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«Hon. Prof. M. S. Bokarius Forensic Science Institute»

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of Forensic Science and Criminalistics

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T44 **Theory** and Practice of Forensic Science and Criminalistics : Research Paper Collection. — Kharkiv : NSC «Hon. Prof. M. S. Bokarius FSI», 2026. — Issue 1 (42). — 215, [1] p.

The thirty-ninth collection issue presents content on criminalistics, theory and methodology of forensic science, as well as information about scientific-practical conferences and educational projects and participation of the NSC staff in them.

Our authors are representatives of forensic science institutions, higher education institutions, law enforcement agencies from Ukraine and foreign countries.

The collection can be used by students and employees of higher education institutions, law enforcement agencies, legal experts, and researchers.

UDC 343.98

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Research paper collection is indexed by Google Scholar, international online abstract and citation databases:
Academic Scientific Journals Indexing, Bielefeld Academic Search Engine (BASE), ERIH PLUS, Europub, Index Copernicus International (ICV 2021: 100), RefSeek, ResearchBib, WorldCat, DOI® System.
Full-text online versions of the collection are available on Internet on the platforms of the V. I. Vernadskyi National Library of Ukraine, libraries of forensic science institutions of Ministry of Justice of Ukraine, higher education institutions of Ministry of Internal Affairs of Ukraine, in the NSC FSI institutional repository, etc.

Contents

Theory and Practice
of Forensic Science and Criminalistics

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From Theory to Practice: 25 years of Research Paper Collection: *Theory and Practice of Forensic Science and Criminalistics*

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This article purpose is to mark the anniversary of research paper collection "Theory and Practice of Forensic Science and Criminalistics" by introducing readers to its 25-year evolution: history of its inception, its authors and topics over the years, changes in frequency and format and its attainment of the status of a leading international open access platform that sets the agenda in the field of law and forensic science. A brief overview of the research paper collection issues from previous years indicates that its primary focus and thematic orientation are on addressing contemporary foreign and domestic, as well as theoretical and applied issues in criminalistics, conducting various types of forensic examinations, applying specific expertise in legal proceedings, legal education and training of forensic experts. Each issue confirms the achievement of the journal founding purpose, namely: publish the results of theoretical and applied research on current issues in forensic science, criminalistics, and criminal procedure. The research paper collection devotes significant attention to refining authors' methods and provides scientific recommendations for conducting forensic research. In addition, traditional issue by issue overview of the current 42nd issue of the research paper collection has been included, with its materials organized into the following sections: "Research Papers," "Case Notes" and "Scientific News."

Keywords: *research paper collection; investigative experiment; firearms; criminal offenses; legal aid; arms smuggling; forensic expert conclusion; voluntary certification; laser 3D scanners.*

This article is translation of the original Ukrainian content, which source is available at the link: *https://khrife-journal.org/index.php/journal* (translated by Andriy Bublikov). The author acknowledges translation as corresponding to the original.

This year, scientific community is marking a significant milestone: the 25th anniversary of the publication of the first volume of research paper collection: *Theory and Practice of Forensic Science and Criminalistics* (hereinafter referred to as *research paper collection*). Founded in 2001 by the Hon. Prof. M. S. Bokarius Kharkiv Research Institute of Forensic Examinations (hereinafter referred to as *KhRIFE*; currently National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute» (hereinafter referred to as NSC «Hon. Prof. M. S. Bokarius FSI») and the Yaroslav Mudryi National Law Academy of Ukraine (hereinafter referred to as Yaroslav Mudryi National Law University), publication has evolved from its first sporadic issues into a regular professional journal serving as a leading international open access platform that sets the agenda in the fields of law and forensic science. The synergy of the scientific and practical experience of forensic science institutions and academic background of the founders has made possible to create a unique platform for discussion, where theory is directly transformed into practical principles of criminalistics and forensic science.

For 25 years, the Editorial Board team of the research paper collection has been committed to the leading goal; the publication of the results of fundamental and applied research. The main attention of the edition is focused on the improvement of expert methods, innovations in forensic science, expert and forensic didactics, training, analysis and discussion of draft laws affecting procedural law, forensic science and expert activity.

The first research paper collection issues are devoted to significant events for the forensic and scientific communities. Thus, starting issue of 2001 is dedicated to the 55th anniversary of the publication by Serhii Mykhailovych Potapov's research paper: *Introduction to Forensic Science* [1], which laid the foundation for the theory of forensic identification [2]. According to this theory, the main task and main goal of all methods of forensic science is to obtain forensic evidence of identity as a result of a study called identification. Later, the foundations of the identification theory itself were criticized and supplemented, but its principles have remained unchanged to up to date.

The very first issue contained research papers by prominent scientists: Mykhailo Sehai, Volodymyr Komakha, Valentyna Korzh, Heorhii Nadhornyi, Mykhailo Saltevskyi, Mykola Tahaiev, Viktor Tatarenko, Isak Fridman, Valerii Shepitko, Mykhailo Shcherbakovskyi and many others devoted to the ways of formation and development of forensic expertise, the nature and subject of study of forensics in the system of scientific knowledge, the principles of identification of S. M. Potapov in modern identification studies, issues of crime prevention (expert and forensic prevention), problems of distinguishing the functions of an expert and a specialist, theoretical aspects of structural and functional analysis of forensic activity, the concept of the complexity of the application of special knowledge during the study of objects of contact interaction, the role of S. M. Potapov in the formation of forensics and forensic science in Ukraine, etc. [3] The edi-

1 See: С. М. Потапов — основоположник теории криминалистической идентификации. Харьков, 2002. 41 с.

2 Теорія та практика судової експертизи і криміналістики : зб. наук.-практ. мат-лів (до 55-річ. вид. роб. С. М. Потапова «Введение в криминалистику»). Харків, 2001. 320 с.

3 Там само.

torial board of the Collection expressed the hope that this publication will initiate a systematic practice of publishing scientific works and announced the next issue of materials from the international scientific and practical conference, in which both Ukrainian and foreign specialists will participate.

It happened: the second edition was published in the format of a collection of scientific papers of participants of the international scientific and practical conference: *Theory and Practice of Forensic Science and Criminalistics*, organized by the Ministry of Justice of Ukraine on the basis of one of the oldest forensic science institutions in Ukraine, namely: KhRIFE with participation of Academy of Legal Sciences of Ukraine, Kyiv, Odessa, Lviv and Donetsk Scientific and Research Institutes of Forensic Examination, Yaroslav Mudryi National Law University, as well as representatives of forensic, educational and scientific institutions of Lithuania, Kazakhstan, Azerbaijan, Armenia, United States of America and other countries of the world [4]. The materials of this issue are of interest to readers to this day. It was with it that the periodic publication of issues of the Collection began. A huge number of prominent criminologists and forensic experts from Ukraine and foreign countries took part in the preparation of scientific materials for this issue: the total number of articles was 166. By the way, in this very issue, content of the *Arotsker Readings* was first published, which became a traditional international conference dedicated to the memory of the prominent scientist, Doctor of Law, Professor Lev Arotsker, who for many years held the position of Deputy Director for Academic Affairs of KhRIFE. The range of scientific materials submitted for publication in the second issue of the Collection is so wide that it is impossible to name a branch of forensic examination and forensic science that would not be covered by this edition.

The third issue, dedicated to the 80th anniversary of the KhRIFE, contained materials from almost all areas of forensic expert activity that existed at that time in Ukraine and abroad [5]. It was in 2003 that the collection was registered as a periodical scientific publication in the State Committee on Information Policy, Television and Radio Broadcasting of Ukraine with a publication once a year (the scope of distribution is national and foreign, categories of readers are scientists, forensic experts, investigative officers, judges, teachers, graduate students and students of legal and medical educational institutions). More than 200 scientists and practitioners have traditionally become the authors of this issue.

The fourth issue of the Collection fell on the year of the 350th anniversary of Kharkiv, the 200th anniversary of the co-founder of Yaroslav Mudryi National Law University and the 135th anniversary of the birth of Honored Professor Mykola Serhiiovych Bokarius, outstanding forensic physician and forensic scientist, after whom the initiator of the founding of KhRIFE is named [6]. Thereby the topic of this research paper concerned forensic examination as an element of the realization of the constitutional rights of citizens, various organizational issues, international cooperation in the field of forensic

4 Теорія та практика судової експертизи і криміналістики. Вип. 2 : зб. мат-лів наук.-практ. конф. (Харків, 19—20.06.2002). Харків, 2002. 656 с.

5 Там само. Вип. 3 : зб. наук.-практ. мат-лів (до 80-річ. заснув. ХНДІСЕ). Харків, 2003. 592 с.

6 Там само. Вип. 4 : зб. наук.-практ. мат-лів. Харків, 2004. 656 с.

examination, problems of obtaining information using technical means, regulation of requirements for an expert opinion and other pressing issues of forensic and forensic activities.

The regular, fifth issue of the Collection contained materials of a scientific and specialized nature intended for a certain circle of readers — law enforcement officers, forensic experts, scientists and students of higher educational institutions [7]. This Collection continues the dividing according to subject headings of the materials submitted by the authors: modern problems of criminalistics, general provisions of forensic examination (theoretical and organizational problems) and sections on certain types of forensic examinations. In this issue, the *Scientific News* section was launched, where since then materials on international and all-Ukrainian scientific and practical events have been published.

In 2005, the research paper collection was included in the List of Scientific Professional Publications of the Higher Attestation Commission of Ukraine on Legal Sciences (Resolution of the Presidium of Higher Attestation Commission of Ukraine № 2-05/5 dated on June 8, 2005). Since then and up to date, the research paper collection has the right to publish content of dissertations for the degrees of Doctor and Candidate of Sciences [8].

In subsequent issues, much attention was paid to the then problems of criminalistics, issues of investigative and judicial activities, certain types of forensic examinations, the most important results of expert practice and methodological recommendations for specific and new types of expert research, as well as an overview of the most important events of scientific life for the previous period. In their scientific works, the authors covered the procedural and organizational problems of forensic science and other forms of application of special knowledge, the issues of forensic science and forensic science, the current state of development of forensic science and forensic science, new approaches to science and practice, traditional and non-traditional views on the controversial problems of the theory of forensic science and forensic science, etc. [9]

From its inception until 2019, the research paper collection was published once a year [10]. Given the high demand from readers, first (2019) it began to be

7 Теорія та практика судової експертизи і криміналістики. Вип. 5. Харків, 2005. 560 с.

8 Там само. Вип. 6. Харків, 2006. 448 с.

9 Там само. Вип. 7. Харків, 2007. 576 с. ; Там само. Вип. 8. Харків, 2008. 656 с. ; Там само. Вип. 9. Харків, 2009. 624 с. ; Там само. Вип. 10. Харків, 2010. 672 с. ; Там само. Вип. 11. Харків, 2011. 744 с. ; Там само. Вип. 12. Харків, 2012. 528 с. URL: https://khrife-journal.org/index.php/journal/issue/view/15/2012-1 (date accessed: 15.03.2026) ; Там само. Вип. 13. Харків, 2013. 592 с. URL: https://khrife-journal.org/index.php/journal/issue/view/14/2013-1 (date accessed: 15.03.2026) ; Там само. Вип. 14. Харків, 2014. 488 с. URL: https://khrife-journal.org/index.php/journal/issue/view/13/2014-1 (date accessed: 15.03.2026) ; Там само. Вип. 15. Харків, 2015. 440 с. DOI: 10.32353/khrife.2015 (date accessed: 15.03.2026) ; Там само. Вип. 16. Харків, 2016. 476 с. DOI: 10.32353/khrife.2016 (date accessed: 15.03.2026) ; Там само. Вип. 17. Харків, 2017. 512 с. DOI: 10.32353/khrife.2017 (date accessed: 15.03.2026) ; Там само. Вип. 18. Харків, 2018. 664 с. DOI: 10.32353/khrife.2018 (date accessed: 15.03.2026).

10 See footnotes 1—9.

published twice a year [11], then (2020) – three times [12], and from 2021 – quarterly. It is worth noting that since 2014, the Collection has been published in parallel issues in Ukrainian and English [13]. The increase in the number of issues per year made it possible to promptly publish the results of the scientific activities of the authors of the publication, providing the scientific community with the opportunity to receive timely information about achievements and problematic issues in the field of forensic examination and criminalistics. Thanks to these qualitative changes, the Ministry of Education and Science of Ukraine, during the periodic certification of the Collection, made a decision to include it in the List of Scientific Professional Publications of Ukraine. In addition, since 2021, design and rubric of the Collection have been radically changed, which has become permanent and brought readers closer to the rules of scientific publication established in Europe. The Collection has a media identifier R30-02416 (decision of the National Council of Ukraine on Television and Radio Broadcasting № 1835 dated on December 21, 2023). In its work, the editorial board of the Collection strictly adheres to: current norms and requirements of publishing; procedure for submitting publications; review policy; policy of academic integrity and publication ethics; procedure for considering complaints regarding violations of ethical norms; policy on the use of artificial intelligence and technologies with its support; retraction procedure, etc. Despite martial law and constant shelling of Kharkiv, the Editorial Board of research paper collection continues to produce publications at the same high scientific level as in peacetime.

Currently, *Theory and Practice of Forensic Science and Criminalistics* is a peer-reviewed open access publication: the results of research by Ukrainian authors are available to colleagues from all over the world, which contributes to the global exchange of knowledge and participation in international scientific events, conferences and workshops.

The research paper collection: *Theory and Practice of Forensic Science and Criminalistics* is indexed in Google Scholar, international abstract databases Academic Scientific Journals Indexing, Bielefeld Academic Search Engine (BASE), ERIH PLUS, Europub, Index Copernicus International (ICV 2021: 100), RefSeek, ResearchBib, WorldCat, as well as in the Register of Scientific Publications of Ukraine and on the site of the registrar of digital identifiers *DOI*. Full-text electronic versions of the publication are freely available on the Internet on the platforms of the National Library of Ukraine named after V. I. Vernadskyi, in

11 Теорія та практика судової експертизи і криміналістики. Вип. 19. Харків, 2019. 640 с. DOI: 10.32353/khrife.1.2019 (date accessed: 15.03.2026) ; Там само. Вип. 20. Харків, 2019. 648 с. DOI: 10.32353/khrife.2.2019 (date accessed: 15.03.2026) ; Там само. Вип. 21. Харків, 2020. 686 с. DOI: 10.32353/khrife.1.2020 (date accessed: 15.03.2026) ; Там само. Вип. 22. Харків, 2020. 640 с. DOI: 10.32353/khrife.2.2020 (date accessed: 15.03.2026).

12 Там само. Вип. 23. Харків, 2021. 448 с. DOI: 10.32353/khrife.1.2021 (date accessed: 15.03.2026) ; Там само. Вип. 2 (24). Харків, 2021. 192 с. DOI: 10.32353/khrife.2.2021 (date accessed: 15.03.2026) ; Там само. Вип. 3 (25). Харків, 2021. 200 с. DOI: 10.32353/khrife.3.2021 (date accessed: 15.03.2026).

13 Там само. Вип. 14. Харків, 2014. 488 с. URL: https://khrife-journal.org/index.php/journal/issue/view/13/2014-1 (date accessed: 15.03.2026) ; Theory and Practice of Forensic Examinations and Criminalistics : journal. 14th ed. Kharkiv, 2014. 488 p. URL: https://khrife-journal.org/index.php/journal/issue/view/13/2014-2 (date accessed: 15.03.2026).

the repository of National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute», libraries of forensic institutions of the Ministry of Justice of Ukraine, higher education institutions of the Ministry of Internal Affairs of Ukraine, etc.

The research paper collection contains the headings: *Research papers*, *Case Notes* and *Scientific News*.

Research paper: *Criminal Law Analysis of the Draft Law on the Right to Civilian Weapons in the Context of European Legal Standards* by Doctor of Legal Sciences, Professor ***Natalia Filipenko*** (Ukraine) and Doctor of Law, Professor ***Aleksandar Ivanović***, (Montenegro) begins the chapter of research papers. Scientists focused on the role of forensic examination and criminal proceedings in ensuring effective control over the circulation of firearms and argue in favor of targeted changes to increase the level of consistency of relevant regulations.

The following article by Professors ***Mykhailo Shcherbakovskyi*** and ***Yurii Myroshnychenko***, Doctors of Law from Ukraine, "Integration of Virtual Reconstruction into the Criminal Process of Ukraine (on the Example of an Investigative Experiment)" reveals the problem of the limitations of conducting a traditional investigative experiment under martial law and proves that the digital transformation of evidence is a leading stage in the modernization of justice combining technical accuracy with procedural fairness.

The chapter continues research paper by ***Volodymyr Tverdokhlib*** (Ukraine), Doctor of Philosophy in Law, doctoral student of NSC «Hon. Prof. M. S. Bokarius FSI» *Trends in the use of special knowledge in the investigation of crimes of aggression* that identifies current trends in the use of special knowledge in the investigation of criminal offenses related to armed aggression, and outlines their importance for ensuring the process of proof in national and international criminal proceedings.

Doctor of Philosophy in Law ***Anastasiia Vuima*** (Ukraine) in the article "Tactical principles of interaction between the investigator and the victim during the investigation of war crimes" considers the relevance of research on the tactical and forensic principles of interaction between the investigator and the victim during investigative (search) and other procedural actions in criminal proceedings for war crimes. Effectiveness of such interaction largely depends on the completeness of establishing the circumstances of the event, the quality of the evidence base and the effectiveness of criminal proceedings in general.

Research paper: *Peculiarities of Detection and Neutralization of Counteraction at the Initial Stage of Investigation* ***Oleksandr Tarkan*** (Ukraine), Candidate of Law, Doctoral Student at NSC «Hon. Prof. M. S. Bokarius FSI» considers the initial stage of the investigation as the zone of the greatest information conflict, where the effectiveness of criminal proceedings depends on the ability of the investigator to simultaneously identify signs of a criminal offense and neutralize counteraction through the integrated use of organizational, tactical and procedural means.

The next work by ***Tetiana Bobko*** (Ukraine), Candidate of Legal Sciences support of judicial consideration of criminal offenses against justice, is devoted to the study of theoretical and applied aspects of tactical support of judicial consideration of criminal offenses against justice and analysis of the current state of scientific research in the field of forensic tactics and organization of judicial proceedings.

The article: *Review of documents reflecting the mechanism of illegal activities of professional participants in legal proceedings* by Candidate of Legal Sciences, doctoral student of NSC «Hon. Prof. M. S. Bokarius FSI» ***Yevhen Sup*** and ***Yevhen Zozulia*** (both from Ukraine) determines specifics of review and analysis of electronic and paper documents as a source of information about the mechanism of illegal activities of professional participants in legal proceedings during the investigation of criminal offenses against justice.

The section concludes with research paper by ***Kristina Romanauskas***, Doctor of Philosophy in Law (Ukraine) that reveals the forensic essence of the methods, tools, and means of committing criminal offenses in the field of providing professional legal assistance, and also identifies their structure, functional features, and significance for the formation of a forensic characteristic and improvement of the methodology for investigating this category of offenses.

The *Case Notes* section begins the publication: *Electronic Evidence or Proof in Electronic Form: Problems of Appropriateness of Terminological Distinction* by ***Konstantin Karaman*** (Ukraine), Doctor of Philosophy in Political Science, doctoral student of NSC «Hon. Prof. M. S. Bokarius FSI» where the author determines the ratio of terminological constructions: *electronic evidence* and *evidence in electronic form*, their delimitation and practical significance, taking into account the dynamics of information technology development, since this directly affects the procedural qualification of evidence, the choice of methods for their collection and evaluation in criminal proceedings.

Research: *Certification and Periodic Verification of 3D Laser Scanners Used in Criminal Proceedings* by Candidates of Legal Sciences, Docent ***Artem Kovalenko*** and Professor ***Volodymyr Kovalenko*** (both from Ukraine) states that under current legislation, laser 3D scanners used in criminal justice do not belong to regulated measuring instruments and do not require specific certification and periodic verification. Such devices may be subject to voluntary certification and verification at the initiative of their manufacturers, suppliers or users. National (ДСТУ) and international (ISO) standards are provided, according to which initiative certification of laser 3D scanners used in criminal justice can be carried out.

Candidate of Legal Sciences, doctoral student of the National Research Center for Forensic Examinations ***Vitalii Usatii*** (Ukraine) in his work proves that the improvement of the legislative framework, the introduction of a single methodological body, the creation of an open register of methods of conducting forensic examinations, the regulation of the procedure for attracting foreign experts, the development of standards for the preparation of certificates and conclusions of specialists will ensure their legal certainty and procedural admissibility, and the improvement of the technical and material support of expert institutions will contribute to improving the quality of evidence, respect for human rights and the rule of law, as well as strengthening public confidence in the criminal justice of Ukraine in the context of integration into the European legal space.

Candidate of Legal Sciences, doctoral student NSC «Hon. Prof. M. S. Bokarius FSI» ***Yurii Kovalov*** (Ukraine) in the article: *Proof of arms smuggling: the possibility of applying special knowledge in the field of weapons science* justifies the need to increase the effectiveness of proof in cases of arms smuggling with the definition of the need for proper interaction between law enforcement agencies and expert institutions, with the obligatory consideration of the results of previous forensic studies, as well as providing the expert with a full range of materials, including the protocol of examination of the scene.

The *Case Notes* Section is completed by the article "Forensic handwriting examination: typical mistakes at the stage of appointment and ways of prevention" of Candidates of Law, Associate Professors ***Viktoriia Alieksieichuk*** and ***Yevgeniia Demydova***, Doctor of Philosophy in Law ***Leonid Barash*** (all three from Ukraine) and ***Rasa Tamosiunaite*** (Lithuania), which analyzed the effectiveness of using opinion of the forensic handwriting analyst in legal proceedings and determined its dependence on the quality of the study, the level of preparation of content for research by the initiator of the examination and the accuracy of the formulation of the issues to be resolved. The need for systematic training of investigators and prosecutors, lawyers and other stakeholders in this area is substantiated.

We traditionally introduce readers to the news of scientific life in forensic expert activity over the past three months on the last pages of the research paper collection.

The Editorial Board of research paper collection: *Theory and Practice of Forensic Science and Criminalistics* expresses its sincere gratitude to all the authors who entrusted us with the results of their scientific research. We highly appreciate the professionalism, depth of analysis and relevance of the topics covered in your manuscripts. Thanks to your active scientific position, our publication remains an authoritative platform for discussions and exchange of experience.

We invite regular authors to continue fruitful cooperation and are glad to see the work of new researchers on the pages of the next issues!

Together to the victory!

Glory to Ukraine!

Від теорії до практики: 25 років науковому виданню «Теорія та практика судової експертизи і криміналістики»

Елла Сімакова-Єфремян

Мета цієї статті — на честь ювілею збірника наукових праць «Теорія та практика судової експертизи і криміналістики» розпочати ознайомлення читачів з його 25-річним поступом: історією започаткування, авторами й тематикою в різні роки, змінами періодичності й формату, здобуттям статусу провідної міжнародної платформи відкритого доступу, що формує порядок денний у сфері права та судової експертизи. Стислий огляд випусків збірника за попередні роки свідчить, що його основною проблематикою та тематичною спрямованістю є висвітлення сучасних іноземних і національних, а також теоретико-прикладних проблем криміналістики, проведення різних видів судових експертиз, застосування спеціальних знань у судочинстві, юридичної освіти й підготовки кадрів судових експертів. Кожен випуск підтверджує досягнення мети створення збірника — оприлюднення результатів теоретико-прикладних досліджень актуальних проблем судової експертизи, криміналістики та кримінального процесу. На сторінках видання значну увагу приділено вдосконаленню авторських методик і надано наукові рекомендації щодо проведення експертних досліджень. До того ж зроблено вже традиційний постатейний огляд поточного 42-го випуску видання, матеріали якого об'єднано в рубрики «Дослідницька робота» (Research Papers), «Наукові нотатки» (Case Notes) і «Новини наукового життя» (Scientific News).

Ключові слова: *збірник наукових праць; слідчий експеримент; вогнепальна зброя; кримінальні правопорушення; прав-*

нича допомога; контрабанда зброї; висновок експерта; добровільна сертифікація; лазерні 3D-сканери.

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Disclaimer

Founders had no role in the research design, data collection and analysis, decision to publish or manuscript preparation.

Participants

Author contributed solely to the intellectual discussion underlying this document, case law research, writing and editing and assumes responsibility for its content and interpretation.

Declaration of Competing Interest

Author declares no conflict of interest.

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Forensic-Legal Analysis of Ukraine's Draft Law 'on the Right to Civilian Firearms' in the Context of European Legal Standards

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This article presents a comprehensive forensic-legal analysis of the Draft Law of Ukraine «On the Right to Civilian Firearms» (No. 5708), with a focus on its compatibility with international legal standards and, in particular, with the provisions of EU Directive 2021/555 on the control of the acquisition and possession of firearms. The study examines the draft law through the lens of legislative harmonization, assessing its regulatory framework in key areas such as civilian firearms marking, registration, traceability, information exchange, secure storage, distance selling, and access restrictions. Special emphasis is placed on the role of forensic examination and criminal proceedings in ensuring effective firearms control. The article identifies legal inconsistencies and structural gaps that hinder alignment with European Union law and argues for targeted revisions to enhance compliance. The analysis is situated within the broader post-war security context in Ukraine and considers the country's obligations under the EU–Ukraine Association Agreement as a driving force for legal convergence and institutional reform.

Keywords: *Draft Law No. 5708; civilian firearms; international standards; EU Directive 2021/555; legislative harmonization; firearms control; security; forensic examination; criminal proceedings.*

Research Problem Formulation

In the context of the full-scale armed aggression launched by the Russian Federation against Ukraine, the issue of robust and effective control over the circulation of firearms, ammunition, and explosives has acquired unprecedented urgency. The ongoing war has triggered a dramatic surge in the volume of weapons in circulation, primarily due to large-scale international military assistance and the mobilization of national defense resources. While essential for Ukraine's self-defense, this influx of arms simultaneously generates heightened risks of diversion into the illicit market, fueling organized crime, regional destabilization, and transnational threats.

