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