Under such conditions, the prevention of illegal possession, transfer, and trafficking of firearms and their components transcends the boundaries of traditional criminal justice. It becomes a strategic imperative for national security, public safety, and post-war stabilization. One of the gravest threats in this regard is the smuggling of firearms, ammunition, and essential parts, which may be exploited for terrorist acts, paramilitary violence, or the erosion of state authority in vulnerable regions.

Addressing these challenges requires more than reactive enforcement – it demands a proactive, systemic approach grounded in a coherent legal framework, interagency coordination, and the modernization of national legislation in line with evolving security realities. In this regard, the analysis of international legal standards – particularly the provisions of Directive (EU) 2021/555 on the control of the acquisition and possession of firearms – gains critical relevance. This Directive outlines comprehensive measures for marking, registration, traceability, information exchange, and the regulation of civilian access to firearms, all of which are essential for building a resilient arms control regime.

Therefore, aligning Ukraine's legal framework with EU firearms control standards is not merely a technical exercise in legislative harmonization. It is a vital component of Ukraine's broader strategy to reinforce internal security, prevent the proliferation of illicit weapons, and fulfill its obligations under the EU–Ukraine Association Agreement. In the long term, such harmonization will also contribute to Ukraine's institutional readiness for European integration and its capacity to participate in joint security and justice initiatives within the EU legal space.

Analysis of Essential Researches and Publications

Within the framework of research on international standards aimed at preventing the illicit circulation of firearms, ammunition, and explosives – and in the broader context of aligning Ukrainian legislation with European legal approaches – numerous aspects of criminological, criminal law, and security regulation of arms circulation have been the subject of sustained scholarly attention in Ukraine. A robust body of academic literature has emerged, offering in-depth analyses of the legal qualification of arms-related offenses, the criminalization of illicit trafficking, offender typologies, and the effectiveness of preventive and punitive mechanisms. Notable contributions in this domain have been made by Ukrainian scholars such as L. Arotsker, A. Hetman, V. Holina, V. Zhuravel, O. Kaplina, I. Kozachenko, O. Lytvynov, M. Panova, V. Terentiev, E. Simakova-Yefremyan, N. Filipenko, and V. Shepitko, among others [1]. Their work has laid the the-

1 See more: Журавель В. А., Шепітько В. Ю. Розвиток криміналістики та судової експертизи в Україні: наближення до єдиного європейського простору / Правова наука України: сучасний стан, виклики та перспективи розвитку : монографія. Харків, 2021. С. 651—669 ;

oretical and methodological foundations for understanding the dynamics of arms-related criminality and for shaping national policy responses.

In parallel, international scholarship has played a pivotal role in the development of global standards and best practices in arms control. Researchers such as Aleksandar Ivanović, Keith Krause, Nicolas Florquin, Eric Berman, Glenn McDonald, Brian Wood, Peter Batchelor, James Bevan, Pablo Dreyfus, Sarah Parker, Aaron Karp, Frank Slijper, Guy Lamb, and Holger Anders have produced influential studies on the structure and regulation of the global small arms and light weapons (SALW) market. Their work encompasses the development of risk indicators, the evaluation of national control systems, and the implementation of key international instruments, including the UN Firearms Protocol, the UN Programme of Action on Small Arms and Light Weapons (UN PoA), and Directive (EU) 2021/555. These instruments collectively form the backbone of the international legal framework for combating illicit arms trafficking and enhancing transparency, accountability, and traceability in arms transfers.

Against this intellectual and regulatory backdrop, the forensic-legal analysis of Ukraine's Draft Law «On the Right to Civilian Firearms» (No. 5708) acquires particular relevance. It enables a critical assessment of the draft law's compliance with European legal standards – especially those enshrined in Directive (EU) 2021/555 – and facilitates the identification of normative gaps, enforcement challenges, and opportunities for legislative harmonization. By situating the draft law within both national academic discourse and international regulatory paradigms, this study contributes to the development of a coherent, security-oriented, and legally sound framework for civilian firearms regulation in Ukraine – one that is aligned with the country's European integration trajectory and its obligations under the EU–Ukraine Association Agreement.

Article Purpose

The objective of this study is to carry out a thorough forensic-legal examination of Directive (EU) 2021/555 in the context of international efforts to prevent the illicit circulation of firearms, ammunition, and explosives. It aims to assess the extent to which the directive's core provisions have been reflected in Ukrainian legislation, with particular attention to the challenges posed by the current security environment and the imperative of aligning national legal frameworks with European Union standards. This analysis is situated within the broader framework of Ukraine's European integration process and its obligations under the EU–Ukraine Association Agreement, highlighting the strategic importance of legal harmonization in the field of civilian firearms control.

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Research Methods

General scientific methods are used: observation, comparison, abstraction, analysis, synthesis, modeling, etc.

Main Content Presentation

Ukraine, like any democratic and rule-of-law state, consistently declares its commitment to ensuring the effective protection of the natural and inalienable rights of every individual, including the right to life, personal security, bodily integrity, and protection from violence. These rights hold the highest legal authority, being enshrined in the Constitution of Ukraine (Articles 3, 27, and 28) [2], as well as in international legal instruments ratified by Ukraine, such as the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, and the European Convention on Human Rights.

However, despite their formal recognition in national legislation, the practical implementation of these rights often remains inadequate. Existing law enforcement mechanisms – particularly the functioning of the police, judiciary, and public order institutions – frequently prove ineffective, inconsistent, or too slow in responding to real and immediate threats to citizens' lives and safety. As experts note, *«this is especially evident in the context of rising crime rates, the proliferation of illicit firearms and explosives, organized criminal activity, and domestic violence – all areas where the state is not always capable of providing timely, adequate, or sustained protection»* [3].

This systemic vulnerability is further exacerbated by institutional overload, limited resources, and the erosion of public trust in law enforcement – factors that collectively undermine the state's ability to fulfill its constitutional duty to protect life and personal security. In many cases, victims of violence or imminent danger are left without effective recourse, while perpetrators exploit legal loopholes and enforcement delays. In the context of full-scale armed aggression – where millions of citizens face direct and prolonged threats to their lives, and where law enforcement agencies are largely focused on military and defense-related functions – the issue of personal security becomes even more acute. Under such extraordinary circumstances, individuals are often left alone in the face of danger, lacking effective, lawful, and accessible means of self-defense – even in situations of extreme necessity or imminent harm.

This reality underscores a critical truth: the formal recognition of fundamental rights is not sufficient in itself. The state must also ensure the existence of real, functional, and predictable mechanisms for their enforcement – mechanisms that are not merely declarative, but operational in practice. One such mechanism is the legislative regulation of the right to possess and use firearms for self-defense. Properly designed, this legal framework would empower citizens to protect themselves and others in situations where state assistance is unavailable, delayed, or structurally incapable of responding.

Contemporary challenges – including the escalation of violent crime, the destabilizing effects of war, the circulation of unregistered weapons, and the growing activity of organized criminal groups – require the state to fundamentally reconsider its approach to guaranteeing the right to self-defense. A key step in this direction is the adoption of a dedicated law that would comprehensively regulate the exercise of

2 Конституція України : Закон України від 28.06.1996 р. № 254к/96-ВР (зі змін. та допов.). URL: https://zakon.rada.gov.ua/laws/show/254к/96-вр#Text (date accessed: 11.12.2025).

3 Антонов К. В., Діденко С. В., Філіпенко Н. Є. Зазнач. твір. С. 28.

citizens' right to actively defend their own life and health, as well as the life and health of others, in situations of extreme necessity – including through the lawful use of firearms.

Such a law should clearly define the legal grounds, limits, and procedures for the use of firearms in self-defense, establish safeguards against abuse, and ensure accountability through transparent oversight mechanisms. At the same time, it must harmonize the broader regulatory framework governing civilian firearms circulation with the Constitution of Ukraine, international human rights standards, and the legal practices of established democracies – particularly those of the European Union. Provided that appropriate legal safeguards, licensing procedures, and institutional oversight are in place, firearms can serve as a legitimate and vital tool for citizens to exercise their constitutional right to self-defense – not as a substitute for state protection, but as a complementary safeguard in times of crisis or institutional failure. However, for more than three decades of Ukraine's independence, the issue of civilian firearms circulation has remained outside the scope of systematic legislative regulation. The absence of a dedicated law has resulted in legal uncertainty, fragmented and inconsistent regulation through subordinate acts of the Ministry of Internal Affairs, and the expansion of the shadow arms market – a phenomenon that poses serious risks to public safety, national security, and the rule of law.

The Draft Law of Ukraine «On the Right to Civilian Firearms» (No. 5708) [4], submitted to the Verkhovna Rada in 2021, marks a renewed and more structured legislative initiative aimed at establishing a coherent and legally sound framework for the regulation of civilian firearms circulation. Unlike previous fragmented efforts, this draft law aspires to codify the legal foundations for the acquisition, possession, use, and lawful transfer of firearms by Ukrainian citizens – while simultaneously safeguarding the delicate balance between the individual's right to self-defense and the state's constitutional obligation to ensure public order and collective security.

Ukraine's legislative history in this domain reveals a series of unsuccessful attempts to introduce comprehensive firearms regulation. Draft laws submitted in 2008, 2015, and 2017 failed to gain parliamentary approval – largely due to political volatility, institutional inertia, and the absence of a consolidated public consensus regarding the permissibility of civilian firearm ownership in peacetime. However, the full-scale invasion by the Russian Federation in 2022 has radically altered the national security paradigm. Millions of Ukrainians have been mobilized into territorial defense units, acquired practical skills in handling firearms, and experienced firsthand the fragility of personal and collective safety in the face of external aggression and internal disorder. In this transformed context, the question of legal access to firearms for self-defense has emerged as a matter of both individual survival and national resilience.

At the same time, the post-conflict environment presents a complex array of risks – including the uncontrolled proliferation of weapons, cross-border smuggling, the emergence of illicit arms markets, and a potential surge in violent crime. These challenges underscore the urgent need for a robust, transparent, and enforceable system of civilian firearms governance – one that ensures accountability, traceability, and compliance with both national and international legal standards.

4 Проєкт Закону про право на цивільну вогнепальну зброю від 25.06.2021 р. № 5708. URL: https://itd.rada.gov.ua/billinfo/Bills/Card/27190 (date accessed: 11.12.2025).

In response to these realities, Draft Law No. 5708 introduces a comprehensive regulatory architecture encompassing a wide spectrum of control measures. Among its key provisions are: the creation of a Unified State Firearms Register; mandatory marking and digital traceability of all firearms and essential components; the establishment of integrity-based eligibility criteria for firearm ownership; detailed procedures for the safe storage, lawful use, transfer, and deactivation of firearms; the criminalization of unauthorized possession and trafficking of firearms, ammunition, and parts; and the legal regulation of cross-border movements, including transit, re-export, and international data exchange.

A defining feature of the draft law is its explicit orientation toward European legal harmonization. The text draws extensively on the normative framework of Directive (EU) 2021/555 [5], integrating its core principles into the Ukrainian legal context. This alignment not only enhances the effectiveness of domestic firearms control mechanisms but also reinforces Ukraine's commitment to fulfilling its obligations under the EU–Ukraine Association Agreement. In doing so, the draft law contributes to the broader process of legal approximation with the European Union – a process that is essential for Ukraine's institutional modernization, democratic consolidation, and long-term integration into the European legal and security space.

Prior to undertaking a detailed comparative analysis of Ukrainian and European legal frameworks aimed at preventing the illicit circulation of firearms, ammunition, and explosives, it is essential to first outline the core characteristics of the European Union's most authoritative legal instrument in this domain – Directive (EU) 2021/555 on the control of the acquisition and possession of firearms. This Directive constitutes the cornerstone of the EU's regulatory architecture governing civilian firearms, establishing a harmonized legal framework across Member States. Directive 2021/555 provides a comprehensive classification of firearms into distinct categories based on their technical features and potential risk to public safety. It sets out uniform conditions for the lawful acquisition, possession, storage, and transportation of firearms, while also mandating robust mechanisms for marking, registration, and traceability. Furthermore, the Directive introduces obligations for Member States to facilitate systematic information exchange, enhance oversight of distance sales, and implement safeguards against the diversion of firearms into the illicit market. As a result, the Directive serves not only as a binding legal instrument within the EU but also as a normative benchmark for third countries seeking to align their national legislation with European standards – particularly in the context of international cooperation on arms control, border security, and transnational crime prevention.

For Ukraine – a state currently engaged in a full-scale armed conflict and simultaneously pursuing deep legal and institutional convergence with the European Union – the effective transposition of Directive 2021/555 into domestic law is of strategic significance. It represents a critical step toward strengthening national security, enhancing the rule of law, and fulfilling the obligations undertaken under the EU–Ukraine Association Agreement. Moreover, the Directive's implementation offers a structured pathway for Ukraine

5 Directive (EU) 2021/555 of the European Parliament and of the Council of 24 March 2021 on control of the acquisition and possession of weapons (codification). *Official Journal of the European Union*. OJ L 115. 6.4.2021. Pp. 1–39 / EUR-Lex : web. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021L0555 (date accessed: 11.12.2025).

to modernize its firearms control regime in line with best practices adopted by EU Member States, thereby reinforcing its capacity to prevent the proliferation of illicit weapons in both wartime and post-conflict contexts.

Directive (EU) 2021/555 is the European Union's primary legal instrument governing the control of the acquisition and possession of firearms by civilians [6]. Directive (EU) 2021/555 serves as the European Union's principal legal instrument for regulating civilian access to firearms. It establishes minimum standards for acquisition, possession, storage, marking, registration, and cross-border movement of firearms, while also promoting transparency, traceability, and international cooperation. For Ukraine – currently navigating both wartime exigencies and the path of European integration – alignment with this Directive is not only a legal imperative but a strategic necessity. Draft Law No. 5708, registered in 2021, represents Ukraine's most recent attempt to codify a comprehensive legal framework for civilian firearms circulation. However, a detailed analysis reveals significant gaps that must be addressed to ensure compliance with international standards and to build a resilient, accountable arms control system.

1. Classification of Firearms: From Functional to Risk-Based Models

Directive 2021/555 introduces a three-tier classification system – Categories A (prohibited), B (subject to authorization), and C (subject to declaration) – based on the level of risk posed by different types of firearms. This model is mandatory for EU Member States and recommended for candidate countries. In contrast, Ukraine's current classification, rooted in Ministry of Internal Affairs Order No. 622, is functionally based (e.g., hunting, sporting, service) and lacks a coherent risk-based logic. Although Draft Law No. 5708 proposes a four-tier system (Categories A–D), it does not fully align with the EU model and omits detailed regulation of ammunition, components, and modifications. Moreover, the legal regimes governing each category remain undefined, undermining legal clarity and enforcement.

2. Marking and Traceability: Technical Precision and Digital Oversight

International instruments such as the UN Firearms Protocol and Directive 2021/555 mandate unique, durable, and legible marking of all essential firearm components, along with digital traceability through centralized electronic registries. While Draft Law No. 5708 references marking and proposes a Unified Civilian Firearms Register, it lacks specificity regarding which components must be marked, the technical parameters of marking, and the requirement to mark firearms upon import, modification, or repair. The proposed registry does not define the scope of data to be recorded, fails to mandate registration of all transactions, and lacks integration with other state databases. These deficiencies pose serious risks to traceability, legal accountability, and evidentiary reliability in criminal proceedings.

3. Unified Firearms Register: Infrastructure Without Legal Backbone

Although Ukraine established a Unified State Firearms Register in 2023, its legal status, functionality, and interoperability remain underdeveloped. Draft Law No. 5708 does not enshrine the register as the sole legal source of firearms records, nor does it define its structure, access protocols, or integration with other critical databases (e.g., criminal convictions, medical records, customs).

6 Directive (EU) 2021/555 … . URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX-%3A32021L0555 (date accessed: 11.12.2025).

Without real-time access for law enforcement and clear liability for data manipulation or omission, the register risks becoming a symbolic rather than functional tool.

4. Eligibility Criteria: Integrity Screening and Ongoing Oversight

Directive 2021/555 and the UN Firearms Protocol require that firearm ownership be restricted to individuals who meet strict criteria related to age, criminal history, mental health, and integrity. Ukrainian legislation currently lacks a unified mechanism for verifying these conditions. Draft Law No. 5708 does not define «integrity, » omits periodic license reviews, and fails to mandate integration with relevant registries (e.g., domestic violence, psychiatric, debtors). This creates systemic vulnerabilities, including the issuance of permits to high-risk individuals and the absence of mechanisms for revocation when risk factors emerge.

5. Secure Storage: Technical Standards and Enforcement Mechanisms

Safe storage is a cornerstone of responsible firearms ownership. While Directive 2021/555 and the UN PoA recommend minimum technical standards and inspection protocols, Ukrainian law remains vague. Draft Law No. 5708 refers to secure storage but lacks detailed specifications (e.g., safe construction, alarm systems), inspection procedures, and differentiated requirements based on firearm category. Without enforceable standards, the risk of unauthorized access, theft, and misuse remains high [7].

6. Cross-Border Movement: Licensing, Oversight, and International Exchange

International standards require robust control over the import, export, and transit of firearms. Ukraine's current legal framework does not clearly regulate civilian cross-border movement, lacks a unified licensing procedure, and is not integrated with international databases such as INTERPOL's iARMS. Draft Law No. 5708 fails to address these issues, leaving Ukraine vulnerable to illicit trafficking and non-compliant with its international obligations.

7. Reporting and Transparency: Public Trust and Global Accountability

Regular reporting to international bodies and public access to aggregated data are essential for transparency and oversight. Ukraine currently lacks legal provisions for reporting to the UNODA or for publishing national firearms statistics. Draft Law No. 5708 does not designate a reporting authority, define reporting indicators, or mandate public disclosure. This undermines public trust, impedes international cooperation, and limits the state's ability to evaluate policy effectiveness.

8. International Cooperation: From Isolation to Integration

Ukraine's limited participation in international firearms control mechanisms – due in part to its non-ratification of the UN Firearms Protocol – hampers its ability to engage in cross-border investigations, data exchange, and joint enforcement. Draft Law No. 5708 does not provide for cooperation with Europol, FRONTEX, or SEESAC, nor does it establish a competent authority for international coordination. This omission isolates Ukraine from the European security architecture and weakens its capacity to combat transnational arms trafficking.

9. Digitalization: Efficiency, Security, and Interoperability

Directive 2021/555 emphasizes the digitalization of firearms control systems, including electronic registries, online licensing,

7 Directive (EU) 2021/555 … . URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX-%3A32021L0555 (date accessed: 11.12.2025).

and integration with other state databases. While Ukraine's Unified Firearms Register operates partially in digital format, Draft Law No. 5708 does not mandate electronic document flow, digital identification, or data protection standards. The absence of a designated authority for digital infrastructure further impedes modernization and increases the risk of administrative inefficiency and corruption [8].

10. Forensic Examination as a Prerequisite for Full Traceability

A fundamental prerequisite for aligning Ukraine's firearms legislation with the standards of Directive (EU) 2021/555 is the formal incorporation of forensic examination data into the Unified State Firearms Register. This requirement is not only a logical step from the standpoint of national security and public safety, but also a legal necessity for fulfilling Ukraine's international commitments within the framework of European integration.

Directive 2021/555 establishes a comprehensive framework for the traceability of civilian firearms, obliging EU Member States to ensure that every firearm and its essential components can be tracked throughout their entire life cycle – from manufacture or lawful import to final deactivation or destruction. This obligation is articulated through a set of interrelated provisions, particularly Articles 4, 5, and 7, which collectively define the technical, procedural, and institutional foundations of the EU's firearms control regime.

Article 4 mandates that *«all firearms and essential components be marked with a unique, clear, and permanent identifier. This marking must include the name of the manufacturer or brand, the country or place of manufacture, the serial number, and the year of production (if not part of the serial number). For imported firearms, the marking must also include the country of import and the name of the importer. The marking must be applied to an essential component and be visible without disassembly. This ensures that each firearm can be individually identified and linked to its origin, thereby preventing the circulation of untraceable weapons»* [9].

Article 5 requires that *«Member States ensure the maintenance of detailed records of all firearms and essential components. These records must include information such as the type, make, model, caliber, serial number, and the names and addresses of both the supplier and the recipient. The data must be preserved for a minimum of 30 years and be accessible to competent authorities. This long-term retention is essential for retrospective investigations and for maintaining the integrity of the traceability system over time»* [10].

Article 7 reinforces the need for a modern, centralized, and secure data infrastructure. It obliges *«Member States to establish and maintain a computerized data-filing system – either centralized or decentralized – that enables competent authorities to access the information referred to in Article 5. The system must allow for the immediate identification of a firearm and its owner, including all transfers and modifications. Access must be restricted to designated authorities and comply with applicable data protection rules»* [11].

In this context, forensic examination plays a key role. We fully agree with ex-

8 Directive (EU) 2021/555 … . URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX-%3A32021L0555 (date accessed: 11.12.2025).

9 Ibid.

10 Directive (EU) 2021/555 … . URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX-%3A32021L0555 (date accessed: 11.12.2025).

11 Ibid.

perts [12] who point out that forensic examination is a specialized form of criminalistic investigation that allows: the type, caliber, and manufacturing method of a weapon; assess its operability and technical condition; detect tampering, falsification, or erasure of markings; and reconstruct the circumstances of its use – including the number of shots fired, direction, distance, and timing. These capabilities are indispensable not only for criminal investigations (as regulated by Articles 242–244 of the Criminal Procedure Code of Ukraine) [13], but also for administrative oversight, international information exchange, and the prevention of illicit manufacture, modification, and trafficking.

Moreover, forensic examination serves as a critical quality control mechanism in the civilian firearms market. It enables the detection of counterfeit or substandard weapons, the identification of unauthorized modifications that may compromise safety, and the verification of compliance with technical standards. Without such oversight, the risk of accidents, malfunctions, and criminal misuse increases significantly – particularly in a post-conflict environment where large volumes of weapons are re-entering civilian circulation.

Despite its critical importance, the Draft Law of Ukraine «On the Right to Civilian Firearms» (No. 5708) [14] does not currently mandate the inclusion of forensic examination results in the Unified State Firearms Register. This omission creates a significant gap in the traceability system, undermining the Directive's core objective of ensuring continuous and verifiable control over firearms. The absence of registry data on forensic examinations – including their dates, institutions, findings, and conclusions – weakens the evidentiary chain, complicates interagency coordination, and limits Ukraine's ability to participate in international data-sharing mechanisms such as INTERPOL's iARMS.

Although the term «forensic examination» is not explicitly articulated in Directive (EU) 2021/555 or in other foundational international instruments, its functional equivalents – namely technical identification, verification, and analytical assessment – are deeply embedded in the global legal architecture governing arms control. These functions, which are central to forensic science, underpin the operationalization of traceability, accountability, and international cooperation in the regulation of firearms.

The UN Firearms Protocol (2001) [15], adopted as a supplement to the UN Convention against Transnational Organized Crime, establishes a robust framework for preventing and combating the illicit manufacturing of and trafficking in firearms, their parts, components, and ammunition. Article 8 mandates that States Parties

12 Гусак А. П. Сучасні методи аналізу зброї та боєприпасів для судово-балістичних досліджень. *Вісник Одеського науково-дослідного інституту судових експертиз Міністерства юстиції України*. 2025. Вип. 17. С. 15—25. DOI: 10.32782/2522-9656/2025-17-2 (date accessed: 11.12.2025).

13 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: 11.12.2025).

14 Проєкт Закону ... № 5708. URL: https://itd.rada.gov.ua/billinfo/Bills/Card/27190 (date accessed: 11.12.2025).

15 Protocol against the illicit Manufacturing of and Trafficking in Firearms, their Parts and Components and Ammunition, supplementing the United Nations Convention against Transnational Organized Crime : adopted on 31 May 2001, New York / United Nations Treaty Series : web. URL: https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XVIII-12-c&chapter=18&clang=_en (date accessed: 11.12.2025).

ensure the marking of firearms at the time of manufacture and import, thereby enabling their identification and traceability. Article 11 requires the verification of authorizations and documentation during international transit, while Articles 13 to 15 obligate states to engage in systematic information exchange concerning serial numbers, technical characteristics, and known methods of falsification or tampering. These provisions presuppose the existence of technical and forensic capacities capable of detecting altered markings, authenticating weapon origins, and supporting cross-border investigations.

The Arms Trade Treaty (ATT) further reinforces these obligations [16]. Article 11 requires States Parties to take measures to prevent the diversion of conventional arms to unauthorized end-users or illicit markets, including through post-delivery verification and risk mitigation strategies. Article 13 mandates annual reporting on national control systems, including mechanisms for ensuring traceability and oversight. These reporting obligations inherently rely on the availability of forensic tools and expertise to monitor, verify, and document the movement and status of firearms throughout their life cycle.

In parallel, the UN Programme of Action on Small Arms and Light Weapons (UN PoA) [17] – a politically binding framework adopted in 2001 – calls upon states to develop and maintain comprehensive systems for the detection, tracing, and destruction of illicit small arms and light weapons. These systems are functionally dependent on forensic analysis, particularly in the context of post-conflict disarmament, criminal investigations, and the identification of weapons used in acts of violence or terrorism.

Taken together, these instruments establish a clear normative expectation: that states must possess the institutional and technical means – including forensic infrastructure – to ensure the traceability of firearms and to prevent their diversion into illicit circulation. Forensic examination is thus not a peripheral or optional element of arms control, but a structural component of effective implementation. For Ukraine, the integration of forensic examination into the legal and administrative framework governing civilian firearms is essential not only for domestic enforcement and public safety, but also for fulfilling its obligations under international law and aligning with the standards of the European Union and the broader global security regime.

The urgency of integrating forensic examination into Ukraine's firearms control regime has only intensified since the onset of Russia's full-scale invasion. The unprecedented volume of weapons in civilian circulation has generated a host of challenges: the uncontrolled return of firearms from combat zones, smuggling and black-market activity, improvised modifications, and the criminal misuse of weapons. In this context, the development and institutionalization of advanced forensic tools – particularly forensic genomic analysis – has become essential. The ability to identify individuals involved in firearms-related crimes, detect biological traces on weapons or at crime scenes, and match genetic profiles with national and international databases significantly enhances investigative capacity

16 The Arms Trade Treaty / United Nations. Digitallibrary : web. 2013. URL: https://digitallibrary.un.org/record/746683?v=pdf (date accessed: 11.12.2025).

17 Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects: a strategy for further implementation : working paper / submitted by the President // Ibid. 2006. URL: https://www.un.org/disarmament/convarms/salw/ (date accessed: 11.12.2025).

and supports the prosecution of organized crime, terrorism, and war crimes.

The urgency of integrating forensic examination into Ukraine's firearms control regime has grown exponentially in the wake of Russia's full-scale invasion. The war has not only transformed the security landscape but has also triggered an unprecedented surge in the circulation of firearms among civilians. This phenomenon has introduced a complex array of challenges: the uncontrolled return of weapons from the frontlines without proper registration; the proliferation of illicit trafficking and smuggling routes; the widespread use of improvised or modified firearms; and the increasing involvement of such weapons in criminal activity, including homicides, robberies, and acts of domestic or political violence.

In this context, the development and institutionalization of advanced forensic tools – particularly forensic genomic analysis – has become not merely desirable but essential. Traditional ballistics and traceological methods remain indispensable for identifying weapons and reconstructing shooting incidents. However, they must now be complemented by modern molecular techniques capable of addressing the evolving nature of firearms-related crime in a post-conflict society.

According to scientists [18], forensic genetic analysis, as a specialized branch of forensic medicine, allows investigators to:

1. Identify individuals who have handled or discharged a firearm by detecting and analyzing biological traces (e.g., skin cells, blood, sweat, saliva) left on weapons, ammunition, or crime scenes;
2. Establish genetic profiles from trace DNA and compare them with national and international databases (e.g., CODIS, INTERPOL's DNA Gateway);
3. Link suspects to specific weapons or incidents, even in the absence of eyewitnesses or conventional evidence;
4. Distinguish between multiple users of the same weapon, which is particularly relevant in cases involving shared or trafficked firearms;
5. Detect contamination, tampering, or staged crime scenes through the analysis of mixed DNA samples.

In Ukraine, the need for such capabilities is especially acute. The return of thousands of firearms from the battlefield – often without systematic documentation or inspection – has created a legal and operational vacuum. Many of these weapons may have been used in combat, subjected to unauthorized modifications, or diverted into criminal networks. Without a robust forensic infrastructure, including genomic analysis, the state lacks the tools to verify the provenance, usage history, and lawful status of these weapons.

Moreover, the Ukrainian legal framework currently lacks explicit provisions for the integration of forensic genomic data into the national firearms control system. While the Law of Ukraine «On Forensic Examination» (Articles 7, 10, 13) [19] and the Criminal Procedure Code (Articles 242–

18 Nechyporiuk M., Filipenko N., Juodkaitė-Granskienė G., Ivanović A. Particular Aspects of International Cooperation of Ukrainian Forensic Science Institutions with Foreign Specialists in Collecting, Studying and Processing Human Genomic Information and Conducting Molecular Genetic Analysis during Military Aggression against Ukraine. Ch. 2 / The Challenges and Opportunities in Law: Ukrainian Case under the Conditions of War : monograph // Ed. By T. Davulis, L. Gasparėnienė. Kraków, 2023. Pp. 89–211. DOI: 10.12797/9788381388887.02 (date accessed: 11.12.2025).

19 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: 11.12.2025).

244) [20] provide for the use of forensic expertise in criminal proceedings, these norms are primarily reactive and case-specific. They do not extend to the proactive, systemic use of forensic data for administrative control, registry integration, or preventive monitoring.

By contrast, international best practices – reflected in instruments such as the UN Firearms Protocol, the Arms Trade Treaty, and the UN Programme of Action on Small Arms and Light Weapons – increasingly emphasize the importance of traceability, identification, and information exchange. Although these documents do not explicitly reference «genomic analysis», their operational logic presupposes the use of all available scientific methods to ensure the integrity of arms control systems. The ability to trace a weapon to its last lawful owner, to verify its technical and biological history, and to link it to specific criminal events is central to the goals of transparency, accountability, and public safety.

Therefore, Ukraine's Draft Law No. 5708 must be revised to reflect these realities. Specifically, it should:

- Mandate the inclusion of forensic examination results – including genomic findings – in the Unified State Firearms Register.
- Define the types of biological and genetic data that may be collected, stored, and used for investigative and administrative purposes, in compliance with data protection standards.
- Establish protocols for the secure transfer of forensic data between law enforcement, forensic institutions, and registry administrators.
- Enable interoperability with national and international DNA databases to facilitate cross-border investigations and the identification of weapons used in transnational crimes.
- Provide legal safeguards to ensure the ethical use of genomic data, including informed consent, proportionality, and judicial oversight where appropriate.

Incorporating forensic genomic analysis into Ukraine's firearms control system is not a marginal technical upgrade – it is a strategic imperative. It enhances the evidentiary power of investigations, strengthens the credibility of the registry, and equips the state to respond to the complex threats posed by organized crime, terrorism, and war crimes. Most importantly, it aligns Ukraine's legal and institutional architecture with the evolving standards of international law and forensic science, reinforcing its trajectory toward European integration and democratic resilience.

Conclusions

The Draft Law of Ukraine «On the Right to Civilian Firearms» (No. 5708) has the potential to become a foundational legal act that, for the first time, systematically regulates the civilian circulation of firearms at the legislative level. If properly revised and adopted, it could establish a transparent, accountable, and secure framework for firearm ownership – one that addresses Ukraine's urgent post-conflict realities while aligning with its international obligations under European and global arms control regimes.

However, in its current form, the draft remains largely declarative and structurally fragmented. Without the full incorporation of key international standards – particularly those enshrined in Directive (EU) 2021/555 – it risks being ineffective in practice and disconnected from the

20 Кримінальний процесуальний кодекс … . URL: https://zakon.rada.gov.ua/laws/show/4651-17#Text (date accessed: 11.12.2025).

evolving demands of national and international security. To transform the draft into a robust and future-oriented legal instrument, several core principles must guide its refinement.

These include: institutional transparency and public accountability; the establishment of a centralized, electronic Unified State Firearms Register with real-time access and interoperability; mandatory marking and digital traceability of all essential firearm components; preventive control mechanisms based on rigorous integrity screening, periodic license renewal, and enforceable storage standards; and full harmonization with EU and UN norms regarding classification, cross-border movement, and international cooperation.

Crucially, the law must also recognize forensic examination – not only ballistic and technical, but also genomic – as a structural pillar of effective firearms control. In the aftermath of Russia's full-scale invasion, Ukraine faces an unprecedented volume of weapons in civilian circulation, many of which have returned from the frontlines without proper documentation. This has created serious risks of smuggling, illicit modification, and criminal misuse. In this context, forensic science – particularly forensic genomic analysis – has become indispensable. It enables the identification of individuals who have handled or discharged a weapon, the detection of biological traces on firearms and ammunition, and the matching of genetic profiles with national and international databases. These capabilities significantly enhance investigative capacity and support the prosecution of organized crime, terrorism, and war crimes.

Yet, Ukraine's current legal framework does not provide for the systematic use of forensic data in administrative firearms control. While the Law of Ukraine «On Forensic Examination» and the Criminal Procedure Code regulate the use of expert analysis in criminal proceedings, they do not extend to registry integration or preventive monitoring. This legal fragmentation undermines coherence, operational effectiveness, and compliance with international standards. By contrast, global instruments such as the UN Firearms Protocol, the Arms Trade Treaty, and the UN Programme of Action on Small Arms and Light Weapons emphasize the importance of traceability, identification, and information exchange – functions that inherently rely on forensic expertise.

Therefore, Draft Law No. 5708 must evolve beyond a domestic regulatory instrument. It should become a strategic tool of legal modernization, external accountability, and democratic resilience. Its refinement is not merely a legislative task – it is a vital investment in Ukraine's secure, lawful, and European future.

Кримінально-правовий аналіз законопроєкту про право на громадянську зброю в контексті європейських правових стандартів

Наталія Філіпенко, Александар Іванович

Здійснено комплексний кримінально-правовий аналіз законопроєкту про право на цивільну вогнепальну зброю (№ 5708) з акцентом на його узгодженості з міжнародними правовими стандартами, зокрема положенням Директиви (ЄС) 2021/555 про контроль за набуттям і володінням вогнепальною зброєю. Законопроєкт розглянуто крізь призму гармонізації законодавства з охопленням правового регулювання за такими основними напрямами, як маркування цивільної вогнепальної зброї, ведення реєстрів, забезпечення простежуваності руху зброї на всіх етапах її життєвого циклу, організація *обміну інформацією між уповноваженими органами, вимоги до умов зберігання зброї, правові механізми контролю за дистанційним продажем зброї, а також обмеження доступу до окремих категорій вогнепальної зброї. Особливу увагу акцентовано на ролі судової експертизи та кримінального провадження в забезпеченні дієвого контролю за обігом вогнепальної зброї. В українському законодавстві виявлено розбіжності й недоліки структури, що унеможливлюють його гармонізацію із законодавством Європейського Союзу. Наведено аргументи на користь цілеспрямованих змін для підвищення рівня узгодженості релевантних нормативно-правових актів. З огляду на загальний безпековий контекст повоєнного періоду України гармонізацію законодавства розглянуто як необхідну передумову реалізації зобов'язань України в межах Угоди про асоціацію з ЄС, поступової юридичної конвергенції та впровадження відповідних інституційних реформ.*

Ключові слова: *законопроєкт № 5708; цивільна вогнепальна зброя; міжнародні стандарти; Директива ЄС 2021/555; гармонізація законодавства; контроль за обігом зброї; безпека; судова експертиза; кримінальне провадження.*

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Declaration of Competing Interest

Authors declare no conflict of interest.

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Shevchuk, V. M. (2022). Yevropeiskyi vektor rozvytku suchasnoi kryminalistyky [The European trajectory of modern criminalistics development]. *Adaptatsiia pravovoi systemy Ukrainy do* *prava Yevropeiskoho Soiuzu: teoretychni ta praktychni aspekty* : mat-ly VI Vseukr. nauk.-prakt. konf. (Poltava, 29.09.2022). Poltava. URL: http://pli.nlu.edu.ua/wp-content/uploads/2022/12/Zbirnyk-29.09.pdf [in Ukrainian].

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Filipenko, N., Ivanović, A. (2026). Forensic-Legal Analysis of Ukraine's Draft Law 'on the Right to Civilian Firearms' in the Context of European Legal Standards. *Theory and Practice of Forensic Science and Criminalistics.* Issue 1 (42). Pp. 15—30. DOI: 10.32353/khrife.1.2026.02.

Integration of Virtual Reconstruction into Criminal Procedure in Ukraine (Based on Example of Investigative Experiment)

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This article purpose is to conduct a comparative legal analysis of reconstruction institution of criminal offenses and to scientifically justify feasibility of introducing virtual situational investigative experiments into Ukrainian criminal proceedings as a new standard of scientific reliability and metric accuracy of evidence. For achieving this goal, general scientific and special methods of scientific cognition were used (comparative legal one, formal legal one, forecasting, modeling, systemic-structural, analysis, and synthesis). The issue of limitations of conducting traditional crime scene reconstructions in conditions of martial law, caused by the destruction of the material environment and dangerous access to the scenes of events, has been highlighted. The advantages of 3D technologies (LiDAR, photogrammetry) for creating metrically accurate digital models of the scene of the incident, which ensure the transition from subjective perception to algorithmic verification, are substantiated. The feasibility of using 3D models as an addition to investigative action protocol is proven. It is concluded that digital transformation

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of evidence is a leading stage in modernization of justice, combining technical accuracy with procedural fairness.

Keywords: *criminal proceedings; investigative experiment; virtual reconstruction; VSIE; 3D modeling; digital evidence; martial law; criminal proceedings; evidence.*

Research Problem Formulation

In modern criminal proceedings, investigative experiments are not only procedural actions, but complex cognitive tools for reconstructing the circumstances of a crime. Their evidentiary value is based on recreating conditions that are as close as possible to the original ones that makes possible to verify the reliability of testimony and clarify spatial relationships and the chronological sequence of events. At the same time, traditional forms of this action are increasingly demonstrating their limitations, namely impossibility of completely recreating situation, subjectivity of the participants' perceptions and difficulties of accurate documentation.

In particular, under martial law, law enforcement practice has encountered a number of problems related to conducting investigative experiments, reconstructing the circumstances of events, investigating the actions of those involved and analyzing the scene of events. These issues are caused by inability to access the incident scene that is located in a temporarily occupied territory; significant damage, destruction, or elimination of material evidence as a result of shelling; dangerous conditions for participants in criminal proceedings; the fact that persons whose testimony is subject to verification are located at a considerable distance from the scene of the incident or the pre-trial investigation body; the need to comply with restrictions, in particular curfews, etc. [1] One possible way to overcome these limitations and recreate the physical environment of the scene is to use modern information technologies during the investigative experiment to reconstruct the scene in virtual reality.

Article Purpose

Perform comparative legal analysis of reconstruction institution of events (investigative experiment) in theory and national practice, continental and common law systems, as well as scientifically substantiate the possibility of digital transformation of this tool into Ukrainian criminal proceedings through the introduction of virtual situational investigative experiments as a new method of scientific reliability and metric accuracy of evidence.

Research Methods

For achieving this goal, general scientific and special methods of scientific cognition were used. Comparative legal method facilitated the study of approaches to reconstruction during investigations within the national criminal justice system and legal systems of different countries. It made possible to identify common and distinc-

1 Чорноус Ю. Тактика слідчого експерименту за особливого режиму кримінального провадження в умовах воєнного стану. *Правоохоронна діяльність в умовах воєнного стану* : мат-ли Всеукр. наук.-практ. семінару (Івано-Франківськ, 21.10.2025). Івано-Франківськ, 2025. С. 145—149. URL: https://surl.li/qfckrh (date accessed: 09.01.2026).

tive features of investigative experiments as a means of obtaining evidence in criminal proceedings. Using the formal legal method, legal analysis was carried out of the provisions of the Criminal Procedural Code of Ukraine, which define the specifics and limits of conducting an investigative experiment. The forecasting method was useful for a reasonable prediction of the conditions for the introduction of the method of visual situational investigative experiment into law enforcement practice. Using the modeling method, the authors constructed ideal (imaginary) models for conducting a virtual investigative experiment in criminal proceedings. Systemic-structural analysis identified the main elements of the implementation of virtual reconstruction in criminal proceedings, determined their functional role and impact on the results of criminal proceedings. Combination of logical methods of analysis and synthesis contributed to the integration of the obtained results into a single system of scientific provisions, thanks to which essence, objectives, procedural and technical conditions, features of conducting and evaluating the results of a virtual situational investigative experiment were logically substantiated.

The selected methods together provided a theoretical justification for the problem under research and contributed to formulation of conclusions and practically oriented recommendations.

Analysis of Essential Researches and Publications

In Ukrainian criminal procedural doctrine and forensic science, fundamental aspects of the investigative experiment are quite deeply worked out in theoretical, procedural and tactical aspects. Legal nature of the experiment as an independent investigative (search) action designed to verify the investigative versions, evidence and mechanism of a criminal offense is characterized, and its place in the criminalistics system is determined [2]. The tactics of the investigative experiment were developed, the stages and methods of its conduct [3], procedure for attracting specialists were determined [4]. Peculiarities of

2 Маланчук П. М. Правова природа слідчого експерименту. *Правові горизонти*. 2018. № 9 (22). С. 52—55. DOI: 10.21272/legalhorizons.2018.i9.p52 (date accessed: 09.01.2026) ; Стратонов В. М. Слідчий експеримент у системі криміналістичних знань. *Науковий вісник Херсонського державного університету. Серія: Юридичні науки*. 2024. Вип. 1. С. 14—18. DOI: 10.32999/ksu2307-8049/2024-1-3 (date accessed: 09.01.2026).

3 Балицький Т. М. Слідчий експеримент в системі слідчих (розшукових) дій у кримінальному провадженні України : автореф. дис. … канд. юрид. наук. Ірпінь, 2015. 20 с. URL: https://dspace.nlu.edu.ua/bitstream/123456789/16881/1/BALITSKY-2015.pdf (date accessed: 09.01.2026) ; Ковбаса В. Організаційно-підготовчі заходи до проведення слідчого експерименту. *Науковий вісник Дніпропетровського державного університету внутрішніх справ*. 2020. № 3. С. 174—179. DOI: 10.31733/2078-3566-2020-3-174-179 (date accessed: 09.01.2026).

4 Даніч Є. О. Використання спеціальних знань під час проведення слідчого експерименту : дис. … канд. юрид. наук. Київ, 2018. 238 с. URL: https://elar.navs.edu.ua/server/api/core/bitstreams/025fac7a-69a3-45dc-91a5-2f227acdd6a3/content (date accessed: 09.01.2026) ; Антонюк П. Є., Антощук А. О., Пясковський В. В. та ін. Тактика проведення слідчого експерименту під час досудового розслідування : метод. рек. Київ, 2021. 68 с. URL: https://elar.navs.edu.ua/server/api/core/bitstreams/5fe00ee9-ad87-4a83-8054-6ebeb9e3b36f/content (date accessed: 09.01.2026).

crime scene reconstruction during the investigation of road accidents [5], murders [6] and other criminal offenses are investigated [7].

However, despite the high degree of theoretical and tactical development, investigative experiments, like any other investigative (search) activity, face the challenges of modern criminal proceedings, where the reliability of evidence and possibility of algorithmic verification of the data obtained are of paramount importance. It is in this context that the use of modern technologies, in particular 3D reconstruction (laser scanning and photogrammetry), becomes critically important, as they are capable of minimizing the subjectivity of perception and achieving high accuracy of reproduced parameters, conducting experiments in cyberspace, and obtaining reliable results without being at the actual scene of the incident.

Analysis of works devoted to research on the use of three-dimensional technologies in the investigation of criminal offenses indicates positive experience in their implementation during the examination of crime scenes, forensic investigations, and the training of investigators [8]. At the same time, the issue of using such technologies in the investigative experiment process has been raised in isolated publications [9], so it requires more in-depth research.

5 Вальчишин Г. І. Організаційно-тактичні особливості проведення слідчого експерименту під час розслідування дорожньо-транспортних пригод : дис. ... д-ра філос. в галузі права. Дніпро, 2021. 250 с. URL: https://dduvs.edu.ua/wp-content/uploads/files/Structure/science/rada/df017/d.pdf (date accessed: 09.01.2026) ; Варлахов В., Свідерський О., Мітуневічус В. Участь спеціаліста в слідчому експерименті із дослідження обставин дорожньо-транспортної пригоди, яка відбулася в темний час. *Теорія та практика судової експертизи і криміналістики*. 2022. Вип. 3 (28). С. 109—123. DOI: 10.32353/khrife.3.2022.07 (date accessed: 09.01.2026) ; Коломієць В. В. Методика розслідування порушення правил безпеки дорожнього руху або експлуатації транспорту особами, які керують транспортними засобами : дис. ... д-ра філос. в галузі права. Кропивницький, 2024. С. 117—137. URL: https://dnuvs.ukr.education/wp-content/uploads/2024/12/dysertacziya_kolomiyecz.pdf (date accessed: 09.01.2026).

6 Кунтій А. І. Тактика слідчого експерименту під час розслідування умисного вбивства, вчиненого в стані сильного душевного хвилювання. *Порівняльно-аналітичне право*. 2019. № 4. С. 393—396. URL: https://pap-journal.in.ua/wp-content/uploads/2020/08/PAP_4_2019.pdf (date accessed: 09.01.2026) ; Юхно О. О. Особливості проведення слідчого експерименту в досудовому розслідуванні вбивств, пов'язаних з насильством у сім'ї. *Pravo.ua.* 2023. № 2. С. 77—85. DOI: 10.32782/LAW.UA.2023.2.11 (date accessed: 09.01.2026).

7 Щербаковський М. Г. Слідчий експеримент при розслідуванні знищення або пошкодження майна. *Вісник Харківського національного університету внутрішніх справ.* 2023. № 2 (101). Ч. 1. С. 323—333. DOI: 10.32631/v.2023.2.29 (date accessed: 09.01.2026); Лепей М. В., Лепей О. В. Криміналістичне забезпечення проведення слідчого експерименту під час розслідування кримінальних правопорушень проти моральності. *Вісник кримінологічної асоціації України.* 2024. № 1 (31). С. 712—720. DOI: 10.32631/vca.2024.1.62 (date accessed: 09.01.2026).

8 Свобода Є. Ю., Юсупов В. В., Михальчук Т. В. Теоретичні та практичні аспекти 3D-сканування під час розслідування кримінальних правопорушень (оглядова стаття). *Європейський правничий часопис.* 2025. Вип. 6, 7. С. 202—209. DOI: 10.36919/3041-1149(Print).6-7.2025.202-209 (date accessed: 09.01.2026).

9 Коваленко А. В. Криміналістичне вчення про збирання, дослідження та використання доказів у кримінальному провадженні : монографія. Київ, 2024. 558 с. URL: https://

Main Content Presentation

For revealing subject of our research, it is advisable to first consider the legislative regulation of the reconstruction of the circumstances of a criminal offense in accordance with national legislation and the legislation of countries with continental and common law systems. Procedural regulation of this procedure has both common and distinctive signs.

Ukraine. According to Part 1 of Article 240 of the Criminal Procedure Code of Ukraine, *"in order to verify and clarify information that is relevant to establishing the circumstances of a criminal offense, investigator or prosecutor has the right to conduct an investigative experiment by recreating the actions, situation, and circumstances of a particular event, and conducting the necessary experiments or tests"* [10]. In essence and in terms of its objectives, an investigative experiment can take the form of two different types of investigative (search) actions, which differ in terms of the grounds for conducting them, the nature of their preparation, tactical techniques, and rules of implementation. Violation of these rules may lead to distortion of the results obtained and affect their assessment by the investigator, prosecutor, or court.

These actions include, first, investigative experiment itself (establishing the possibility of perceiving a certain fact (visibility, audibility, etc.) under certain conditions or by a specific person, performing certain actions under specific conditions or by a specific person, the existence of a certain fact and/or phenomenon under certain circumstances, as well as the mechanism of the event as a whole or its individual stages), and secondly, verification (reproduction) of previously given testimony by a person, which is carried out exclusively in the place referred to in the relevant testimony [11]. Both of these types belong to the group of investigative (search) actions that functional purpose is to verify the factual data established while criminal proceedings.

Peculiarity of investigative experiment lies in the fact that during its conduct, both people and the physical environment are sources of criminally significant information. Factual data is obtained not only through the personal perception of objects and events by the subject of the investigation, but with the help of a wide range of technical, forensic, and other technical means. The purpose of investigative experiment, as specified in the procedural norm, is implemented in numerous and varied types of such experiments developed in criminalistics [12].

Thus, one type of investigative experiment is to verify the testimony of an

rep.dnuvs.ukr.education/server/api/core/bitstreams/4bd5ad6e-849f-43ba-9772-3023b1d75509/content (date accessed: 19.01.2026) ; Павлюк Н. В. Застосування 3D-моделювання під час допиту та слідчого експерименту. *Інноваційні методи та цифрові технології в криміналістиці, судовій експертизі та юридичній практиці* : мат-ли міжнар. «кругл. столу» (Харків, 12.12.2019). Харків, 2019. С. 112—115. URL: https://surl.lt/hvpxah (date accessed: 19.01.2026).

10 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: 09.01.2026).

11 Криміналістика : підручник. У 2 т. Т. 1 / за заг. ред. А. Ф. Волобуєва, Р. Л. Степанюка, В. О. Малярової. Харків, 2018. С. 243—344. URL: https://fpk.in.ua/images/biblioteka/4bac_pravo/Kryminalistyka_Pidruchnyk_Tom-1_Kharkiv_2018.pdf (date accessed: 19.01.2026).

12 Антонюк П. Є., Антощук А. О., Пясковський В. В. та ін. Зазнач. твір. С. 8. URL: https://elar.navs.edu.ua/server/api/core/bitstreams/5fe00ee9-ad87-4a83-8054-6ebeb9e3b36f/content (date accessed: 09.01.2026).

interrogated person about certain actions they performed at the scene of the incident [13]. The purpose of such an experiment is to ascertain the participant's knowledge of the location, layout, and characteristics of physical environment of the scene of the incident; to clarify the route taken to and from the scene of the incident; to establish the reliability of the testimony by comparing it with the person's actions in the physical environment and the traces of the crime recorded in the scene inspection report, etc. Such an investigative experiment is conducted directly at the scene of the incident by giving the initiative to the participant whose testimony is being verified, and its distinctive feature is that the results obtained are obvious to all persons present, in particular witnesses, without specific expertise use.

Countries of European (continental) law. Legal systems of Romania [14], Poland [15], the Czech Republic [16], Kazakhstan [17], Moldova [18] and other countries of the former socialist bloc have retained in their criminal procedure the institution of investigative experimentation in its classical sense as an independent investigative action aimed at verifying and clarifying factual data by recreating event circumstances. Despite the existence in the criminal procedure of some post-Soviet countries (in particular, Czech Republic, Kazakhstan, and Moldova) of two separate investigative actions: crime scene reconstruction and verification (or reconstruction) of testimony at the scene; this does not change their common epistemological essence as means of empirical verification of factual data, which stems from the Soviet criminalistic tradition.

On the other hand, developed European systems, in particular those of France, Germany, and Switzerland, do not contain direct regulatory provisions for an equivalent of investigative experiments, but there are forms that have an identical cognitive function. Thus, Article 81 of the French Code of Criminal Procedure, despite the absence of a normative definition of reconstruction, provides that the investigating judge shall take all measures he or she deems useful for establishing the truth, and Article 92 provides for *transport sur les lieux*: visit to the scene of the incident for observation [19]. In practice, *reconstitution* is a combination of several procedural acts,

13 Велика українська юридична енциклопедія: у 20 т. Т. 20 : Криміналістика, судова експертиза, юридична психологія / редкол.: В. Ю. Шепітько та ін. Харків, 2018. С. 583.

14 Codul de procedură penală din 1 iulie 2010 (Legea nr. 135/2010). Data intrării în vigoare: 01.02.2014. Art. 193—195. București: Ministerul Justiției / Portal Legislativ : web. URL: https://legislatie.just.ro/public/detaliidocument/120611 (date accessed: 09.01.2026).

15 Kodeks postępowania karnego : ustawa z dnia 6 czerwca 1997 r. Dz.U. 1997 nr 89 poz. 555 z późn. zm. Art. 211, 212 / ISAP : web. URL: https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU19970890555 (date accessed: 09.01.2026).

16 Zákon č. 141/1961 Sb. Zákon o trestním řízení soudním (trestní řád). Stav k 01.01.2025. § 104d, § 104e. Zákony pro lidi : web. URL: https://www.zakonyprolidi.cz/cs/1961-141 (date accessed: 09.01.2026).

17 Қазақстан Республикасының Қылмыстық-процестік кодексі : 2014 жылғы 4 шілдедегі № 231-V ҚРЗ / Әділет : web. URL: https://adilet.zan.kz/kaz/docs/K1400000231 (date accessed: 09.01.2026).

18 Codul de procedură penală al Republicii Moldova : Cod Nr. 122-XV din 14-03-2003. Art. 122 / Legis : web. URL: https://www.legis.md/cautare/getResults?doc_id=120596&lang=ro (date accessed: 09.01.2026).

19 Code de procédure pénale / Légifrance : web. URL: https://www.legifrance.gouv.fr/codes/texte_lc/LEGITEXT000006071154 (date accessed: 09.01.2026)

inspection, interrogation, demonstration, and expert examination, united by the common goal of recreating the mechanism of the event. In French criminalistics, such reconstruction is considered a synthetic procedure that combines empirical accuracy with judicial control [20].

Criminal Procedure Code of Federal Republic of Germany does not contain the concept of *investigative experiment* in the narrow sense. Judicial practice is based on the fact that experiments (in German: *versuche*) are not independent types of evidence, but may be an element of an expert conclusion or a component of an inspection of the scene of the incident [21]. Thus, German model is based on the principle of functional unity of evidentiary actions what matters is not how the action is classified, but whether the general guarantees of reliability, relevance, and verifiability are observed.

According to Article 193 of the Swiss Criminal Procedure Code, an inspection of the scene of the crime may be combined with a reconstruction or an interrogation (in French: *reconstitution des faits ou avec une confrontation*). In this case, the accused, witnesses, and other persons summoned to court are involved in the inspection [22].

Common law countries. In common law countries (US, Canada, UK, Australia), the admissibility of investigative experiments is traditionally considered through the prism of the substantial similarity test. According to this principle, the experimental conditions must be similar to the real situation, although it does not require identical conditions, but a certain similarity to ensure that the results of the experiment are relevant and reliable for the case under investigation. Thus, in the United States, the Alaska Supreme Court in *Love v. State of Alaska* formulated a requirement to demonstrate substantial similarity between the conditions of the experiment and the actual circumstances of the event, while emphasizing that absolute identity is not necessary [23].

In law enforcement, the reconstruction of events is gradually shifting from physical (objective) to digital modeling. 3D technologies, which include 3D scanning [24], photogrammetry, *additional reality* (AR) and *virtual reality* (VR), make it possible to create interactive, metrically accurate models of the scene of an incident. Not only do they replace traditional physical experiments in many cases, but they also

20 Hazan R., Cassuto Th. La reconstitution en procédure pénale. Intérêts et principes généraux. *Experts.* 2009. No. 86, Oct. Pp. 4–9. URL: https://cejpcar.org/wp-content/uploads/2015/10/RE_PUB_86-Hazan-Cassuto.pdf (date accessed: 09.01.2026).

21 Bundesgerichtshof Urt. V. 20.06.1961, Az.: 1 StR 212/61. Beweisrecht der Strafprozeßordnung (StPO). Experimente und Versuche als besondere Beweisarten / Wolters Kluwer Online : web. URL: https://research.wolterskluwer-online.de/document/8b9f76f1-037c-4edf-983c-a0deb-b8e2029 (date accessed: 09.01.2026).

22 Code de procédure pénale suisse du 5 octobre 2007 (État le 1er avril 2025). Art. 193 / Fedlex : web. URL: https://www.fedlex.admin.ch/eli/cc/2010/267/fr (date accessed: 09.01.2026).

23 Substantial Similarity in Conditions for Experimental Evidence: Supreme Court of Alaska's Decision in Love v. State of Alaska / Casemine : web. URL: https://www.casemine.com/commentary/us/substantial-similarity-in-conditions-for-experimental-evidence:-supreme-court-of-alaska's-decision-in-love-v.-state-of-alaska/view (date accessed: 01.02.2026).

24 3D technology encompasses a wide range of tools and methods for creating, displaying or reproducing objects in three dimensions: width, height and depth.

provide a whole new level of metric accuracy and objectivity of evidence [25].

In *British* practice, 3D reconstruction is actively used in investigations of traffic accidents, murders, and terrorist attacks, and the results of VR reconstructions are accepted by courts as supporting evidence, provided that their reliability is confirmed by experts [26]. According to *Ch. Villa, N. Lynnerup,* and *Ch. Jacobsen*, use of a multimodal 3D approach makes it possible to create a single interactive database where the topography of the scene, the victim's body, and material evidence are coordinated in a single digital environment [27]. This creates a new type of virtual investigative experiment that takes place in cyberspace but retains procedural guarantees of reliability.

In US judicial practice, virtual models can be integrated into court proceedings as evidence if they are relevant to the case and there are no grounds for exclusion (in accordance with Rules: 401 "*Test for Relevant Evidence*," 402 "*General Admissibility of Relevant Evidence*," 403 "*Exclusionary Rule*" *Federal Rules of Evidence* [28]), and meet the standards of scientific reliability defined in the case of *Daubert v. Merrell Dow Pharmaceuticals* (1993) [29].

In their fundamental analysis of numerous literary sources highlighting the problems of applying tools, technologies, methods, and techniques of 3D crime scene reconstruction, *M. A. Maneli and O. E. Isafiade* note that traditional means of recording information from the scene of the crime do not achieve or maintain the necessary integrity of information about the crime, while 3D crime reconstruction using immersive reality technologies provides a reproduction of the scene with an accuracy of several millimeters and allows various hypotheses to be tested in real time [30].

Thus, analysis of foreign legal systems shows that although the concept of investigative experiment as an independent procedural form is unique to Ukrainian (and more broadly, post-Soviet) law, actions similar in their functional purpose exist in most legal systems.

Epistemological standards of reliability. During pre-trial investigations, conducting investigative experiments under martial law often encounters significant difficulties: the scene of the incident may be located in occupied territory, and if it is in a frontline zone, it may be destroyed or significantly damaged, making it dangerous for participants in criminal proceedings to be there, and some of them (victims, witnesses) are located far from both the

25 Flor N. V. Technology Corner: Virtual Crime Scene Reconstruction: The Basics of 3D Modeling. *Journal of Digital Forensics, Security and Law*. 2011. Vol. 6. N. 4. Art. 6. DOI: 10.15394/jdfsl.2011.1108 (date accessed: 09.01.2026).

26 Forensic Crime Scene Reconstruction, Virtual Reality / NCAVF : web. 2018. URL: https://ncavf.com/what-we-do/crime-scene-reconstruction/ (date accessed: 09.01.2026).

27 Villa Ch., Lynnerup N., Jacobsen Ch. A Virtual, 3D Multimodal Approach to Victim and Crime Scene Reconstruction. *Diagnostics*. 2023. Art. 13(17):2764. DOI: 10.3390/diagnostics13172764 (date accessed: 09.01.2026).

28 Federal Rules of Evidence (amended to Dec 1, 2024) / Cornell Law School. LII : web. URL: https://www.law.cornell.edu/rules/fre (date accessed: 02.02.2026).

29 Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U. S. 579 (1993) / Justia U. S. Supreme Court : web. URL: https://supreme.justia.com/cases/federal/us/509/579/ (date accessed: 09.01.2026).

30 Maneli M. A., Isafiade O. E. 3D Forensic Crime Scene Reconstruction involving Immersive Technology: A Systematic Literature Revie. *Institute of Electrical and Electronics Engineers (IEEE) Access*. 2022. Vol. 10. Pp. 1–51. DOI: 10.1109/access.2022.3199437 (date accessed: 09.01.2026).

scene of the incident and the investigating authority. All this makes it impossible to carry out investigative actions in the traditional form. At the same time, the current level of development of science and technology makes it possible to solve this problem with the help of 3D technologies.

Because of 3D scanning followed by 3D reconstruction of a criminally relevant object, it is possible to create a digital 3D model that reflects the linear and spatial characteristics of such an object, the relative positioning of elements of its external structure, color, and other signs [31]. Creation of 3D models of criminal offense scene in cases where access to it is difficult, impossible, or dangerous can be considered a type of complete reconstruction of the scene, which is recommended while conducting investigative experiment [32].

The use of 3D reconstruction of the crime scene is in line with the latest trend of gradual digitization of the evidence process, where circumstances of the crime are recreated using virtual reality immersion technologies. According to O. Dufeniuk, this not only creates an objective need for a modern procedural tool, but also provides a basis for improving the process of documenting the scene of the crime, signals the emergence of a new generation of technical and forensic tools, and a new comprehensive field of forensic science: three-dimensional criminalistics [33].

Therefore, it can be argued that 3D reconstruction of the scene of the crime during criminal proceedings opens up the following areas of application:

1) conducting a remote crime scene reconstruction at the scene of the incident (virtual crime scene reconstruction);
2) creation of 3D models of objects (weapons, burglary tools, etc.) that are printed on a 3D printer and serve as real prototypes;
3) output material for further expert investigation;
4) visual presentation of the scene of the incident and the results of the investigative experiment for the court [34].

It proves that high-precision reconstruction of events cannot completely replace investigative experiments in the "classical" sense, nor can it become a component of expert examination or inspection: such reconstruction requires a unique hybrid status. That is why we propose a new concept that involves recreating the circumstances of a criminally relevant event not in a real location, but in a virtual 3D environment: *Virtual Situational Investigative Experiment* (VSIE). Its purpose is to verify testimony and investigative versions, analyze the mechanism of the event, and obtain evidence using information technology.

31 Коваленко А. В. Зазнач. твір. С. 201. URL: https://rep.dnuvs.ukr.education/server/api/core/bitstreams/4bd5ad6e-849f-43ba-9772-3023b1d75509/content (date accessed: 02.02.2026).

32 Негребецький В. Криміналістична реконструкція як тактичний прийом слідчого експерименту. *Підприємництво, господарство і право.* 2019. № 6. С. 318. DOI: 10.32849/2663-5313/2019.6.59 (date accessed: 09.01.2026).

33 Дуфенюк О. М. Майбутнє 3D криміналістики: інновації, які змінюють практику досудового розслідування. *Юридичний науковий електронний журнал.* 2024. № 3. С. 458. DOI: 10.32782/2524-0374/2024-3/110 (date accessed: 09.01.2026).

34 Carew R. M., French J., Morgan R. M. 3D Forensic science: A new field integrating 3D imaging and 3D printing in crime reconstruction. *Forensic Science International: Synergy.* 2021. Vol. 3. Art. 100205. P. 2. DOI: 10.1016/j.fsisyn.2021.100205 (date accessed: 19.01.2026).

A virtual investigative experiment changes not only the form of proof, but also the epistemological model of truth in the criminal process. While a traditional experiment verifies testimony through "objective" reproduction, a digital experiment uses virtual modeling based on 3D scanning, photogrammetry, video recording, and other digital measurements of spatial parameters of the scene. Thus, the criterion of reliability shifts from "subject testimony" to "algorithm reliability". However, this change shifts the focus of legal assessment to reliability (integrity) of input data (*data integrity*) and the *validity of the expert method*, requiring new legal standards for assessing such evidence. The legal community, in particular *D. Notowitz*, recognizes 3D models as admissible evidence provided that the requirements of authenticity, *reproducibility* and lack of distortions are met [35].

The most important achievement of digital reconstructions is that they combine spatial accuracy with cognitive visualization. In addition, thanks to deep immersion, virtual reality serves not only as a source of evidence, but also as an effective means of communicating complex facts to participants in legal proceedings (judges, jurors), facilitating their better cognitive perception.

Advantage of reconstructing scene of the incident using 3D modeling is that the visual nature and the ability to create animations make possible to consider different versions of the incident and identify contradictions in the testimony of the person being questioned. Thus, advantages of virtual reconstructions over traditional investigative experiments are obvious: they ensure permanent recording of evidence without the risk of losing, allow the experiment to be repeated multiple times without interfering with the physical environment, and objectively verify the witness's *line of sight* [36] or the trajectory of objects that is crucial for refuting or confirming testimony [37]. For example, demonstrating a 3D model of the scene of the crime that's been changed on purpose so that the person whose testimony is being checked can reconstruct it will help verify that person's knowledge of the crime scene. This tactic lets the person show how much they know, and lets the investigator disprove false testimony [38].

Prospects for integrating 3D technologies into *Ukrainian legislation and judicial practice*. Ukraine currently lacks a legal mechanism that would allow digital reconstructions to be officially used as independent evidence. Given the well-founded need to comply with scientific reliability standards, the most logical approach is not to amend Article 240 of Criminal Procedural Code of Ukraine, but to use 3D models of the scene of the incident as an appendix to the investigative experiment

35 Notowitz D. Using 3D Scans and Modeling as Evidence in Court. *Law Technology Today*. 2023. Nov 08. URL: https://www.americanbar.org/groups/law_practice/resources/law-technology-today/2023/using-3d-scans-and-modeling-as-evidence-in-court/ (date accessed: 19.01.2026).

36 *Line of sight*—straight path between an observer's eye and a subject, allowing visual perception of an event under specific spatial conditions.

37 Kowbuz D. How 3D scanning rebuilds crime scenes for courtrooms : Capturing crucial evidence to aid justice / Gim-international : web. 2020. May 13. URL: https://www.gim-international.com/content/article/how-3d-scanning-rebuilds-crime-scenes-for-courtrooms (date accessed: 02.02.2026).

38 Павлюк Н. В. Зазнач. твір. С. 112—115. URL: https://surl.lt/hvpxah (date accessed: 19.01.2026).

protocols (Article 105 of Criminal Procedural Code of Ukraine) [39].

In our opinion, 3D reconstruction of the scene of the incident can be used for investigative experiments in two situations. First, while verifying testimony, when a person on a virtual model shows the trajectory of their movement on the territory or inside the premises, demonstrates elements of the physical environment with which they came into contact, indicates the location of persons at the scene or the location of items relevant to the investigation, etc. In addition, during a real experiment, models of objects from the scene of the incident, made on a 3D printer, can be used. Secondly, conducting an investigative experiment to establish or refute certain objective facts, for example, location or distance between elements of the environment, as well as ability to see individual objects from a specific location, etc. It should be noted that an investigative experiment is conducted when there is no need for special knowledge to perform complex mathematical calculations or laboratory researches, that is typical for expert research [40].

The first, fundamental, and necessary condition for integrating virtual situational investigative experiments into the process of investigating criminal offenses is the implementation of forensic recommendations for 3D documentation of crime scenes [41]. There are two main methods for recording crime scenes: laser scanning and photogrammetry. During laser scanning (*LiDAR*) [42], the scanner is mounted on a tripod and emits laser beams in a 360-degree arc, recording and measuring the distance to objects. As a result, millions of points: *Point Cloud* form an accurate geometric copy of the crime scene with an error of 1–2 mm. Photogrammetry is used to create a 3D model based on a series of photographs taken from different angles (often using drones). Special software “stitches” the photographs into a three-dimensional model. Photogrammetry and laser scanning technologies make it possible to create digital copies of objects and situations that can be reproduced at any time during a pre-trial investigation or court proceedings. In addition, this will help to ensure the principle of immediacy of evidence examination by the court (Article 23 of the Criminal Procedural Code of Ukraine) [43], even if the physical location of the incident has already changed.

Another important contribution to the implementation of a virtual situational surveillance experiment in the criminal process is the procedural consolidation of standards for the authenticity and integrity of digital evidence. We will talk about the significance of their approach, the format of saving and verification methods. These standards are necessary to ensure the scientific validity of all virtual tracking experiment techniques. For

39 Кримінальний процесуальний кодекс України … . URL: https://zakon.rada.gov.ua/laws/show/4651-17#Text (date accessed: 09.01.2026).

40 Villa Ch., Lynnerup N., Jacobsen Ch. Op. cit. DOI: 10.3390/diagnostics13172764 (date accessed: 09.01.2026).

41 Баранчук В. В. 3D сканування як спосіб фіксації на місці злочину: переваги й недоліки. *Юридичний бюлетень*. 2020. Вип. 16. С. 280—286. DOI: 10.32850/LB2414-4207.2020.16.01 (date accessed: 09.01.2026).

42 *LiDAR (Light Detection and Ranging)* is a remote sensing technology that uses rapid laser pulses to measure distances and create highly accurate 3D models of environments.

43 Кримінальний процесуальний кодекс України … . URL: https://zakon.rada.gov.ua/laws/show/4651-17#Text (date accessed: 09.01.2026).

formulating national requirements, it was possible to completely speed up the use of foreign approaches, such as those developed in the United States (Rule 901 "*Authentication or Identifying Evidence*") [44] and the international standard ISO/IEC 27037:2012 [45] that is a guideline for the development of reliable methods and procedures for working with digital evidence.

The third component of proposed form integration of investigative experiment is the training of law enforcement personnel: investigators, prosecutors, judges. A virtual investigative experiment requires not only technical resources, but also a new cognitive culture of evidence. Investigators and prosecutors must have basic knowledge of proper 3D documentation of relevant investigative actions (inspection, experiment) and judges as of the correct assessment of their results.

Based on the above, we can identify the main advantages of using 3D reconstruction of the scene of the incident in an investigative experiment:

- investigative experiment transition from the category of subjective actions to the category of precise instrumental research;
- conducting investigative actions by participants in criminal proceedings in a safe environment without real risks associated with military operations;
- no restrictions on repetition and analysis;
- saving time and resources, as it does not require the organization of complex, repeated, costly visits to the incident scene;
- digitally stored images are accessible at any time, making it easier to analyze unsolved cases [46].

Conclusions

Comparative legal analysis shows that while continental systems keep the reconstruction of events within the limits of the traditional judicial form, common law countries have transformed it into a high-tech evidentiary procedure, where the criterion of reliability has shifted from subjective perception to algorithmic verification. For the Ukrainian criminal process, especially under martial law, the introduction of a virtual situational investigative experiment is not just a technical innovation, but a procedural necessity due to the impossibility of access to occupied territories or destruction of material environment.

Based on performed research, we consider it necessary to record the following conceptual provisions.

Procedural status and integration. A virtual situational investigative experiment is a type of investigative experiment, the essence of which is to recreate the circumstances, actions or situation of a criminally relevant event in an artificially created three-dimensional environment based on metrically accurate data from the digi-

44 Federal Rules of Evidence. Rule 901. Authenticating or Identifying Evidence / Cornell Law School. LII : web. URL: https://www.law.cornell.edu/rules/fre/rule_901 (date accessed: 09.01.2026).

45 ISO/IEC 27037:2012 Information technology — Security techniques — Guidelines for identification, collection, acquisition and preservation of digital evidence / ISO : web. URL: https://www.iso.org/standard/44381.html (date accessed: 09.01.2026).

46 Bricken M. Virtual Reality Learning Environments: Potentials and Challenges. *ACM Siggraph Computer Graphics*. 1991. Vol. 25. Is. 3. Pp. 179–180. DOI: 10.1145/126640.126657 (date accessed: 09.01.2026).

tization of the scene of the incident (3D scanning, photogrammetry). It should not be considered as an alternative to a traditional investigative experiment: rather, it is a digital evolution of such an investigative experiment. Optimal mechanism for legalizing 3D models is to use them as appendices to the protocol of the investigative action, which ensures the fulfillment of the requirements of Art. 240 of Criminal Procedural Code of Ukraine and at the same time implements the principle of direct examination of evidence even if the scene of the incident is physically changed.

Standards of scientific reliability. Foundation of the use of virtual reconstruction should be strict adherence to standards of authenticity and data integrity. Digital model only acquires evidentiary value when it meets the criteria of reproducibility and validity of the method, by analogy with the international standard ISO/IEC 27037:2012 and the principles of scientific reliability used in international practice.

Delimitation of competences. It is necessary to clearly distinguish the procedural role of the investigator (as a subject of knowledge) and the specialist (as a technical assistant). Use of *LiDAR* and photogrammetry technologies requires the involvement of special knowledge to create a *Point Cloud*, however, the evaluation of the obtained results and verification of the investigative versions remains the exclusive prerogative of the subject of investigation and the court.

Epistemological transition. Introduction of a virtual situational investigative experiment will mark the transition from personal testimony to a scientifically verified model of the event. This will help minimize the subjectivity of participants, secure the process, and achieve truth in a digital format that is resistant to influence of time and external circumstances.

Therefore, digital transformation of the investigative experiment through the implementation of virtual 3D reconstruction is a leading stage in the modernization of the national theory of evidence, which makes it possible to combine technical accuracy with the principles of procedural justice.

Інтеграція віртуальної реконструкції у кримінальний процес України (на прикладі слідчого експерименту)

Михайло Щербаковський, Юрій Мирошниченко

Мета — провести порівняльно-правовий аналіз інституту реконструкції подій кримінального правопорушення та науково обґрунтувати доцільність впровадження в український кримінальний процес віртуального ситуаційного слідчого експерименту як нового стандарту наукової надійності й метричної точності доказування. Для досягнення поставленої мети застосовано загальнонаукові та спеціальні методи наукового пізнання (порівняльно-правовий, формально-юридичний, прогнозування, моделювання, системно-структурний, аналіз і синтез). Актуалізовано проблему обмеженості проведення традиційного слідчого експерименту в умовах воєнного стану, що зумовлено руйнуванням матеріальної обстановки й небезпечним доступом до місць подій. Обґрунтовано переваги 3D-технологій (LiDAR, фотограмметрія) для створення метрично точних цифрових моделей місця події, що забезпечують перехід від суб'єктивного сприйняття до алгоритмічної верифікації. Доведено доцільність використання 3D-моделей як додатка до протоколу слідчої дії. Зроблено висновок, що цифрова трансформація доказування *є провідним етапом модернізації правосуддя, що поєднує технічну точність із процесуальною справедливістю.*

Ключові слова: *кримінальне провадження; слідчий експеримент; віртуальна реконструкція; VSIE; 3D-моделювання; цифрові докази; воєнний стан; кримінальний процес; доказування.*

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The authors declare no conflicts of interest relevant to this topic; although Mykhailo Shcherbakovskyi is a member of the collection advisory board, he did not participate in the decision to publish, and this article has undergone a full peer review and editing.

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Trends in Specific Expertise Application of Specialized During Investigation of Aggression Crimes

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This article purpose is to identify current trends in the application of specific expertise during investigation of criminal offenses related to armed aggression, and to outline their significance for ensuring the process of evidence in national and international criminal proceedings. For achieving this goal, general scientific methods of analysis and synthesis, induction and deduction, as well as special methods were used: dialectical one, systemic-structural one, comparative-legal one, and generalization. It was found that modern practice of investigating offenses committed in connection with armed aggression is characterized by an increase in the share of digital data and an increased need for specific expertise not only at the stage of ordering forensic examinations, but also during the initial documentation of events, verification of evidence, establishment of cause-and-effect relationships, and analytical processing of information arrays. It was determined that key trends are the institutional expansion of the role of a specialist in criminal proceedings; digitalization of evidence (application of platforms for collecting and systematizing information, tools for secure fixation of photo and video evidence, OSINT-methods and digital forensics); proceduralization of technical methods due to increased requirements for proper fixation, preservation and verification of materials; interdisciplinary nature of specialized knowledge and the growth of the role of comprehensive

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and commission examinations. It was emphasized that in cases of mass casualties and population displacement, molecular genetic studies become of particular importance as a scientifically based tool for identifying victims and suspects, as well as verification of human genetic characteristics against forensic records, which ensures the determination of connections between events and individuals and contributes to the construction of evidentiary versions. It is substantiated that increasing the efficiency of investigating offenses related to armed aggression requires standardization of procedures for working with digital and biological materials, proper interagency interaction, integration of information and analytical systems, and ensuring the continuity of specific expertise use.

Keywords*: crimes of aggression; specific expertise; forensic science; specialist; forensic DNA testing; proving.*

Research Problem Formulation

Full-scale armed aggression of the Russian Federation against Ukraine has led to an unprecedented increase in the number of criminal proceedings related to war crimes, crimes against humanity and other criminal offenses committed in the context of armed conflict. The investigation of such acts is characterized by a complex factual structure of events, the scale of the consequences, the transnational dimension of proof, a high level of technological saturation of the evidence base and the need to comply with international standards in documenting offenses. Under these conditions, traditional approaches to organizing pre-trial investigations are insufficient, which highlights the need for active and systematic specific expertise application.

Modern practice of investigating crimes related to aggression indicates the growing role of specialized knowledge not only at the stage of conducting forensic examinations, but also during the inspection of the scene of the incident, recording evidentiary information, analyzing digital data, establishing cause-and-effect relationships, identifying victims and suspects, and also in the process of evaluating evidence. At the same time, the development of digital forensics, the use of information and analytical systems, remote documentation technologies, *OSINT*-research, and interdisciplinary expert approaches significantly expands the meaning of the concept of specialized knowledge and transforms the forms of its application in criminal proceedings.

Existing scientific research is mostly focused on individual procedural or tactical aspects of using specialized knowledge during the investigation of war crimes, documenting the consequences of hostilities, or conducting certain types of examinations. At the same time, development trends in this area, changing role of specific expertise in the evidence structure, its integration into organizational and tactical models of investigation, and the impact of modern technological challenges on the procedural mechanisms of their application remain insufficiently studied.

Identification of current trends in the application of specialized knowledge during the investigation of crimes of aggression is of particular relevance, since it is they who ensure scientific validity of evidence, improve the quality of documenting crimes in accordance with international standards, and contribute to the formation of an evidentiary base suitable for both national and international criminal proceedings.

Therefore, the need for theoretical understanding and generalization of modern trends in specific expertise application in criminal proceedings regarding crimes of aggression determines relevance of the chosen research topic and determines its scientific and practical significance.

Article Purpose

In order to identify current trends in specific expertise application during investigation of criminal offenses related to armed aggression.

Research Methods

For achieving the goal of this article, a complex of general scientific and special legal methods was applied. Using formal-logical methods (analysis, synthesis, induction, deduction), normative prescriptions and doctrinal approaches to the forms and limits of the application of special knowledge in criminal proceedings, as well as logical substantiation of conclusions about their evidentiary value in investigation of offenses related to armed aggression, were worked out.

Dialectical method helped to outline the contradictions between the need for operational documentation and the need to ensure the procedural admissibility of evidence. System-structural method made possible to model the mechanism of using specific expertise as a holistic sequence of relevant actions of the prosecution and to determine the roles of the investigator, specialist, expert and other subjects.

Using comparative legal method, national approaches to specific expertise application were compared with internationally recognized standards for documentation, recording and methods of evaluating evidence (primarily digital) that is important for potential use of materials in international justice.

Generalization method was useful for systematizing the identified practical and scientific provisions and formulating conclusions regarding current trends in the application of specialized knowledge (in particular, digital forensics, analytical platforms, *OSINT*-tools, and molecular genetic research) during the investigation of offenses related to armed aggression.

Analysis of Essential Researches and Publications

The issue of specific expertise application in criminal proceedings traditionally occupies an important place in forensics and criminal process. In the current conditions of long-term martial law, scientific research shifts the emphasis from general theoretical provisions to applied models of using special knowledge during the documentation and investigation of crimes related to armed aggression. In particular, D. Serhieieva substantiates that special knowledge plays a system-forming role in the structure of evidence, as it provides scientifically substantiated establishment of cause-and-effect relationships between the event of a crime and its consequences.

The scientist proves that the development of digital forensics significantly expands specific expertise content and its effectiveness depends on procedural guarantees of the reliability of experts' conclusions, proper preservation of digital traces and interagency expert interaction [1].

V. Tymoshko reveals the features of technical and forensic support for the investigation of criminal offenses. The researcher rightly notes that modern technologies (*OSINT,* digital analytics, 3D modeling, use of UAVs) are transforming traditional approaches to specific expertise implementation [2].

O. Dufeniuk in her research proves that the effectiveness of war crimes investigations is impossible without systematic specific expertise use that includes coordination of expert capabilities, interdisciplinary interaction and managerial support for documentation procedure. The author emphasizes that special knowledge has not only evidentiary, but organizational and managerial significance [3].

I. Pyrih explores peculiarities of specific expertise application during the period of martial law. He emphasizes that currently there is an urgent need to apply specific expertise during scene inspection. The scientist notes that involvement of specialists of different profiles ensures proper recording of traces of shelling and formation of an evidence base. The researcher summarized the list of forensic examinations typical for the investigation of criminal offenses committed under martial law, described the objects and topic of such researches [4].

I. Syvodied emphasizes that investigation of offenses in the de-occupied territories requires a transition from isolated expert researches to multidisciplinary and commission examinations, which makes it possible to integrate special knowledge from various fields to determine mechanism of the crime and identify the victims. He emphasizes the need to adapt expert procedures to the conditions of large-scale destruction and loss of evidence [5].

T. Podzolkova substantiates expediency of using analytical and prognostic specific expertise, in particular profiling to determine behavior patterns of offenders and predict criminal risks. The author's scientific conclusion is to expand

1 Сергєєва Д. Б. Використання спеціальних знань у розслідуванні воєнних злочинів і злочинів проти людяності: процесуальні аспекти, експертна взаємодія та цифрова криміналістика. *Аналітично-порівняльне правознавство*. 2025. Т. 3. № 6. С. 234—247. DOI: 10.24144/2788-6018.2025.06.3.36 (date accessed: 28.01.2026).

2 Тимошко В. В. Використання спеціальних знань під час документування та розслідування воєнних злочинів. *Вісник Кримінологічної асоціації України.* 2024. Т. 31. № 1. С. 307—314. DOI: 10.32631/vca.2024.1.25 (date accessed: 28.01.2026).

3 Дуфенюк О. М. Розслідування воєнних злочинів: логістичні, криміналістичні та судово-медичні питання. *Юридичний науковий електронний журнал.* 2022. № 4. С. 369—374. DOI: 10.32782/2524-0374/2022-4/88 (date accessed: 28.01.2026).

4 Пиріг І. В. Використання спеціальних знань при розслідуванні злочинів, учинених в умовах воєнного стану. *Науковий вісник Дніпропетровського державного університету внутрішніх справ.* 2022. Спец. вип. № 2 (121). С. 347—352. DOI: 10.31733/2078-3566-2022-6-347-352 (date accessed: 28.01.2026).

5 Сиводєд І. С. Застосування спеціальних знань і призначення експертних досліджень під час розслідування кримінальних правопорушень, які були вчинені на окупованих територіях України. *Вчені записки Таврійського національного університету імені В. І. Вернадського. Серія: Юридичні науки.* 2024. Т. 35 (74). № 2. С. 108—116. DOI: 10.32782/TNU-2707-0581/2024.2/17 (date accessed: 28.01.2026).

the specific expertise concept beyond the classical expert activity and to include psychological and analytical methods in the system of criminal analysis [6].

In the dissertation by H. Bershova, it was proved that specific expertise is a means of optimizing criminal proceedings and their use should be implemented in interrelated procedural and organizational forms. The scientist substantiates the need to unify scientific approaches to the forms of specific expertise application and introduction of innovative technologies in evidence-based activities [7].

N. Shevchyshena notes that investigation peculiarity of war crimes is the mandatory specific expertise application during the conduct of primary investigative (detective) actions, the use of technical means of fixation and work with digital sources of information. The researcher outlines the following range of problematic issues: the protection of participants in investigative (detective) actions during the conduct of procedural measures, logistical difficulties and a significant burden on employees. Urgent challenges also remain the lack of practical experience in investigating crimes of this category, the need to establish effective intra-agency and inter-agency cooperation with other law enforcement agencies, as well as the need to create and develop modern information-analytical and forensic databases. A separate problem is technical limitations, in particular the lack of modern equipment for conducting investigative and expert researches, as well as the overload of specialists and forensic experts due to the significant volume of assigned examinations. In addition, the issue of developing specialized methods for investigating individual war crimes remains relevant, which is due to the constant expansion of the spectrum of means and methods of their committing [8].

A separate area of research is presented in the work of V. Sinoverskyi, where specific expertise is considered through the prism of organizational, tactical and psychological support for the investigation of criminal offenses committed by organized groups under martial law. The scientist substantiates that specific expertise performs not only the function of proof, but managerial and communicative ones, since it contributes to formation of investigative versions, investigation planning and the choice of tactics for conducting investigative (search) actions. Important researcher conclusion is the provision on the need to integrate procedural and non-procedural forms of using specific expertise, as well as on the essential role of psychological interaction between the investigator, specialist and

6 Подзолкова Т. Ю. Використання спеціальних знань при розслідуванні кримінальних правопорушень проти національної безпеки. *Забезпечення стійкості у складних умовах* : зб. мат-лів доп. учасн. міжнар. міждисциплінар. наук.-практ. конф. (Харків — Брістоль, 08.06.2023). Харків, 2023. С. 257—259. URL: https://dspace.library.khai.edu/xmlui/bitstream/handle/123456789/5481/Podzolkova.pdf?sequence=1&isAllowed=y (date accessed: 28.01.2026).

7 Бершов Г. Є. Теоретико-правові та праксеологічні основи використання спеціальних знань при розслідуванні військових злочинів : дис. ... д-ра юрид. наук. Харків, 2024. 410 с. URL: https://dspace.univd.edu.ua/server/api/core/bitstreams/959a2411-029d-49f0-ab7e-469652fe77a3/content (date accessed: 05.02.2026).

8 Шевчишена К. П. Розслідування воєнних злочинів в Україні : автореф. дис. ... канд. юрид. наук. Київ, 2024. 23 с. URL: https://www.navs.edu.ua/files/spec-vchena-rada/srd_26_007_03/2024/avtoref_shevchyshena.pdf (date accessed: 05.02.2026).

forensic expert in ensuring evidence effectiveness [9].

Thus, currently there is a rapid evolution of approaches to understanding specific expertise from an auxiliary tool for improving the quality of investigative activities to a comprehensive system that covers procedural, organizational, technical and analytical components of proof. At the same time, the tendencies of transformation of specific expertise use in criminal proceedings for crimes of aggression remain insufficiently studied, which necessitates further scientific generalization.

Main Content Presentation

Crimes of aggression in the scientific and law enforcement sphere are understood in a narrow and broad sense. In international criminal law, the crime of aggression is considered as an independent international crime that encompasses the planning, preparation, unleashing or carrying out of an act of aggression by a state, which by its nature, scale and severity is a clear violation of the Charter of the United Nations. In the practice of pre-trial investigation and Ukrainian forensic doctrine, a broader approach is used, according to which it refers to a set of criminal offenses committed in connection with armed aggression or in conditions of armed conflict that determines specifics of the mechanism for their commission and proof. It is this approach that makes possible to comprehensively cover both international crimes and criminal offenses provided for by national legislation that are actually the main criminal proceedings in modern conditions.

The group of criminal offenses related to armed aggression includes several categories of torts. First of all, these are international crimes (in particular, crime of aggression in the narrow sense), war crimes, crimes against humanity and other acts that encroach on the peace and security of mankind. A significant part is criminal offenses provided for by national criminal legislation, related to violations of the laws and customs of war, cruel treatment of the civilian population, illegal movement of persons, and the use of prohibited means of warfare. In addition, crimes of aggression in a broad forensic sense also include general criminal offenses committed during and caused by war (in particular, intentional murder, torture, sexual violence, destruction of property, collaborationist activities and crimes against the foundations of national security). They are united not only by the crime circumstances, but by common forensic signs that affect investigation management.

Criminal offenses of the group of crimes we are studying are classified according to several criteria. According to the object of the offense, they include crimes against international peace and security, against the life and health of the civilian population, property and infrastructure, as well as crimes against the foundations of national security. According to the commission mechanism, they can be combined into acts related to the use of military means of destruction, crimes related to the activities of occupation authorities, war crimes, etc. In terms of the specifics of forensic characteristics,

9 Синоверський А. Організаційно-тактичні та психологічні основи використання спеціальних знань під час розслідування кримінальних правопорушень, вчинених організованими злочинними групами в умовах воєнного стану. *Юридична психологія*. 2023. Т. 33. № 2. С. 129—140. DOI: 10.33270/03233302.129 (date accessed: 05.02.2026).

three leading groups of crimes can be distinguished: 1) crimes that have large-scale consequences and leave a significant number of material traces; 2) crimes of combatants; 3) criminal offenses committed in the digital environment.

Another characteristic specific is international dimension of evidence, since the collected materials must meet the standards suitable for their use both in national criminal proceedings and in international judicial institutions. This leads to increased requirements for the procedures for recording, preserving and verifying evidence.

In the context of crimes of aggression, it should be noted that there has been a significant transformation of the modern model of documenting and investigating war crimes, within which the systematic study of materials with evidentiary potential (in particular, digital) is of paramount importance. While in the initial stages of full-scale aggression the main emphasis was on recording maximum number of facts and testimonies, further development of practice demonstrates a transition to a structured, standardized and analytically oriented approach aimed at generating evidence suitable for use in national and international judicial mechanisms.

Important trend is the institutionalization of the evidence collection process through the creation of specialized digital platforms and tools that ensure not only the accumulation of information, but also its initial systematization and subsequent procedural integration. The warcrimes.gov.ua platform serves as a centralized data accumulation mechanism, providing a unified procedure for the initial documentation of events and involving a wide range of actors, from law enforcement officers to citizens and human rights organizations [10]. Similarly, analytical systems such as *I-DOC* demonstrate the next stage in the development of evidentiary activities: cataloging materials, establishing connections between events, suspects and victims, forming structured cases and building hierarchies of suspects, which brings the evidence collection process closer to the logic of criminal prosecution.

A separate manifestation of the growing role of digital materials is the introduction of specialized evidence capture tools (for example, *EyeWitness to Atrocities*) that automate metadata capture, ensure the integrity of files and create prerequisites for verifying their authenticity. The recognition of materials obtained using such technologies in the judicial practice of Ukraine indicates the gradual integration of digital evidence into the system of criminal evidence and the formation of new approaches to their evaluation by the court.

A significant trend is also the professionalization of working procedure with indications and other types of evidence. The experience of international human rights initiatives and practices of documenting war crimes shows that the quality of evidence is determined not only by the amount of information collected, but also by the procedures for their receipt, verification and storage. Avoidance of leading questions, multi-level verification of indications, their comparison with other sources and compliance with the chain of evidence preservation are crucial to ensure their procedural admissibility.

Another manifestation of development is the use of analytical tools for processing

10 Якщо ви стали потерпілим або свідком воєнних злочинів Росії — фіксуйте та надсилайте докази! / Офіс Генерального прокурора : офіц. вебсайт. URL: https://warcrimes.gov.ua/ (date accessed: 05.02.2026).

large data sets that makes possible to detect recurring systemic offenses and confirm the organized nature of criminal activity. Therefore, research on materials, especially digital ones, ceases to be a technical stage and turns into an independent area of proof that requires specific expertise in the field of digital forensics, data analytics, documentation of international crimes and procedural standards of their application.

Thus, the modern practice of investigating war crimes demonstrates a steady trend towards an increasing role of studying evidentiary materials, primarily digital ones, which is manifested in the development of specialized information collection platforms, technologization of evidence recording, introduction of international verification standards, and the strengthening of the analytical component of evidence. In such conditions, specific expertise is increasingly becoming not an auxiliary, but a system-forming element of forensic support for investigation of crimes related to armed aggression.

Peculiarities of proving crimes of aggression are due to their complex structure and the scale of the consequences. First of all, this is manifested in the need to establish cause-and-effect relationships between specific actions and their results, which often requires the use of special knowledge within the framework of an integrated approach. The most common of these are: knowledge in the field of military affairs, forensic ballistics, explosives, forensic medicine, engineering and other fields. Typical is the active use of digital and remote sources of evidentiary information (for example, satellite photo and video materials, telecommunications data, results of *OSINT*-researches) that significantly increases the role of digital forensics. Complex and commission examinations are of particular importance, since the mechanism reconstruction of the event is often impossible without integrating the knowledge expert witnesses of various profiles.

For crimes of aggression, specific expertise use in the field of molecular genetics is typical. Such a request from law enforcement practice is due to difficulties of identifying victims and suspects due to large-scale destruction, population displacement and the long time between the crime and the beginning of the investigation. Therefore, in current conditions, molecular genetic studies are gaining special importance as one of the most objective and scientifically sound tools of evidence, capable of ensuring reliable identification of individuals even in the absence of traditional identification features or in the event of significant damage to biological material [11]. DNA analysis makes possible to establish the identities of the deceased in cases of mass burials, exhumations, or fragmentation of bodies, as well as to confirm family ties with persons who have disappeared under circumstances related to aggression.

Possibilities of molecular genetic research are also manifested in ability to provide a link between individual epi-

11 Гамалюк Б. М., Ходирєва І. Т. Окремі питання правового регулювання судової молекулярно-генетичної експертизи та обліку генетичних ознак людини. *Вісник Луганського державного університету внутрішніх справ ім. Е. О. Дідоренка.* 2022. Вип. 2 (98). С. 190–201. DOI: 10.33766/2524-0323.98.190-201 (date accessed: 04.02.2026) ; Топчій В. В. Молекулярно-генетична експертиза в кримінальному процесі в умовах воєнного стану. *Ірпінський юридичний часопис.* 2024. Вип. 4 (17). С. 245–251. DOI: 10.33244/2617-4154.4(17).2024.245-251 (date accessed: 28.01.2026).

sodes of criminal activity through the analysis of biological traces that contributes to the mechanism reproduction of the event and establishment of involvement of specific persons. Of particular importance is the integration of the results of forensic DNA examinations into automated genetic databases that makes possible to carry out a comparative analysis of a large number of profiles, identify matches and speed up the identification process. In the context of investigation of crimes of aggression, this creates prerequisites for the formation of a systemic evidence base, where the results of individual examinations become elements of a single information and analytical model.

At the same time, importance of molecular genetic researches is determined not only by its technological capabilities, but also by the high requirements for the procedures for collecting and preserving biological samples, maintaining the chain of transmission, preventing contamination, and ensuring the procedural purity of research. Thereby effectiveness of the application of such specific expertise depends on the proper training of investigators, specialists, and forensic experts, effective interdepartmental coordination and the use of standardized methods that is especially relevant in the context of mass documentation of armed aggression consequences.

Thus, molecular genetic researches in criminal proceedings regarding crimes of aggression perform a complex function: they ensure identification of victims and suspects, increase evidence objectivity, contribute to determining systematic nature of criminal actions and formation of evidence suitable for both national courts and international justice mechanisms. In this context, they are one of leading manifestations of modern trend towards the scientific and technological transformation of criminal evidence.

Revealing possibilities of DNA analysis, it is worth noting the importance and significance of applying special knowledge in the form of conducting checks on the forensic accounting of human genetic characteristics. We are talking about specialized electronic records (databases of DNA profiles) that accumulate genetic characteristics of convicted persons, unidentified corpses and missing persons, biological traces from the scene of events and other objects that are important for criminal proceedings [12]. Such a system allows you to perform an automated comparison of the obtained DNA profile with the available data and determine matches without the need to first identify a specific person for comparison.

In practical terms, genetic trait testing has several interrelated functions. First of all, it is used to identify unidentified persons and the dead that is especially important in the investigation of crimes of aggression, when it comes to mass graves, movement of bodies and significant damage to the remains [13]. Matching a DNA profile to a database makes possible to find out kinship relations or identify a person by matching previously entered genetic data. In addition, verification of records helps to establish involvement of individuals in

12 Інструкція з організації функціонування криміналістичних обліків експертної служби МВС України : затв. наказ. МВС України від 10.09.2009 р. № 390. URL: https://zakon.rada.gov.ua/laws/show/z0963-09#Text (date accessed: 10.02.2026).

13 Степанюк Р. Л., Гусєва В. О. Організаційні засади ДНК-ідентифікації загиблих унаслідок надзвичайних подій із масовими жертвами. *Криміналістичний вісник*. 2023. Т. 39. № 1. С. 29—38. DOI: 10.37025/1992-4437/2023-39-1-29 (date accessed: 28.01.2026).

several episodes of criminal activity, since biological traces seized in different places and at different times can combine a single genetic profile.

An important specific of such accounting is the results of an automated match, which, although they themselves do not replace forensic expert conclusion, but serve as an information reference point that allows investigation to form investigative versions and initiate a full-fledged molecular genetic examination. This is the difference between the analytical function of accounting and the procedural function of expert research: accounting helps to establish the likelihood of a connection, and examination confirms it from the point of view of evidence.

In the context of crimes of aggression, importance of genetic records increases significantly due to the large number of events and the significant volume of biological materials to be studied. The centralized accumulation of genetic profiles helps to conduct identification in the long term, when years pass between the event of the crime and the investigation. In addition, such records contribute to determining the systematic nature of crimes, as they make possible to combine individual episodes into a single evidentiary image. At the same time, functioning of the record of human genetic characteristics is associated with a number of specific needs and challenges. These include: the need to strictly adhere to the procedures for taking and storing samples, preventing contamination, ensuring the reliability of entered data and maintaining a proper chain of custody of evidence. Protection of personal data also becomes particularly important, since genetic information belongs to sensitive categories of data and requires clear legal regulation regarding access, use and storage periods.

Currently, genetic records are gradually being integrated with other digital information systems and forensic databases. Such integration allows combining the results of molecular genetic research with digital evidence, war crimes documentation materials and analytical platforms, that significantly expands possibilities of proving.

Thereby checking for genetic characteristics of a person is not only a technical procedure for finding matches, but an important element of modern evidence procedure that ensures identification of persons, establishment of links between events and the fixation of information in a procedural form. It is thanks to such mechanisms that molecular genetic researches become a strategic tool of criminal justice.

Thus, it is advisable to consider the crimes of aggression as a complex category of criminal offenses, united by the conditions of armed aggression, special mechanism of commission and specific approaches to proof. Their multi-level structure and complexity of the evidence process necessitate the systematic and integrated use of special knowledge that is gradually being transformed from an auxiliary tool into a leading element of forensic support for the investigation.

Conclusions

Based on the analysis of scientific research, materials of law enforcement practice, we have summarized the current trends in the use of special knowledge in the investigation of crimes of aggression. Thus, there is a tendency to institutional expansion of the role of a specialist in criminal proceedings. Special knowledge is considered not as an auxiliary element of a separate investigative (search) action, but as a constant component of crime investigation activities from the stage of identifying and fixing evidence to their analysis and further expert research.

The second major trend is evidence digitalization. There is a shift in emphasis from traditional sources of evidence to electronic (digital), which determines the development of special knowledge in the field of information technology, cybersecurity and digital forensics. Thus, the need to develop and improve the rules for seizure of computer equipment, mobile devices, work with digital traces and compliance with the standards for the preservation of digital evidence has been actualized that indicates formation of a separate specialization of investigative activity.

The third trend is the proceduralization of technical methods. Therefore, specialized knowledge should be applied in accordance with appropriate procedures for the collection, inspection, recording and retrieval of information. This approach reflects the general evolution of the criminal process: technical or scientific tools are of evidentiary value only if they are properly formalized. This is especially true in military proceedings, where the risks of loss or distortion of information are much higher.

Another important trend is interdisciplinary nature of specific expertise used during investigation. Such expertise pertains to forensic knowledge, digital technologies, data analytics, forensic science, and organizational aspects of the investigation. This confirms that modern proof is no longer based on a narrow expert area of specialization, but is based on the integration of knowledge of various industries.

It is indicative of tendency to strengthen the role of forensic examinations as a systemic element of evidence planned in the early stages of evidence collection. Separately, it is worth noting the trend towards standardization of methods for working with evidence. The reference to international standards for working with digital evidence demonstrates the desire to ensure the compatibility of the evidence base with international justice mechanisms, which is fundamentally important for cases of war crimes and crimes of aggression.

Thus, it can be argued that leading trends in specific expertise application are in transition from the occasional involvement of experts to the formation of a technologically integrated model of proof, in which a specialist, digital tools, forensic examinations and standardized procedures are the only system. This demonstrates the general transformation of criminal proceedings in war conditions from a traditional model to a scientific and technological one, where specific expertise actually becomes the basis for solving tactical investigative tasks.

Тенденції застосування спеціальних знань під час розслідування злочинів агресії

Володимир Твердохліб

Мета статті — визначити сучасні тенденції застосування спеціальних знань під час розслідування кримінальних правопорушень, пов'язаних зі збройною агресією, та окреслити їх значення для забезпечення процесу доказування в національному й міжнародному кримінальному судочинствах. Для реалізації поставленої мети застосовано загальнонаукові методи аналізу та синтезу, індукції та дедукції, а також спеціальні методи: діалектичний, системно-структурний, порівняльно-правовий і узагальнення. З'ясовано, що сучасна практика *розслідування правопорушень, учинених у зв'язку зі збройною агресією, характеризується збільшенням частки цифрових матеріалів і посиленням потреби у спеціальних знаннях не лише на етапі призначення судових експертиз, а й під час первинного документування подій, верифікації доказів, установлення причиново-наслідкових зв'язків і аналітичного опрацювання масивів інформації. Визначено, що ключовими тенденціями є інституційне розширення ролі спеціаліста у кримінальному провадженні; цифровізація доказування (застосування платформ збирання та систематизації відомостей, інструментів захищеної фіксації фото- й відеодоказів, OSINT-методів і цифрової криміналістики); процесуалізація технічних методів завдяки підвищенню вимог до належної фіксації, збереження та верифікації матеріалів; міждисциплінарність спеціальних знань і зростання ролі комплексних і комісійних експертиз. Наголошено, що в разі масових утрат і переміщення населення особливого значення набувають молекулярно-генетичні дослідження як науково обґрунтований інструмент ідентифікації потерпілих і підозрюваних, а також перевірка за криміналістичними обліками генетичних ознак людини, що забезпечує визначення зв'язків між подіями й особами та сприяє побудові доказових версій. Обґрунтовано, що підвищення ефективності розслідування правопорушень, пов'язаних зі збройною агресією, потребує стандартизації процедур роботи з цифровими й біологічними матеріалами, належної міжвідомчої взаємодії, інтеграції інформаційно-аналітичних систем і забезпечення безперервності користування спеціальними знаннями.*

Ключові слова: *злочини агресії; спеціальні знання; судова експертиза; спеціаліст; молекулярно-генетична експертиза; доказування.*

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Declaration of Competing Interest

Author declares no conflict of interest.

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Pyrih, I. V. (2022). Vykorystannia spetsialnykh znan pry rozsliduvanni zlochyniv, uchynenykh v umovakh voiennoho stanu [The use of special knowledge in the investigation of crimes committed under martial law]. *Naukovyi visnyk Dnipropetrovskoho derzhavnoho universytetu vnutrishnikh sprav.* Spets. vyp. № 2 (121). DOI: 10.31733/2078-3566-2022-6-347-352 [in Ukrainian].

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Syvodied, I. S. (2024). Zastosuvannia spetsialnykh znan i pryznachennia ekspertnykh doslidzhen pid chas rozsliduvannia kryminalnykh pravoporushen, yaki buly vchyneni na okupovanykh terytoriiakh Ukrainy [Application of specialized knowledge and appointment of expert studies in the investigation of criminal offenses committed in the occupied territories of Ukraine]. *Vcheni zapysky Tavriiskoho natsionalnoho universytetu imeni V. I. Vernadskoho. Seriia: Yurydychni nauky*. T. 35 (74). № 2. DOI: 10.32782/TNU-2707-0581/2024.2/17 [in Ukrainian].

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Tymoshko, V. V. (2024). Vykorystannia spetsialnykh znan pid chas dokumentuvannia ta rozsliduvannia voiennykh zlochyniv [Use of specialized knowledge during documentation and investigation of war crimes]. *Visnyk Kryminolohichnoi asotsiatsii Ukrainy*. T. 31. № 1. DOI: 10.32631/vca.2024.1.25 [in Ukrainian].

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Tactical Framework for Cooperation Between the Investigator and the Victim During Investigations Into War Crimes

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The primary concerns of this paper are to reveal peculiarities of tactical and forensic support for the investigation of war crimes in terms of cooperation between the investigator and the victim during investigative (search) and other procedural actions. The author aims to identify principal constituents of such interaction and their significance for enhancing a proof procedure, taking into account victim-centered approach principles. In pursuit of this goal, a range of general scientific (analysis and synthesis, induction and deduction) and special (dialectical, systemic-structural, formal-legal, comparative, generalisation) methods of scientific cognition were employed. It has been substantiated that a collaborative partnership between the investigator and the victim in criminal proceedings involving war crimes is not only a mandatory requirement of criminal procedural activity, but also a crucial element of tactical and forensic support for investigation, which affects the extent to which case circumstances are revealed, evidence credibility, and determines the level of trust in criminal justice authorities. It has been proven that the specific nature of war crimes requires us to dig deeper into physical, psychological and social vulnerability of victims, the complexity of the global scope of investigation and the duration of criminal proceedings. Principal components of tactical and forensic support for cooperation between the investigator and the victim were singled out: tactical planning of procedural actions while considering objective constraints; adequate scientific and technical support with the utilization of digital technologies and video recording; accounting for the psychological component

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of interaction with the involvement of psychologists; use of tactical techniques based on individualisation and situational nature; ensuring that victims are aware of their procedural rights, further prospects of proceedings and possible risks. It has been stressed that the use of individualised tactical techniques and modern technical means helps lower the likelihood of re-traumatisation in victims, boosts communication and evidence collection. Particular emphasis is placed on the role of psychological support and information transparency as factors contributing to the establishment of stable cooperation between the victim and the prosecution. Obtained findings provide deeper insights into the tactical and forensic principles of investigating war crimes and lay the groundwork for developing practical recommendations to optimise cooperation between investigators and victims, improve investigation methodology, and enhance victim-centered approaches in criminal proceedings.

Keywords: *war crime; military aggression; prosecution; cooperation; investigator; victim; protection of rights and interests; investigative (search) action; tactical technique.*

Research Problem Formulation

One of the distinct signs of the Russian Federation's full-scale armed aggression against Ukraine is the scale and systematic nature of war crimes that inflict harm on both individual citizens and the State as a whole. The Office of the Prosecutor General claims that between 24 February 2022 and 30 September 2025, Ukrainian law enforcement agencies registered 185,231 criminal proceedings for war crimes as set out in Art. 438 of the Criminal Code of Ukraine [1] (hereinafter referred to as the CC of Ukraine): around 140 new episodes every day. These primarily involve shelling of civilian and critical infrastructure, forced displacement of the population from occupied territories, deportation of children, enforced disappearances, torture of civilians and prisoners of war, extrajudicial executions, sexual abuse and other gross violations of international humanitarian law. Pursuant to official statements, more than 253,000 people have been recognised as victims of war crimes [2].

1 Про зареєстровані кримінальні правопорушення та результати їх досудового розслідування (2013—2025 рр.) / Офіс Генерального прокурора : офіц. вебсайт. URL: https://gp.gov.ua/ua/posts/pro-zareyestrovani-kriminalni-pravoporushennya-ta-rezultati-yih-dosudovogo-rozsliduvannya-2 (date accessed: 12.02.2026) ; Філіпішина А., Падун В., Павліченко О. Воєнні злочини Російської Федерації проти України: шляхи до справедливого покарання винних (розслідування за статтею 438 КК України) / Українська Гельсінська спілка з прав людини. Київ, 2025. С. 5. URL: https://www.helsinki.org.ua/publications/voienni-zlochyny-rosiyskoi-federatsii-proty-ukrainy-shliakhy-do-spravedlyvoho-pokarannia-vynnykh-doslidzhennia/ (date accessed: 12.02.2026) ; Кримінальний кодекс України від 05.04.2001 р. № 2341-III (зі змін. та допов.). URL: https://zakon.rada.gov.ua/laws/show/2341-14#Text (date accessed: 12.02.2026).

2 Там само.

These figures indicate that Ukraine's law enforcement system is operating under considerable procedural strain, as criminal justice authorities are tasked with promptly documenting events, collecting evidence, and supporting effective investigation of war crimes.

Furthermore, numerous cases of acts that potentially fall under the remit of the Rome Statute of the International Criminal Court [3] (hereinafter referred to as the *Rome Statute*) are systematically recorded in reports by national and international human rights organisations, which reinforces the requirements for the quality of criminal prosecution and for the adherence to international standards of proof. As documented by the Media Initiative for Human Rights (2022), law enforcement agencies have recorded 60,387 war crimes. Notices of suspicion have been served in 125 cases, and 94 criminal proceedings have been forwarded to court. In 2023, 57,880 war crimes were recorded, and suspicions were announced in 193 cases, of which 173 cases were referred to court. During 2024, 28,788 war crimes were registered, 315 suspicions were reported, and 236 indictments were submitted to court. In 2025, 56,071 war crimes were documented, 367 notices of suspicion were served, and 206 criminal proceedings were referred to court. Overall, 187 individuals have been convicted in absentia for war crimes over four years. This is a small number compared to the total number of registered incidents, which exceeds 200,000. As noted by forensic experts in international humanitarian law A. Rassamakhina and O. Rasulova, these figures do not reflect the full scope of the situation, since some of the notices of suspicion are not subject to public disclosure, and certain proceedings are held in closed court sessions [4].

Investigating war crimes committed during the armed aggression against Ukraine is one of the most demanding tasks for criminal justice authorities. The large number of criminal proceedings, the complexity of the mechanisms by which the crimes were committed, the scale of their consequences, and the specific conditions for collecting evidence significantly hinder the organisation of pre-trial investigations. Under such circumstances, it is of paramount importance to ensure an adequate level of cooperation between investigators and victims, who are often the main bearers of information about the circumstances of a crime and, therefore, require enhanced procedural safeguards.

Consequently, it is clear why some victims are dissatisfied with the performance of law enforcement agencies, the duration of investigations, or the level of procedural interaction. At the same time, implementation of a victim-centered approach in criminal proceedings involves not only safeguarding the rights of victims, but also developing tactical models of cooperation that combine effective proof and increased trust in law enforcement authorities, while taking into account the psychological state of victims and reducing the risk of re-traumatisation.

3 Римський статут Міжнародного кримінального суду : прийнят. 17.07.1998 р. (зі змін. та допов.) ; ратифік. Законом України від 21.08.2024 р. № 3909-IX. URL: https://zakon.rada.gov.ua/laws/show/995_588#Text (date accessed: 12.02.2026).

4 Рассамахіна А., Расулова О. За чотири роки великої війни до суду дійшло лише 709 справ щодо воєнних злочинів — інфографіка МІПЛ / Медійна ініціатива за права людини : вебсайт. 12.02.2026. URL: https://mipl.org.ua/za-chotyry-roky-velykoyi-vijny-do-sudu-dijshlo-lyshe-709-sprav-shhodo-voyennyh-zlochyniv-infografika-mipl/ (date accessed: 12.02.2026).

When investigating war crimes, it is crucial to note that bringing perpetrators to justice often goes beyond national jurisdiction and may be carried out within the framework of international criminal justice mechanisms, particularly in the context of the Rome Statute [5]. This specific nature objectively leads to lengthy proceedings, complex proof procedures and delays in the adoption of court decisions. Victims often find themselves in a state of suspension awaiting justice, accompanied by psychological stress, feelings of uncertainty and vulnerability. In light of the foregoing, it is essential to prevent victims from being left alone to deal with their problems and with the consequences of a crime they have experienced. Implementing a victim-centered approach in criminal proceedings involves more than just formally recognizing victims' procedural rights; it also requires pre-trial investigation authorities to play an active role in ensuring that those rights are actually exercised. The extent to which victims feel secure and trust law enforcement agencies and the justice system as a whole depends entirely on the professional interest of investigators in protecting victims' rights, ensuring access to information, communicating appropriately and addressing victims' needs.

Therefore, effective cooperation between the investigator and the victim is crucial both procedurally and socio-psychologically, as it maintains victims' sense of security during the long wait for justice and fosters their willingness to participate in criminal proceedings, thereby contributing to the integrity and quality of a proof procedure in war crimes cases. That is why the study of tactical and forensic principles of cooperation between the investigator and the victim during investigative (search) and other procedural actions in criminal proceedings concerning war crimes is especially pertinent, since the efficiency of such cooperation largely determines the full scope of case circumstances, the quality of evidentiary basis and overall effectiveness of criminal proceedings.

Article Purpose

Delineate peculiarities of tactical and forensic support for war crimes investigation from the perspective of cooperation between the investigator and the victim during investigative (search) and other procedural actions.

Research Methods

The purpose of this article is realised through a multifaceted application of general scientific and special legal methods of cognition. Dialectical method was of use in clarifying the transformation patterns of tactical and forensic support for war crimes investigations in conditions of armed aggression and in revealing contradictions between high standards of proof and objective constraints of martial law (widespread nature of episodes, forced migration /displacement of victims, security risks).

Analysis and synthesis enabled the processing of scientific sources and action-oriented approaches to victim-centered investigations, the organization of tactical cooperation between the investigator and the victim, as well as the differentiation of key components of tactical and forensic support (planning, technical means, psychological component, tactical techniques).

System-structural method was employed to analyse cooperation between the investigator and the victim from a holistic perspective, taking into account

5 Римський статут … . URL: https://zakon.rada.gov.ua/laws/show/995_588#Text (date accessed: 12.02.2026).

organisational, technical, psychological, and information-communication constituents, and to determine their place in the overall model for the pre-trial investigation of war crimes.

Formal-legal method facilitated the analysis of criminal procedural regulation of the victim's participation in criminal proceedings, of procedural safeguards of his/her rights, as well as of permissible forms of recording and using information obtained during investigative (search) actions, including video recording and processing of digital data.

Logical-dogmatic (logical-semantic) method made it possible to both clarify the meaning of the categories *cooperation between the investigator and the victim*, *victim-centered approach*, *tactical techniques for actualising (restoring) forgotten material* and draw conclusions and practical recommendations.

Comparative-legal method helped to compare scientific approaches to tactical support for cooperation with victims in proceedings concerning serious and international crimes. We also took into account international standards for treatment of victims and protection of their rights in the context of potential mechanisms of international criminal justice.

Modelling method contributed to the identification of typical tactical situations of cooperation with victims (physical unavailability to participate, staying abroad, severe traumatization, need for recognition/identification via digital materials) and helped to highlight optimal tactical solutions and response algorithms.

Generalisation was employed to systematise findings from doctrinal sources and practical data and to formulate the author's conclusions regarding key components of tactical and forensic support for cooperation between investigators and victims in war crimes proceedings.

Analysis of Essential Researches and Publications

The issues of providing tactical support for criminal investigations, carrying out individual investigative (search) actions and holding trials are always at the forefront of research for Ukrainian and foreign scholars. Over the past few years, various aspects of this subject area have been a recurring theme in scientific papers by H. Bidniak et al. [6], Yu. Myroshnychenko [7], M. Pohoretskyi and D. Serhieieva [8], V. Shevchuk et al. [9], V. Shepitko [10], and others.

6 Бідняк Г. С., Кривопуск О. Г., Пиріг І. В. та ін. Криміналістична тактика : підручник. Дніпро, 2025. 252 с. URL: https://er.dduvs.edu.ua/handle/123456789/16796 (date accessed: 12.02.2026).

7 Мирошниченко Ю. М. Криміналістична тактика в період становлення науки криміналістики. *Юридичний бюлетень*. 2020. Вип. 13. С. 201—207. DOI: 10.32850/LB2414-4207.2020.13.26 (date accessed: 12.02.2026).

8 Погорецький М. А., Сергєєва Д. Б. Тактика захисника: поняття, зміст та місце в системі криміналістичної тактики. *Вісник кримінального судочинства*. 2016. № 2. С. 113—123. URL: https://vkslaw.knu.ua/images/verstka/2_2016_Sergeeva.pdf (date accessed: 12.02.2026).

9 Shevchuk V., Kostenko M., Myshkov Ya., Papusha I., Hryshko I. Functional Purpose of Tactical Operations in the Development of Criminalistic Methodics of Crime Investigation. *Pakistan Journal of Criminology*. 2023. Vol. 15. No. 2. Pp. 61—78. URL: https://www.pjcriminology.com/wp-content/uploads/2023/08/05_Shevchuk-et-al.pdf (date accessed: 12.02.2026).

10 Шепітько В. Ю. Предмет криміналістичної тактики: історія формування, зміст та тенденції. *Теорія та практика судової експертизи і криміналістики*. 2019. Вип. 19. С. 8—20. DOI: 10.32353/khrife.1.2019.01 (date accessed: 12.02.2026).

A number of aspects of tactical and forensic support have been studied by foreign scientists C. Butură [11], S. Nikoloska [12], R. Reyes [13], R. J. Girod [14], et al.

In recent years, Ukrainian criminalistics has significantly intensified its research into the investigation of war crimes, focusing primarily on organisational and tactical decisions, the specific nature of individual investigative (search) actions, and psychological aspects of communication with participants in proceedings. It is worth mentioning the comprehensive nature of K. Shevchyshena's dissertation, in which theoretical provisions and practical recommendations are formulated regarding the organisation of war crimes investigations, including cooperation between pre-trial investigation authorities and participants in proceedings. The author also elaborated on tactical and forensic principles for conducting procedural actions [15].

A number of papers focus exclusively on interrogation as a primary source of information as per Art. 438 of the CC of Ukraine. Thus, O. Zhovtiuk delves into certain tactical and psychological features of interrogating witnesses and victims during the investigation of breaches of the laws and customs of war, emphasising the need to account for both case circumstances and individual traits of those being interrogated (in particular, the traumatised person), as these directly affect the quality and fullness of testimony [16]. Simultaneously, another field is developing that concerns procedurally specific forms of obtaining testimony: e.g., S. Hrechana studies tactical interrogation techniques during pre-trial investigations in court sessions conducted by investigating judges (Art. 225 of the Criminal Procedure Code of Ukraine), emphasising communicative nature of this action, psychological mechanisms of implementing tactical techniques, and the special status of a witness/victim as the subject of procedural and tactical influence [17].

The section on interagency and international coordination is also of para-

11 Butură C. Tactical Framework for Organizing a Criminal Investigation. *Proceedings of the 26th International RAIS Conference on Social Sciences and Humanities*. 2022. Pp. 73–78. URL: https://www.ceeol.com/search/chapter-detail?id=1037104 (date accessed: 12.02.2026).

12 Nikoloska S. Tactics of application of measures and actions in the criminal investigation of economic-financial crime. *International scientific conference "45 years higher education in the area of security — educational challenges and security perspectives"* (26–28 Sept 2022; Struga). 2022. Vol. III. No. 7. Pp. 25–36. DOI: 10.20544/ICP.3.7.22.P02 (date accessed: 12.02.2026).

13 Reyes R. Tactical Criminal Investigations: Understanding the Dynamics to Obtain the Best Results without Compromising the Investigation. *Journal of Forensic Sciences & Criminal Investigation*. 2017. Vol. 2. Is. 2. Pp. 001–004. URL: https://surl.li/tztghm (date accessed: 12.02.2026).

14 Girod R. J. Advanced Criminal Investigations and Intelligence Operations: Tradecraft Methods, Practices, Tactics, and Techniques. Boca Raton ; London ; NY, 2014. 543 p. URL: https://surl.li/nxktor (date accessed: 12.02.2026).

15 Шевчишена К. П. Розслідування воєнних злочинів в Україні : автореф. дис. ... канд. юрид. наук. Київ, 2024. С. 18. URL: https://www.navs.edu.ua/files/spec-vchena-rada/srd_26_007_03/2024/avtoref_shevchyshena.pdf (date accessed: 12.02.2026).

16 Жовтюк О. Особливості проведення допиту свідків і потерпілих під час розслідування порушення законів та звичаїв війни. *Юридична психологія.* 2024. № 1 (34). С. 101—109. DOI: 10.33270/03243401.101 (date accessed: 12.02.2026).

17 Гречана С. Тактичні прийоми допиту під час досудового розслідування в судовому засіданні слідчим суддею: криміналістична та психологічна характеристики. *Там само.* 2023. № 2 (33). С. 71—78. DOI: 10.33270/03233302.71 (date accessed: 12.02.2026).

mount importance for military proceedings. Yu. Chornous and Yu. Vasiuta single out psychological and organisational-tactical features associated with the activities of joint investigative teams, and also explore a range of issues of forensic support for investigations and prosecution of war crimes by the International Criminal Court, etc. [18].

At the same time, notwithstanding the availability of these studies, a majority of scientific papers focus either on general issues of organising war crimes investigations or on tactics for conducting specific investigative (search) actions (predominately interrogations). On the other hand, tactical and forensic principles of cooperation between the investigator and the victim as a systematic process within war crimes proceedings are almost entirely overlooked. This necessitates the need for further research into this aspect, with a focus on identifying typical situations of such cooperation, on defining tactical tasks of the investigator, and on formulating practice-oriented recommendations relevant to military conditions, the number of victims, and their requests.

Main Content Presentation

Utilizing a victim-centered approach in the investigation of war crimes plays a pivotal role in studying this category of criminal offenses. The significance of this approach is primarily due to the specific nature of criminal offenses themselves, which are committed in the context of armed conflict and are manifested in a set of complex, systemic, and often long-lasting consequences. Victims in such proceedings are often not only victims of specific criminal acts, but also persons who simultaneously endure a range of social, material and psychological hardships. These encompass the loss of housing and/or property, the death and/or disappearance of beloved ones, forced displacement, experiences of occupation, torture and/or sexual abuse, significantly affecting their psychological and emotional state and ability to cooperate with criminal justice authorities. For this reason, victims of war crimes should be regarded as a particularly vulnerable category of participants in criminal proceedings, requiring increased attention from investigators and other participants in investigation.

Employing a victim-centered approach involves providing such persons with all-encompassing aid and taking extensive measures to assess their needs. This entails more than just ensuring procedural safeguards and restoring violated rights, including the right to safety, life, and health; it also involves taking into account a broader range of needs, including psychological, informational, social, and other ones. This approach helps foster public trust in law enforcement agencies, reduce the risk of re-traumatising victims, and improve a proof procedure, as victims are frequently the main sources of evidence when it comes to circumstances of war crimes.

18 Чорноус Ю. М. Актуальні питання криміналістичного забезпечення розслідування та судового розгляду Міжнародним Кримінальним Судом справ про воєнні злочини. *Актуальні питання криміналістики та судової експертизи* : мат-ли міжвідом. наук.-практ. конф. (Київ, 30.11.2023). Київ, 2023. С. 45–49. URI: https://elar.navs.edu.ua/handle/123456789/27081 (date accessed: 12.02.2026) ; Чорноус Ю. М., Васюта Ю. В. Психологічна й організаційно-тактична характеристика діяльності спільних слідчих груп під час розслідування кримінальних правопорушень. *Юридична психологія.* 2022. № 2 (31). С. 113–121. DOI: 10.33270/03223102.113 (date accessed: 12.02.2026).

We believe that any communication with victims during war crimes investigations should not be viewed as a one-sided process of obtaining information. Such communication should be interactive, involving active participation by both sides, mutual agreement and a focus on achieving a legal outcome.

By using the *cooperation* term, it is important to emphasize that the investigator and the victim not only fulfil formal procedural roles as *subject of investigation* and *source of evidence*, but are participants in a joint process of ascertaining objective truth and restoring justice. The prosecution has an interest in a complete, comprehensive and objective investigation of war crime circumstances, in the collection of relevant and admissible evidence, and in bringing those responsible to justice. Similarly, it is in the victim's interest to restore violated rights, foster a sense of security, secure recognition and compensation for the harm caused to him/her, and reach a fair decision.

In cases involving war crimes, these shared interests are fundamental, as such crimes are inextricably linked to gross violations of both Ukrainian national legislation and international humanitarian law. Investigators, who represent state authorities and, therefore, the State itself, must prioritize their efforts towards restoring national security and maintaining public safety and order. That is why their cooperation with victims must stem from the principles of trust, respect, transparency, and awareness. The investigator must do more than just initiate procedural actions; they are expected to ensure that the victim's rights, the procedure for exercising those rights, and prospects for criminal proceedings are properly explained. Investigators must be mindful of the victim's psychological and emotional state and potential risks of re-traumatisation. Communication between the prosecution and the victim and his/her representatives during investigations of war crimes is transformed into a tactically structured engagement that is strategically important for achieving objectives of criminal proceedings. We deem it expedient to outline essential aspects of tactical and forensic support for cooperation between investigators and victims of war crimes. They are listed below.

1. *Planning investigation and individual procedural measures.* Of fundamental importance is the fact that cooperation with victims during war crimes investigations is often hampered by objective circumstances directly affecting the possibility of interaction (cooperation) during investigations. Such obstacles are primarily due to the specific nature of consequences resulting from armed aggression, in which victims experience physical, psychological, or social vulnerability.

One of the reasons for this complicated interaction is the physical condition of a victim. Injuries, long-term treatment, limited mobility, or other consequences of military action may hinder a person's timely participation in investigative (search) actions or seriously affect his/her ability to fully perceive and reproduce information. In these circumstances, the investigator has to tailor investigative tactics to the needs of the individual. This might include taking into account the victim's medical condition, endurance, and the individual's need for medical or psychological support.

Another important factor is the location of victims outside Ukraine. This has become a widespread phenomenon following the forced migration of civilians. Consequently, additional organisational and tactical difficulties arise, including limited opportunities for direct contact, challenges in safeguarding procedural guarantees, and the need for international legal assistance or remote forms of cooperation. In this regard, tactical support must ensure that time, technical and legal constraints are taken into account, as well as facilitate communication, directly affecting the completeness and credibility of obtained testimonies.

At the same time, these circumstances highlight the importance of tactical planning. The investigator must not only choose the optimal method for conducting procedural actions, but also anticipate possible obstacles linked to the condition of a victim or his/her location, and determine alternative models of cooperation in advance. Such planning minimises the risk of re-traumatising the victim and supports a proof procedure even when it is impossible to have full access to participants in proceedings.

Therefore, the complexity of cooperating with victims in war crimes cases is due to a number of physical, territorial and procedural factors requiring flexible application of tactical techniques and an individualised approach to each situation. This applies primarily to the combination of procedural mechanisms with forensic recommendations aimed at ensuring the safety, dignity and procedural rights of the victim.

2. *Adequate scientific and technical support for investigative (search) and other procedural actions involving victims.* Although technical and forensic support is usually defined as a separate area, we believe it is appropriate to consider it within the scope of the issue under study, as it has a significant impact on the effectiveness of investigative (search) actions, tactical operations and combinations.

The specific nature of investigating war crimes necessitates the active use of digital technologies. This is because much of the information relevant to the subject of proof is available electronically or is obtained from open sources. During investigative (search) actions involving the victim—e.g., during inspection, examination of computer data or criminal analysis, specifically analysis of materials from open sources (*Open source intelligence, OSINT*)—it may be expedient to identify persons involved in commission of war crimes. In the aforementioned scenarios, the victim is engaged in reviewing photos and videos, data from social networks, messages in messaging apps, media archives or other digital resources, which requires specialised equipment and software.

Scientific and technical support in this regard primarily involves use of modern computer systems for processing large arrays of information, adoption of digital visualisation tools, frame-by-frame video analysis software, and image magnification and stabilisation systems. Secure digital platforms are becoming increasingly valuable, enabling victims to view materials without the risk of data loss or distortion and ensuring that identification results or other actions are properly recorded for procedural purposes.

Furthermore, technical means not just help to secure evidence, but also enable organisational and tactical functions to be implemented. Multimedia equipment, remote communication systems, and video conferencing help conduct investigative (search) actions with victims who are outside Ukraine or cannot physically appear before the pre-trial investigation authority. This is especially relevant for war crimes where victims are often internally displaced persons or forced migrants.

Utilization of scientific and technical means also contributes to the impartiality of the perception and reproduction of information by victims. High-quality visualization, 3D modelling, or digital reconstruction of events help to more accurately reconstruct crime circumstances, facilitate the identification process, and reduce the cognitive load on victims.

Further evidence of the significance of scientific and technical support is the use of video recording during investigative (search) actions involving the victim. Video recording provides not only a complete and objective record of the procedural action, but also helps to create an additional source of evidence that may have independent evidentiary value in subsequent criminal proceedings.

High-quality audio and video recording of the victim's testimony contributes to preserving his/her first-hand perception of events, emotional state, specific responses to external stimuli, and the sequence of events, which is essential for assessing credibility of testimonies. In cases involving war crimes, where victims are frequently in a state of psychological trauma or reside outside Ukraine, video recording helps reduce the need for repeated contact with the criminal justice system and minimises the likelihood of re-traumatisation.

Additionally, an adequately recorded video testimony of the victim can be used during trials as additional or alternative evidence, thereby obviating the necessity for repeated interrogation of the victim in court under certain circumstances. Therefore, video recording shall be considered an important component of scientific and technical support for investigative (search) actions, enhancing a proof procedure, optimisation of procedural procedures, and implementation of a victim-centered approach during war crimes investigations.

3. *Psychological component of cooperation.* Since tactics is deeply rooted in psychology, we propose that a separate component of tactical and forensic support for the investigation of war crimes should be the psychological component of cooperation between the investigator and the victim, with the involvement of a mediator who possesses specific expertise in the field of psychology. The specific nature of consequences of wartime crimes necessitates this approach, as a significant proportion of victims experience severe traumatic events related to the loss of beloved ones, captivity, torture, sexual abuse or prolonged exposure to life-threatening situations. In these instances, direct communication between the investigator and the victim may be impeded by psychological barriers, fear of reliving the traumatic experience, or symptoms of post-traumatic stress disorder (PTSD).

Involvement of a psychologist as a mediator allows cultivating a safe communication environment in which the victim enjoys support during participation in procedural actions, and the investigator is able to obtain exhaustive and accurate information without the risk of causing additional psychological harm to a person. The psychologist may perform a variety of key roles: preliminarily assess the emotional state of the victim, determine optimal format for communication, adapt the investigator's questions to a person's psycho-emotional state, and accompany him/her during interrogation or other investigative (search) actions.

Tactical importance of such cooperation is that the psychologist helps reduce the victim's stress and anxiety levels, helps avoid re-traumatisation, and enhances reliability of obtained testimonies. This bears particular relevance when working with children and individuals who have been sexually abused, or victims who display signs of psychological instability.

With the involvement of a specialist, the investigator can more accurately determine the limits of acceptable psychological stress, select the appropriate duration of procedural actions, and promptly identify signs of mental exhaustion in the individual.

Furthermore, involving a psychologist as a bearer of specific expertise aligns with current approaches to victim-centered justice, where the priority is both obtaining evidence and ensuring respect for human dignity and rights. This approach helps to foster the victim's trust in the criminal justice system, thereby cultivating the individual's willingness to cooperate with the investigation.

Therefore, cooperation between the investigator and the victim, mediated by a psychologist, is an essential component of tactical and forensic support for war crimes investigations. It brings procedural tasks and specific expertise together, ensuring a balance between effective proving and the need to protect the mental well-being of victims in criminal proceedings.

4. *Utilization of tactical techniques while adhering to the principles of individualization and situational nature.* Tactical support is always viewed through the prism of appropriate means, and the victim's interaction depends on their application. We are of the opinion that implementation of tactical approaches during war crimes investigations should stem from the principles of individualisation and situational nature, as universal models of behaviour are not effective enough in cases of this category. Victims are often in different headspaces and physical conditions, and they are not all ready to work with the pre-trial investigation authorities. What is more, circumstances of their traumatic experiences can vary considerably. In this respect, the investigator should think outside the box when choosing tactical approaches, taking into account the specific investigative situation, personal characteristics of a victim, and circumstances under which a specific procedural action is being conducted.

One of the main areas of adopting this approach is tactical techniques aimed at actualising and restoring forgotten or fragmentarily preserved material. Victims of war crimes typically experience psychological repression, fragmented memories, and have significant memory gaps regarding events. All of the above can be attributed to the traumatic impact of circumstances they have experienced. Under such conditions, direct questions may not yield complete testimony or may even cause additional emotional distress. That is why tactical techniques are designed to gently stimulate the process of recall using neutral associative questions, clarifying the context of events, recreating the sequence of actions, and focusing attention on a situation, details of the environment, and audio or visual elements that accompanied an event.

It is of particular importance to create a favourable communicative atmosphere in which the victim does not feel pressured or compelled to provide exhaustive information immediately. The investigator may use techniques to reconstruct the chronology of events, return to specific episodes after a pause, and use visual materials or digital reconstruction tools to help activate memory.

Individualization of tactical approaches also involves accounting for cultural, linguistic, and social traits of the victim, especially when it comes to persons residing abroad or who have experienced forced displacement. A situational approach also allows investigators to adapt their tactics depending on the dynamics of proceedings, changes in the victim's emotional state, or the availability of new information.

5. *Interaction based on awareness of one's rights, prospects of a case, and existing procedural risk.* Another important component of tactical cooperation with victims of war crimes is comprehensive consideration of their needs and prompt assessment of procedural risks that may take place during the pre-trial investigation stage. In these types of cases, victims often face uncertainty and wait for a fair decision for quite a long time, so transparency of information and predictability of the prosecution's actions are especially important.

Tactical cooperation in this context entails more than just obtaining evidence; it also involves helping the victim develop a realistic understanding of the procedural prospects of proceedings. The victim should be mindful of possible outcomes of pre-trial investigation, approximate time frame, and potential challenges involving evidence collection, international legal procedures, or identification of persons responsible for a crime. Such awareness reduces anxiety, prevents excessive expectations, and minimizes the risk of losing trust in the criminal justice system.

At the same time, integrated assessment of the victim's needs involves defining the victim's procedural status as well as his/her individual social, psychological and safety requests. The investigator must bear in mind possible risks of re-traumatisation, the threat of influence from third parties, the victim's vulnerability to information, or challenges associated with the place of residence/stay. In light of these circumstances, it is crucial to elaborate on protection mechanisms, procedural rights, and accessibility to psychological and/or legal assistance.

Identifying procedural risks also serves a preventive function. By explaining to the victim plausible scenarios for proceedings, the investigator fosters a more stable model of collaboration, thereby promoting stable communication throughout the investigation. This involves providing honest information about procedure timelines, complexities of international cooperation, a possibility of proceedings in absentia, or prospects of transferring materials to international forensic institutions.

Therefore, comprehensively taking into account the victim's needs and determining procedural risks are essential components of tactical cooperation, combining procedural efficiency with the humanitarian component of criminal proceedings. These contribute to building trust in the investigation, maintaining the victim's psychological stability, and ensuring more consistent and effective collaboration between participants in proceedings.

Conclusions

The full-scale Russian military aggression has determined the current vectors of activity of Ukraine's criminal justice authorities. First and foremost, this involves countering war crimes. This means that cooperation between the investigator and the victim not just has procedural value, but also a clear social and psychological dimension, since it affects victims' sense of safety, their trust in the State, and their willingness to cooperate with the investigation.

The tactics of cooperation between the investigator and the victim in war crimes cases should be viewed as interaction rather than unilateral information gathering. Its strategic value lies in balancing the victim's interests (recognition of harm, restoration of rights, safety, justice) and those of the prosecution (exhaustiveness of testimonies, relevance and admissibility of evidence, bringing perpetrators to justice). When organized with tactical rigor, such cooperation enhances the quality of evidentiary basis and ensures the sustainability of procedural cooperation.

Therefore, we recommend highlighting the following foundational pillars of tactical and forensic support for cooperation between investigators and victims in proceedings concerning war crimes: 1) tactical planning of investigations and procedural measures, taking into account the victim's physical condition, location (particularly if abroad), safety and time constraints; 2) adequate scientific and technical support for investigative (search) and other procedural actions (work with digital sources and OSINT, visualizations, remote participation, video recording), increasing the accuracy of the reconstruction of events, ensuring high-quality recording of evidence, and minimizing repeated contact with the victim; 3) the psychological component of cooperation that presupposes the use of specific expertise (a psychologist as a mediator), fostering a safe communicatory environment, reducing the risk of re-traumatisation, and increasing the credibility of information obtained; 4) application of tactical techniques in line with the principles of individualization and situational nature (in particular, techniques designed to refresh and elicit fragmented or repressed memories: contextualization of events, associative cues, step-by-step restatement of chronology, visual stimuli and digital reconstructions); all these methods are critically important in situations of traumatic experience; 5) ensuring that the victim is aware of his/her rights, approximate timelines, possible outcomes, and procedural risks, which plays a preventive role, stabilizes expectations, and maintains trust in the investigation.

Practical significance of the obtained findings is the potential to use the formulated provisions as a starting point for developing a typology of tactical situations for cooperation with victims in war crimes cases, as well as the foundation for creating communication algorithms and involving specialists (psychologists) in procedural actions, for improving departmental standards concerning war crimes investigations, for working with digital materials and preparing training modules for investigators on tactics for working with victims' traumatic memories and minimising their re-traumatisation.

Prospects for further research lie in the meticulous study of tactical techniques in conducting investigative (search) actions, in which victims, witnesses, and suspects are invited to participate.

Тактичні засади взаємодії слідчого та потерпілого під час розслідування воєнних злочинів

Анастасія Вуйма

Мета статті — розкрити особливості тактико-криміналістичного забезпечення розслідування воєнних злочинів в аспекті взаємодії слідчого й потерпілого під час проведення слідчих (розшукових) та інших процесуальних дій, визначити основні складники такої взаємодії і їхнє значення для підвищення ефективності доказування з урахуванням принципів потерпіло орієнтованого підходу. Для досягнення поставленої мети застосовано комплекс загальнонаукових (аналіз і синтез, індукція і дедукція) та спеціальних (діалектичний, системно-структурний, формально-юридичний, порівняльний, узагальнення) методів наукового пізнання. Обґрунтова-

но, що ефективна взаємодія слідчого з потерпілим у кримінальних провадженнях щодо воєнних злочинів є не лише обов'язковою вимогою провадження кримінальної процесуальної діяльності, а й важливим елементом тактико-криміналістичного забезпечення розслідування, який впливає на повноту встановлення обставин події, достовірність доказів і визначає рівень довіри до органів кримінальної юстиції. Доведено, що специфіка воєнних злочинів зумовлює необхідність урахування фізичної, психологічної та соціальної вразливості потерпілих, складності міжнародного компонента розслідування і тривалості кримінального провадження. Визначено основні складники тактико-криміналістичного забезпечення взаємодії слідчого з потерпілим: тактичне планування процесуальних дій з урахуванням об'єктивних обмежень; належне науково-технічне забезпечення, включно із застосуванням цифрових технологій і відеофіксації; психологічний компонент взаємодії із залученням спеціаліста-психолога; застосування тактичних прийомів на засадах індивідуалізації та ситуативності; забезпечення поінформованості потерпілих про процесуальні права, перспективи провадження й можливі ризики. Доведено, що застосування індивідуалізованих тактичних прийомів і сучасних технічних засобів сприяє мінімізації ризику повторної травматизації потерпілих, підвищує якість комунікації та ефективність отримання доказової інформації. Особливу увагу приділено ролі психологічної підтримки й інформаційної прозорості як чинників формування стабільної співпраці між потерпілим і стороною обвинувачення. Здобуті результати поглиблюють наукові уявлення про тактико-криміналістичні засади розслідування воєнних злочинів та створюють підґрунтя для розроблення практичних рекомендацій з оптимізації взаємодії слідчого й потерпілого, удосконалення методики розслідування та підвищення ефективності реалізації потерпіло орієнтованого підходу в кримінальному провадженні.

Ключові слова: *воєнний злочин; військова агресія; сторона обвинувачення; взаємодія; слідчий; потерпілий; захист прав і інтересів; слідча (розшукова) дія; тактичний прийом.*

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Research Papers

Specifics of Detection and Neutralization of Counteraction at the Initial Stage of Investigation

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The purpose of this article is to reveal specifics of identifying signs of a criminal offense and neutralizing counteraction at the initial stage of the pre-trial investigation. Methodological research basis is a set of general scientific, special and philosophical methods of cognition, in particular dialectical, system-structural, functional-activity, comparative-legal one, as well as modeling, analysis and synthesis. It is generalized that initial stage of the pre-trial investigation is the most vulnerable to various forms of counteraction that is due to information uncertainty, time shortage and the need to make operational procedural decisions. It is determined that counteraction has a multi-level nature: it is implemented by influencing collecting evidence procedure, making procedural decisions and interpreting data obtained (by using manipulations with information, using procedurally permissible and extra-procedural mechanisms, behavioral strategies and institutional influence and other means aimed at complicating establishment of circumstances of criminal offense). It is substantiated that detection of signs of a criminal offense and neutralization of counteraction are interrelated procedures that operate within the framework of a single mechanism for forensic support of investigation. It is found that information counteraction (providing false information, initiating attachment of documents with dubious evidentiary value, involving unreliable informed persons), procedurally legalized forms of influence (appealing proce-

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dural decisions, manipulating procedural mechanisms), as well as institutional counteraction (impact on conducting forensic examinations) can significantly change the direction of evidentiary activity and increase the risk of making erroneous procedural decisions. It is proven that initial stage of the pre-trial investigation should be considered as an information-conflict space, within which framework evidence subject not only carries out cognitive activity, but counteracts active influence of interested persons. It was noted that timely diagnostics of manifestations of resistance, critical assessment of sources of information and the use of forensic tactical tools are the main conditions for ensuring investigation effectiveness and compliance with the principle of reasonableness of the terms of criminal proceedings.

Keywords: *pre-trial investigation; initial stage; counteraction; neutralization of counteraction; detection of crime signs.*

Research Problem Formulation

The current stage of development of criminal justice in Ukraine is characterized by numerous reforms, some of which continue to this day. This applies to activities of pre-trial investigation bodies, the prosecutor's office, the judiciary and others. Crime situation is also aggravated, as evidenced by the increase in the number of recorded criminal offenses. Thus, according to the Office of the Prosecutor General of Ukraine, in 2021, information was registered about 321,443 criminal offenses, in 2022 – about 362,636, in 2023 – about 475,595, in 2024 – about 492,479, in 2025 – about 608,101 [1]. It should be noted these indicators do not cover data on socially dangerous acts committed in the territory of the temporarily occupied territories and the zone of active hostilities, where victims do not report such facts to law enforcement agencies.

Simultaneously with increase in the number of manifestations of delinquent behavior, the mechanisms for committing criminal offenses are complicated, level of their latency increases and forms of counteraction to legitimate activities of the security forces in general and pre-trial investigation bodies in particular are diversified.

Transformation of forms of criminal activity is accompanied by improvement of ways to counteract its exposure. Increase in the level of organized crime, the use of information technologies, expansion of communication opportunities and availability of corruption links lead to the emergence of complex multilevel mechanisms of influence on the process of proof. In these conditions, counteraction to the investigation ceases to be only a fragmentary reaction of the offender to investigation actions, but acquires signs of systematic activity formed at the stage

1 Про зареєстровані кримінальні правопорушення та результати їх досудового розслідування. 2013—2024 роки / Офіс Генпрокурора : офіц. сайт. URL: https://www.gp.gov.ua/ua/posts/2013-2024-roki-pro-zareyestrovani-kriminalni-pravoporushennya-ta-rezultati-yih-dosudovogo-rozsliduvannya (date accessed: 11.02.2026).

of preparation or commission of a criminal offense and is actively implemented at the initial stages of criminal proceedings.

Practice of pre-trial investigation indicates that counteraction often occurs before entering information into the Unified Register of Pre-Trial Investigations [2] (hereinafter referred to as URPTI) or immediately after the opening of criminal proceedings. Stakeholders use various means of concealing the offense, destroying or distorting evidentiary information, influencing participants in criminal proceedings, using gaps in legal regulation or organizational shortcomings of investigative activities. As a result of such counteraction, it becomes more difficult to establish circumstances of the event, the quality of evidence decreases, the duration of the investigation increases and the risk of procedurally vulnerable decisions increases.

Particular complexity is detecting signs of a crime and overcoming counteraction is interrelated: actions aimed at documenting criminally significant information are simultaneously means of neutralizing counteraction and active forms of obstruction, on the contrary, are able to hide the actual manifestations of the offense. It is the initial stage of the investigation that is most sensitive to such an impact, since the investigator acts in conditions of lack of information, time constraints and the need for prompt decision-making.

Therefore, initial stage occupies a special place both in the structure of the pre-trial investigation and in the neutralization of counteraction, since it is at this stage that the signs of a criminal offense are identified, the primary system of evidence is formed, investigative versions and directions for further search and cognitive activity of investigators and detectives are determined. At the same time, this stage is characterized by a shortage of information, high dynamics of procedural decisions and increased vulnerability of evidentiary information to external influence. According to modern research, counteraction often becomes a correlation factor already in identifying and opening criminal proceedings, which significantly complicates the clarification of objective truth.

Therefore, there is an urgent need for comprehensive research on the patterns of identifying signs of a criminal offense and determining effective, lawful and practically oriented mechanisms for neutralizing counteraction at the initial stage of a pre-trial investigation, as this will increase efficiency of criminal proceedings and ensure the fulfillment of its tasks.

Article Purpose

Identify the specifics of typical forms of counteraction to investigation that take place at the stages of registration of a criminal offense and the initial stage of investigation.

Research Methods

For achieving the goal, a set of general scientific, special and philosophical methods of cognition was used, which provided a comprehensive analysis of the peculiarities of counteraction at the initial stage of the pre-trial investigation, clarification of its impact on the detection of signs of a criminal offense and the adoption of certain procedural decisions, as well as substantiation of organizational, tactical and procedural approaches to neutralizing the relevant manifestations.

Dialectical method has become the theoretical basis for considering the counter-

2 ЄРДР : вебсайт. URL: https://erdr.gp.gov.ua/ (date accessed: 12.02.2026).

action and activity of the subject of evidence as dynamic, interdependent and contradictory processes that are formed in the conditions of conflict of interest and information uncertainty of the initial investigation stage. It made possible to trace the patterns of the evolution of counteraction (from fragmented actions to systemic mechanisms) and explain its correlation with transformation of criminal activity and the reform of criminal justice.

System-structural analysis helped in determining structure of counteraction at the initial stage and the interrelations between its main elements: subjects, motives, methods, objects of influence (evidence, participants in the process, procedural decisions), as well as consequences for the evidence and the timing of the investigation. Due to this, counteraction is substantiated as a multi-level phenomenon that affects the procedural and forensic investigation component sat the same time.

Functional-activity approach was useful for interpreting counteraction as a purposeful activity (procedural, informational, institutional, behavioral ones) that has its own logic, tactical variability and phasing. This made possible to reveal counteraction not only as a set of individual actions, but as a strategy for influencing mechanism of evidence and decision-making.

Simulation method was used to reconstruct typical investigative situations of the initial stage, in which counteraction is most intense (entering information into the Unified Register of Pre-Trial Investigations; review of the scene; resolving issue of seizure of temporarily seized property; obtaining testimony; initiating the inclusion of "consulting conclusions"; conducting forensic examinations; initiating interrogation of persons with doubtful awareness). Modeling helped to assess the risks and identify possible algorithms for neutralizing counteraction within each situation.

Methods of analysis and synthesis contributed to processing of scientific sources, generalization of the conclusions of forensic research and the identification of typical signs of counteraction at the early stages of criminal proceedings. The analysis provided a detailed description of the manifestations of counteraction (procedurally legalized, informational, institutional) and synthesis provided the formation of generalized provisions on relationship between the detection of signs of a crime and the neutralization of counteraction as a single system of forensic support for investigation.

Comparative legal method was used to correlate procedural mechanisms with the practice of their application in conflict investigative situations (in particular, regarding the seizure of property, appealing procedural decisions, attaching documents, appointing and conducting examinations). It made possible to argue that certain procedural tools under certain conditions can be used not to exercise the right, but as a means of influencing evidence and investigation terms.

Formal legal method provided an analysis of normative regulation of procedural decisions related to preservation of evidence and property, the appointment of examinations and the exercise of rights of participants in criminal proceedings. Its application ensured the correctness of conclusions on the procedural limits of permissible behavior and the definition of criteria by which formally lawful actions can acquire counteraction.

Applied methodological complex helped to systematically investigate the problems of counteraction at the initial stage of pre-trial investigation, clarify its main manifestations, reveal influence mechanisms of on evidence and procedural decisions, as well as to create the basis for the formation of practice-oriented recommendations for the timely detection and neutralization of counteraction.

Analysis of Essential Researches and Publications

Analysis of scientific sources and law enforcement practice shows that the problem of countering the investigation was most often investigated in the context of general issues of forensic tactics or certain types of crimes. Comprehensive monograph researches within the framework of this issue were carried out by O. Aleksandrenko [3], R. Bohdaniuk [4], V. Vartsaba [5], I. Hrytsiuk [6], K. Hutnik [7], V. Lysychenko and R. Shekhavtsov [8], R. Mudretskyi [9], V. Piddubnyi [10] V. Pletenets [11], Yu. Popelniuk [12],

3 Александренко О. В. Криміналістичні проблеми подолання протидії розслідуванню : автореф. дис. ... канд. юрид. наук. Київ, 2004. 20 с. URL: https://dspace.nlu.edu.ua/jspui/handle/123456789/13980 (date accessed: 10.02.2026).

4 Богданюк Р. І. Подолання протидії виявленню та розслідуванню кримінальних правопорушень у сфері господарської діяльності : дис. ... д-ра філос. в галузі права. Харків, 2025. 237 с. URL: https://www.uacademic.info/ua/document/0825U001351 (date accessed: 10.02.2026).

5 Варцаба В. М. Розслідування злочинів організованих злочинних груп (тактико-психологічні основи) : дис. ... канд. юрид. наук. Харків, 2003. 181 с. URL: https://uacademic.info/ua/document/0404U000656 (date accessed: 10.02.2026).

6 Грицюк І. В. Протидія розслідуванню злочинів у сфері оподаткування : дис. ... канд. юрид. наук. Ірпінь, 2012. 259 с. URL: https://uacademic.info/ua/document/0412U004215 (date accessed: 10.02.2026).

7 Гутнік К. В. Розслідування злочинів в умовах протидії, яка чиниться з використанням соціальної напруги : автореф. дис. ... канд. юрид. наук. Харків, 2010. 20 с.

8 Лисиченко В. К., Шехавцов Р. М. Проблеми теорії та практики подолання протидії розслідуванню окремих різновидів злочинів, вчинених організованими групами, злочинними організаціями : монографія. Вид. 2-ге, перероб. та допов. Луганськ, 2012. 342 с. URL: https://dspace.lvduvs.edu.ua/bitstream/1234567890/246/1/Shekhavtsov_monograf.pdf (date accessed: 10.02.2026) ; Шехавцов Р. М. Форми та способи протидії розслідуванню злочинів та засоби їх подолання (за матеріалами кримінальних справ про вимагання, вчинені організованими групами, злочинними організаціями) : дис. ... канд. юрид. наук. Київ, 2003. 238 с. URL: https://uacademic.info/ua/document/0404U000411 (date accessed: 10.02.2026).

9 Мудрецький Р. В. Подолання протидії судовому розгляду у кримінальних провадженнях : дис. ... канд. юрид. наук. Кривий Ріг, 2019. 263 с. URL: https://uacademic.info/ua/document/0420U100095 (date accessed: 10.02.2026).

10 Піддубний В. В. Подолання протидії розслідуванню злочинів економічної спрямованості : дис. ... канд. юрид. наук. Харків, 2020. 260 с. URL: https://uacademic.info/ua/document/0420U100568 (date accessed: 10.02.2026).

11 Плетенець В. М. Теоретичні та праксеологічні засади подолання протидії досудовому розслідуванню : монографія. Одеса, 2020. 424 с. URL: https://er.dduvs.edu.ua/handle/123456789/6404 (date accessed: 10.02.2026).

12 Попельнюк Ю. П. Подолання протидії виявленню та розслідуванню корисливо-насильницьких кримінальних правопорушень : дис. ... д-ра філос. в галузі права. Харків, 2025. 237 с. URL: https://drive.google.com/file/d/1_Rc7DxlEkbIBzuZP8UzgIfS93GjtSsSV/view (date accessed: 10.02.2026).

O. Romtsiv [13], V. Trepak [14], M. Chesakova [15], B. Shchur [16] et al. In their works, attention is focused on the formation of theoretical foundations for overcoming counteraction, determining its forms, methods of detection and subjective composition, etc.

Important place in the context of determining specifics of initial investigation stage and forms of counteraction to such activities is occupied by the studies of O. Romtsiv and Yu. Popelniuk. The authors substantiate the relationship between the procedure for identifying signs of a criminal offense and overcoming counteraction at the early stages of criminal proceedings and emphasize that initial investigation stage is the most vulnerable to the influence of interested parties, since it is during this period that the initial investigative versions are formed and further directions for collecting evidence are determined [17].

Significant contribution to the development of the problem of counteraction at the stages of identifying signs of criminally unlawful activity was also made by R. Bohdaniuk, V. Piddubnyi, V. Pletenets M. Chesakova. They consider counteraction as a multi-component forensic phenomenon, manifested in the concealment of traces of a crime, distortion of evidentiary information, influence on participants in criminal proceedings and the use of procedural mechanisms to complicate the investigation. Although the above-mentioned authors mainly study counteraction within the framework of pre-trial investigation in general, the greatest intensity of such manifestations is characteristic of the initial stage, when the investigator acts in conditions of information deficit and uncertainty [18].

In researches by B. Shchur and V. Vartsaba, considerable attention is paid to the tactical aspects of overcoming resistance and the role of tactical operations in ensuring the effectiveness of the investigation. The authors note the connection between the forensic characteristics of criminal activity and the choice of means of neutralizing resistance, which indirectly indicates the importance of early detection of

13 Ромців О. І. Особливості подолання протидії під час розслідування злочинів у сфері службової діяльності : дис. … канд. юрид. наук. Львів, 2016. 226 с. URL: https://lpnu.ua/sites/default/files/2020/dissertation/1817/disromtsivoi.pdf (date accessed: 10.02.2026).

14 Трепак В. М. Розкриття та розслідування хабарництва, вчинюваного суддями, та подолання протидії засобами оперативно-розшукової діяльності : автореф. дис. … канд. юрид. наук. Київ, 2011. 19 с.

15 Чесакова М. С. Протидія розслідуванню злочинів та шляхи її подолання на стадії досудового розслідування : автореф. дис. … канд. юрид. наук. Харків, 2019. 23 с. URL: https://uacademic.info/ua/document/0419U005608 (date accessed: 10.02.2026).

16 Щур Б. В. Тактика усунення протидії розслідуванню злочинів, що вчиняються організованими злочинним групами : дис. … канд. юрид. наук. Харків, 2005. 195 с. URL: https://uacademic.info/ua/document/0405U000648 (date accessed: 10.02.2026).

17 Ромців О. І. Зазнач. твір. URL: https://lpnu.ua/sites/default/files/2020/dissertation/1817/disromtsivoi.pdf (date accessed: 10.02.2026) ; Попельнюк Ю. П. Зазнач. твір. URL: https://drive.google.com/file/d/1_Rc7DxlEkbIBzuZP8UzgIfS93GjtSsSV/view (date accessed: 10.02.2026).

18 Богданюк Р. І. Зазнач. твір. URL: https://www.uacademic.info/ua/document/0825U001351 (date accessed: 10.02.2026) ; Піддубний В. В. Зазнач. твір. URL: https://uacademic.info/ua/document/0420U100568 (date accessed: 10.02.2026) ; Плетенець В. М. Зазнач. твір. URL: https://er.dduvs.edu.ua/handle/123456789/6404 (date accessed: 10.02.2026) ; Чесакова М. С. Зазнач. твір. URL: https://uacademic.info/ua/document/0419U005608 (date accessed: 10.02.2026).

its signs. In particular, in works devoted to the investigation of crimes committed by organized groups, the idea is traced that resistance is often planned at the stage of preparation for the commission of a crime and implemented using complex mechanisms of influence on evidentiary information [19].

I. Hrytsiuk's research, devoted to countering the investigation of crimes in the field of taxation, focuses on practical aspects of investigative situations and tactical decisions in countering conditions. The author justifies the need to take into account the specifics of the information environment of the investigation, which is especially relevant at the initial stage, when the grounds for making procedural decisions are formed [20].

Of particular interest are researches by R. Mudretskyi. Despite a slightly different subject of study (the stage of trial), the author demonstrates the heredity of countermeasure mechanisms that allows to conclude: informational and procedural errors that occurred during the initial stage of the pre-trial investigation can affect the subsequent stages of criminal proceedings [21].

In general, analysis of research papers allows us to assert that most researchers recognize the increased vulnerability of the initial stage of pre-trial investigation to various forms of counteraction. At the same time, existing researches are mostly focused either on the general characteristics of counteraction, or on its individual manifestations within certain categories of crimes. Insufficient attention is paid to a comprehensive understanding of relationship between the process of identifying signs of a criminal offense and neutralizing counteraction at the initial stage of the investigation necessitating further development of scientific approaches in this direction.

This issue is of particular relevance in the context of the reform of criminal procedural legislation and the strengthening of requirements for ensuring a balance between guarantees of the rights of participants in criminal proceedings and the effectiveness of the activities of pre-trial investigation bodies. In modern conditions, resistance to investigation is increasingly identified as a factor in violating this balance that complicates proving and affects the timeliness of identifying signs of a criminal offense. Insufficient level of scientific study of the relationship between the processes of identifying signs of a crime and neutralizing resistance determines the need to form a holistic forensic approach to studying the initial investigation stage as a special information-conflict space, within the boundaries of which the further results of criminal proceedings are determined.

Main Content Presentation

The initial stage of the pre-trial investigation is a critically important stage of criminal proceedings, since it is during this period that the signs of a criminal offense are recorded, investigative versions

19 Щур Б. В. Зазнач. твір. URL: https://uacademic.info/ua/document/0405U000648 (date accessed: 10.02.2026) ; Варцаба В. М. Зазнач. твір. URL: https://uacademic.info/ua/document/0404U000656 (date accessed: 10.02.2026).

20 Грицюк І. В. Зазнач. твір. URL: https://uacademic.info/ua/document/0412U004215 (date accessed: 10.02.2026).

21 Мудрецький Р. В. Зазнач. твір. URL: https://uacademic.info/ua/document/0420U100095 (date accessed: 10.02.2026).

are formed, information about the event of a criminal offense is collected, and the main procedural decisions are made that determine further prospects of criminal proceedings. At the same time, an analysis of modern law enforcement practice and scientific research shows that this stage is the most vulnerable to various forms of counteraction, since it is characterized by information uncertainty, shortage of time and the need for a prompt response to received data and events that will occur with the participation of subjects interested in investigation results.

Any form of counteraction to pre-trial investigation directly affects the possibility of timely and well-founded adoption of procedural decisions, which necessitates the need to take it into account at the initial stages of criminal procedural activity. Various manifestations of opposition are especially common at the stage of making a decision to enter information into URPTI, since it is at this time that the procedural prerequisite for further evidentiary activity is formed.

Typical example is situations when individual subjects impede the conduct of urgent investigative (detective) action in the form of an inspection of the scene of the incident, which, strictly speaking, most often begins the pre-trial investigation.

If such actions are of an open nature, then, if there are sufficient grounds, they can be qualified as resistance to law enforcement officers [22] or interference with their lawful activities [23].

Significance of this action is due to the fact that it is during its conduct that traces of a criminal offense and other objects of the material world that may contain forensically significant information are detected and seized. Such objects often acquire the status of temporarily seized property, and their further study requires ensuring a procedural regime of preservation and inviolability.

In this regard, one of the main procedural decisions of the investigator is to file a motion to seize temporarily seized property in accordance with the provisions of the Criminal Procedure Code of Ukraine [24]. The purpose of such a decision is to ensure the possibility of further use of the objects as sources of evidentiary information, conduct forensic examinations and recognize them as material evidence, therefore, prevent their loss, destruction or change in properties.

Countermeasures are embodied in attempts to conceal information about a criminal offense, provide altered or false information, or create artificial obstacles to the proper legal assessment of information received that directly affects the

22 Вирок Борисп. міськрайсуду Київ. обл. від 25.05.2020 р. Справа № 359/3394/20. Провадж. № 1-кп/359/505/2020 / ЄДРСР : вебсайт. URL: https://reyestr.court.gov.ua/Review/89492361 (date accessed: 12.02.2026).

23 Вирок Володимир. райсуду Рівнен. обл. від 22.01.2024 р. Справа № 556/95/24. Провадж. № 1-кп/556/90/2024 / Там само. URL: https://reyestr.court.gov.ua/Review/116512173 (date accessed: 12.02.2026) ; Вирок Ленін. райсуду м. Кіровограда від 18.09.2020 р. Справа № 405/2608/20. Провадж. № 1-кп/405/162/20 / Там само. URL: https://reyestr.court.gov.ua/Review/91649655 (date accessed: 12.02.2026) ; Вирок Зарічн. райсуду Рівнен. обл. від 28.01.2020 р. Справа № 561/1112/19. Провадж. № 1-кп/561/18/2020 / Там само. URL: https://reyestr.court.gov.ua/Review/87195083 (date accessed: 12.02.2026) ; Вирок Борисп. міськрайсуду … . URL: https://reyestr.court.gov.ua/Review/89492361 (date accessed: 12.02.2026).

24 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: 12.02.2026).

completeness and objectivity of the procedural decisions made.

It is at this stage that forms of resistance to the investigation are often detected, which are procedurally legal in nature, but can be aimed at creating obstacles to effective evidence. In particular, owner of temporarily seized property or his representatives may initiate applications for its immediate return, challenge the legality of the seizure, and also object to the imposition of an arrest during the trial of the relevant motion of the prosecution. Reasoning behind such applications can be based both on legal grounds and on deliberate manipulation of unreliable information in order to make impossible to use the seized objects in evidence.

V. Tarasenko rightly notes that an important element of effective counteraction to crime is the timely seizure of property, since it is during the time between its seizure and the adoption of a court decision that there are risks of concealment, damage or alienation of such property. The author draws attention to the fact that the current procedure does not always ensure the proper efficiency of the application of this measure, which creates the prerequisites for the loss of evidentiary potential or the impossibility of further compensation for damage to victims. Therefore, the scientist proposes to expand the powers of subjects of criminal proceedings in urgent cases, providing for the possibility of applying preliminary seizure of property by the investigator in agreement with the prosecutor or directly by the prosecutor in proceedings concerning serious or especially serious crimes. In the author's opinion, such a temporary measure should be applied until the moment of obtaining judicial control and obliging the prosecutor to apply to examining magistrate within a certain period to confirm seizure legality [25].

In this context, opposition manifests itself not only as direct obstruction of investigative activities, but also as an attempt to influence the process of making procedural decisions through the use of procedural mechanisms that indicates its complex and multi-level nature. Thereby the effectiveness of the investigator's activities at the initial stage of the investigation largely depends on the ability to timely identify such manifestations, assess them from the standpoint of forensic tactics and choose adequate organizational and procedural methods for their neutralization.

The analysis confirms that the initial stage of the pre-trial investigation is a space of increased information conflict, within which procedures of identifying signs of a criminal offense and overcoming resistance function as interconnected elements of a single mechanism for forensic investigation support.

Another manifestation of opposition to the pre-trial investigation is the provision by persons interested in its results of false information concerning the subject of evidence. Such behavior has a pronounced informational nature and is aimed at forming in the investigator a false idea of circumstances of the criminal offense, its participants or commission mechanism. As a result, there is a risk of making erroneous tactical decisions, changing the direction of evidentiary activities and spending procedural time on verifying unreliable information.

Investigative situation in which the interrogated person provides false testi-

25 Тарасенко В. Є. Окремі проблеми арешту майна та відшкодування матеріальних збитків у кримінальному провадженні. *Південноукраїнський правничий часопис.* 2023. № 1. С. 114—117. DOI: 10.32850/sulj.2023.1.20 (date accessed: 12.02.2026).

mony is quite complex and is caused by a complex of reasons (in particular, opposing interests and goals of the participants in the criminal proceedings, as well as informational uncertainty regarding the further actions of the parties that causes a high level of conflict in the investigation process). In such conditions, investigator is forced to act not only as a subject of cognitive activity, but also as a participant in a dynamic process of counteraction, within the limits of which it is necessary to predict and neutralize potential manifestations of counteraction. Formation of a counteraction situation is due to a combination of objective and subjective elements. Objective elements include the evidence available in the investigation and its information content, information about the implemented or possible influence on the sources of evidentiary information, possibility of procedurally recording manifestations of counteraction and using them in evidence, as well as the organizational and material and technical capabilities of law enforcement agencies to detect, prevent and neutralize such actions. Subjective ones are primarily related to characteristics of the participants in the criminal proceedings. They include characteristics of the counteraction subject (individual participant, group of persons, organized formation, official, etc.), his motivation, level of legal awareness and life experience that determine dynamics and methods of counteraction. At the same time, the personal and professional characteristics of the subject of evidence become important, level of his training, experience in conflict investigative situations, ability to adapt tactical solutions to resistance conditions. Special place in the structure of such a situation is occupied by the nature of the relationship between the parties. Depending on the degree of conflict, there can be both fierce rivalry that makes impossible to have an effective psychological impact on the person who resists and less conflict forms of interaction allowing the use of tactical techniques aimed at reducing the level of resistance and its cessation in general [26]. Therefore, such counteraction is quite possible to neutralize, but it is important to detect it in a timely manner.

Reporting false information concerning the subject of evidence most often occurs during investigative (search) actions, within the framework of which the main sources of evidentiary information are formed, in particular during interrogation, presentation of a person or objects for identification, conducting an investigative experiment and other procedural measures. A feature of such manifestations of resistance is that they are implemented in a formally legal procedural form that complicates the timely identification of their destructive orientation. An interested person can deliberately distort individual circumstances, change the sequence of events, underestimate or exaggerate the significance of certain facts and also create imaginary cause-and-effect relationships that do not correspond to the real picture of the event. Such actions affect the course of the pre-trial investigation by shifting the emphasis of the investigator's search and cognitive activities, which often leads to additional verification measures, repeated investigative (search) actions, correction of investigative versions, etc. As a result, adoption of lawful and justified procedural decisions is delayed, the

26 Лозинська Ю. І., Шехавцов Р. М. Достовірність показань свідка та її з'ясування у кримінальному провадженні : монографія. Львів, 2020. С. 99—100. URI: http://dspace.lvduvs.edu.ua/handle/1234567890/3481 (date accessed: 12.02.2026).

formation of a complete and logically consistent system of evidence is complicated, and the prerequisites are created for violating the principle of reasonableness of the terms of criminal proceedings.

From forensic point of view, reporting false information should be considered as a form of information counteraction, which is implemented through the impact on the cognitive component of the investigator's activities. In such conditions, the methods of assessing the reliability of the information received, comparing the testimony with the material traces of the event, analyzing the behavioral characteristics of trial participants and the use of tactics aimed at identifying contradictions in reported information are of particular importance.

Thus, the counteraction implemented by means of false information during investigative (search) actions is a significant factor that affects the effectiveness of the pre-trial investigation, as it is able to change its direction, complicate the process of proof and adversely affect the completeness and timeliness of procedural decisions.

Another common manifestation of opposition to the pre-trial investigation is the initiation by persons interested in the results of criminal proceedings of petitions to attach documents to the case files of the proceedings that externally have signs of evidentiary information, but in fact can serve as an influence on the course of the investigation. Such documents often contain information that seems to relate to criminal offense circumstance, but are aimed at forming an alternative interpretation of events and creating doubts about existence of a criminal offense.

Among such content, a special place is occupied by the conclusions of specialists or consulting opinions of persons positioned as experts, in which they note that certain circumstances are not related to the event of a criminal offense, do not contain criminally significant signs or generally refute the fact of the presence of signs of a crime. Formally, such documents can be submitted as a source of additional information, but their peculiarity is the lack of procedural status of forensic examination and guarantees of objectivity provided for by the criminal procedural legislation.

Unlike expert conclusions obtained in the manner prescribed by law, advisory opinions are not accompanied by procedural guarantees of independence and do not entail criminal liability for providing knowingly false information. It creates an opportunity to use them as a tool of information influence on the investigator, changing the directions of the investigation, initiating additional checks or delaying the process of making procedural decisions.

From forensic point of view, submission of such documents can be considered as a form of intellectual (information) counteraction, implemented by creating an alternative information field around the event of a criminal offense. As a result, investigator is forced to spend additional resources assessing the reliability and admissibility of the materials submitted that potentially negatively affects the terms of the pre-trial investigation and the completeness of establishing case circumstances.

Thus, initiation of attachment to the materials of the proceedings of documents with doubtful evidentiary value can be aimed not so much at the implementation of the procedural rights of the party, as at creating obstacles to effectiveness of the investigation and complicating the further consideration of the case on the merits. In this context, these actions can be considered as a form of counteraction to the pre-trial investigation requiring timely forensic assessment and proper procedural response.

In the context of further pre-trial investigation, special attention should be paid to the appointment and conduct of forensic examinations that become an important means of obtaining procedural sources of evidence in cases where the resolution of certain issues goes beyond the professional competence of investigator and requires specific expertise use. In view of this, the results of expert research are often crucial for establishing the circumstances of a criminal offense and making further procedural decisions.

At the same time, practice shows that the institution of forensic examination can become an object of opposition to the pre-trial investigation by persons interested in its results. One of the most dangerous forms of such counteraction is the entry of these persons into illegal agreements with the entities entrusted with conducting expert research. As a result of obtaining an unlawful benefit or satisfying another unlawful interest, individual experts can carry out actions aimed at complicating or disrupting the proof.

Such counteraction may be embodied in deliberate delay in conducting expert research, filing unreasonable requests for the provision of additional samples or documents, as well as in drawing up biased conclusions that do not correspond to the facts of the case, or reports on impossibility of conducting an examination (in the absence of reasonable grounds for this). Such behavior not only slows down the course of the pre-trial investigation, but also creates risks of making erroneous procedural decisions, since the expert's conclusion is traditionally perceived as a source of specific expertise with a high level of trust.

From standpoint of forensic science, such actions should be considered as a form of institutional counteraction, implemented through the use of the procedural mechanism of forensic examination to influence the results of the investigation. Peculiarity of this form is that it combines external legality of procedural procedures with the potential manipulation of their content that greatly complicates timely detection of unlawful influence.

In this regard, it is important to ensure procedural control over the timing of expert research, proper verification of validity of experts' petitions, as well as a critical assessment of findings in conjunction with other evidence. This makes it possible to minimize the risks of using the institute of forensic examination as a tool to counteract the investigation.

Thus, interfering in conducting forensic examinations as one of the ways of influencing experts or manipulating the procedure for their appointment can be considered as one of the most difficult forms of counteraction to the pre-trial investigation, since it directly affects the quality of evidence and the timing of legal and substantiated procedural decisions.

One of the common modern forms of counteraction to the pre-trial investigation is the initiation by the defense of interrogation of persons who allegedly know criminal offense circumstances, but in fact their awareness is not confirmed by objective data. In practice, investigations of such persons are sometimes involved solely for the purpose of forming an alternative version of events or creating an information background that contradicts the actual case circumstances.

Peculiarity of this form of counteraction is that it is implemented within the procedurally permissible tools of the defense, by filing a petition for the interrogation of witnesses or interrogating previously interrogated persons. However, in lack of a real connection between such persons and the event of a criminal offense, their participation may be aimed at disorienting the investigation, creating artificial contradictions in the system of collected evidence and postponing the adoption of procedural decisions.

Witnesses who are not actually eyewitnesses of a criminal offense may provide pre-agreed or partially fictitious information, which complicates the verification of the reliability of information and requires additional investigative (search) actions. As a result, the tactical direction of the investigation changes, the scope of verification measures increases, and there is a risk of delaying pre-trial investigation.

From a forensic point of view, such behavior can be considered as a form of information and behavioral counteraction aimed at influencing the process of proof by artificially expanding the range of sources of information that have no real evidentiary value. In these circumstances, careful verification of the sources of information, comparison of testimony with material evidence and analysis of possible links between such witnesses and stakeholders becomes especially important.

Thus, initiation of interrogation of persons who do not have reliable information about the event of a criminal offense is one of the modern forms of counteraction to the pre-trial investigation, since it is aimed at changing information environment of criminal proceedings and influencing the process of making procedural decisions.

Conclusions

The research suggests that opposition to pre-trial investigation in modern conditions has become systematic, multilevel in nature and is increasingly manifested at the initial stages of the investigation before the entry of information into the Unified Register of Pre-Trial Investigations or immediately after the registration of criminal proceedings. Complication of mechanisms of criminal and illegal activities, the growth of organized crime, technologization of ways of committing offenses and the existence of corruption ties create increased risks of influence on the evidence environment and the process of making procedural decisions that requires a rethinking of the initial stage of the investigation as an information and conflict space.

The initial stage peculiarity is its dual function: on the *one hand*, it is the stage of identifying signs of a criminal offense, the formation of a primary system of evidence and investigative versions and on the *other hand*, the stage at which counteraction most intensively affects the quality of evidence and the validity of procedural decisions. In this context, the detection of signs of a crime and the neutralization of counteraction are inextricably linked: actions to collect and fix evidence are often neutralizing, while counteraction can mask or distort the very manifestations of the offense.

It is substantiated that one of the most common forms of counteraction at the initial stage is the influence on the adoption of procedural decisions through the use of time and procedural features of the criminal procedural law.

Information counteraction is a determining factor in destabilizing the initial stage of the investigation, since it is implemented in the form of reporting (providing) false information (in particular, testimony) regarding the subject of evidence during investigative (search) actions (interrogation, identification, investigative experiment, etc.). In such situations, the investigator is forced to act in conditions of conflict interaction, predict the behavior of the party to counteraction and check the reliability of information in comparison with material traces, other evidence and behavioral indicators. Timely detection of false testimony and tactical adaptation of the actions of the subject of evidence are necessary conditions for neutralizing this form of counteraction and ensuring reasonableness of the terms of criminal proceedings.

It was found out that a separate type of information (intellectual) counteraction is the initiation of attachment to the materials of the proceedings of documents with external signs of evidence (consulting opinions of "experts", opinions of specialists, etc.), which are not obtained in a procedurally determined manner and are not provided with guarantees of objectivity. The submission of such content can form an alternative information field, complicate proof, provoke additional checks and postpone the adoption of procedural decisions, which requires an increased critical assessment of their admissibility and evidentiary value from the investigator.

It is substantiated that the most dangerous manifestations of counteraction are associated with institutional influence on the mechanism of forensic examination: delaying the terms of research, unreasonable requests for additional materials, drawing up biased conclusions or reports about impossibility of conducting examination without proper grounds.

Another modern form of information and behavioral counteraction is the initiation by the defense of the interrogation of persons who are allegedly aware of the circumstances of the event, but in fact have no real connection with. The involvement of such persons can be aimed at creating artificial contradictions, forming alternative versions and increasing the volume of verification measures that negatively affects the tactical direction of the investigation and increases the risks of delaying investigation.

For summarizing the above: counteraction at the initial stage of the pre-trial investigation primarily affects three interrelated components: 1) process of making primary procedural decisions; 2) sources of evidence and its preservation; 3) mechanisms for interpreting evidence and forming investigative versions. It makes possible to consider the initial stage as a zone of the greatest information conflict, where effectiveness of criminal proceedings depends on the ability of the investigator to simultaneously identify signs of a criminal offense and neutralize counteraction through the integrated use of organizational, tactical and procedural means.

**Особливості виявлення
та нейтралізації протидії
на початковому етапі розслідування**

Олександр Таркан

Мета статті — розкрити особливості виявлення ознак кримінального правопорушення та нейтралізації протидії на початковому етапі досудового розслідування. Методологічну основу дослідження становить сукупність загальнонаукових, спеціальних і філософських методів пізнання, зокрема діалектичного, системно-структурного, функціонально-діяльнісного, порівняльно-правового, а також моделювання, аналізу й синтезу. Узагальнено, що початковий етап досудового розслідування є найбільш вразливим до різних форм протидії, що зумовлено інформаційною невизначеністю, дефіцитом часу та необхідністю приймати оперативні процесуальні рішення. Визначено, що протидія має *багаторівневий характер: її реалізують, впливаючи на процес збирання доказів, прийняття процесуальних рішень та інтерпретацію отриманих даних (застосуванням маніпуляцій з інформацією, користуванням процесуально допустимими й позапроцесуальними механізмами, поведінковими стратегіями й інституційним впливом та іншими засобами, спрямованими на ускладнення встановлення обставин кримінального правопорушення). Обґрунтовано, що виявлення ознак кримінального правопорушення та нейтралізація протидії є взаємопов'язаними процесами, які функціонують у межах єдиного механізму криміналістичного забезпечення розслідування. З'ясовано, що інформаційна протидія (надання неправдивих відомостей, ініціювання долучення документів із сумнівною доказовою цінністю, залучення недостовірно поінформованих осіб), процесуально легалізовані форми впливу (оскарження процесуальних рішень, маніпулювання процесуальними механізмами), а також інституційна протидія (вплив на проведення судових експертиз) здатні істотно змінювати напрям доказової діяльності й підвищувати ризик прийняття помилкових процесуальних рішень. Доведено, що початковий етап досудового розслідування доцільно розглядати як інформаційно-конфліктний простір, у межах якого суб'єкт доказування не лише здійснює пізнавальну діяльність, а й протидіє активному впливу зацікавлених осіб. Зауважено, що своєчасна діагностика виявів протидії, критичне оцінювання джерел інформації та застосування криміналістичних тактичних засобів є основними умовами забезпечення ефективності розслідування і дотримання принципу розумності строків кримінального провадження.*

Ключові слова: *досудове розслідування; початковий етап; протидія; нейтралізація протидії; виявлення ознак злочину.*

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Declaration of Competing Interest

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Tactical Support for Trial of Criminal Offenses against Justice

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Theoretical and applied aspects of tactical support for the trial of criminal offenses against justice are investigated. The purpose of the work is to determine the content, features and place of trial tactics in the system of forensics, as well as to substantiate its significance as an element of forensic support for judicial activity. Methodological basis of the research is general scientific methods of analysis, synthesis and generalization, as well as dialectical, logical-semantic, formal-legal, systemic-structural, comparative-legal and hermeneutic. The current state of scientific research in the field of forensic tactics and the organization of trial is analyzed, as well as the main approaches to determining the place of trial tactics in the system of forensics. The need to expand traditional understanding of forensic tactics beyond the pre-trial investigation and recognize its significance for the judicial stage of criminal proceedings is substantiated. It is proven that the tactical support of the trial of criminal offenses against justice is characterized by increased procedural sensitivity, conflict and risks of opposing the administration of justice, which necessitates the application of organizational and procedural and forensic techniques by the court. The key elements of the trial tactics are identified, including tactical planning of the process, rational sequence of evidence examination, ensuring procedural discipline and responding to detection of procedural abuses. It is concluded that the trial tactics are an important tool for increasing the efficiency of judicial activity, aimed at ensuring a complete, comprehensive and

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objective investigation of the circumstances of criminal proceedings and strengthening public confidence in justice. Prospects for further research related to development of a typology of judicial tactical situations and practice-oriented recommendations for judicial activity are outlined.

***Keywords**: criminal proceedings; pre-trial investigation; forensic support; tactics; tactical technique; justice; trial.*

Research Problem Formulation

Current state of development of the criminal justice sector in Ukraine is characterized by increased requirements for efficiency and fairness of administration of justice, as well as the need to ensure an adequate level of protection of judiciary independence. Thereby criminal offenses against justice attract attention, which directly encroach on the normal functioning of the judicial system, the authority of the court and the principle of the rule of law, independence of Themis representatives, etc. Complexity of such proceedings, the use of modern methods of counteracting the establishment of the truth and influencing participants in the trial of a criminal case, actualize the issue of improving tactical approaches to the activities of the judiciary in carrying out their professional activities.

Despite a significant amount of scientific research in the field of forensic tactics and the organization of trial, the issue of tactical support for the trial of criminal offenses against justice remains insufficiently developed. In the practice of courts, there are difficulties associated with the assessment of specific situations, combating procedural abuse, protecting trial participants as well as the need to maintain a balance between the adversarial nature of the parties and the active role of the court. It indicates a discrepancy between theoretical developments and the real needs of judicial practice.

Separate problem is the lack of a systematic approach to formation of a set of tactical means, techniques and recommendations that would take into account peculiarities of consideration of criminal offenses against justice, in particular their increased procedural sensitivity and potential impact on the functioning of law enforcement institutions. In this regard, there is a need to scientifically rethink existing approaches, determine the specifics of tactical support for the trial of these criminal offenses and develop practically-oriented recommendations to improve the efficiency of judicial activity.

Therefore, improving theoretical foundations and practical mechanisms for tactical support of the trial of criminal offenses against justice will contribute to improving quality of justice administration and strengthening public trust in the judicial system.

Article Purpose

Identify theoretical and applied aspects of tactical support for the trial of criminal offenses against justice.

Research Methods

The goal was achieved through comprehensive application of scientific knowledge methods. In particular, dialectical method was useful for studying the evolution of scientific views on the content and place of forensic tactics in criminalistic system, as well as for identifying the relationship between development of the criminal process and the transformation of tactical approaches in judicial activity.

Logical-semantic method helped in the analysis of the conceptual apparatus of the study, in particular the categories of *forensic tactics*, *trial tactics*, *tactical support for trial*, which made possible to clarify their content, correlation and limits of scientific application.

Formal-legal (dogmatic) method was used to study the norms of the criminal procedural legislation of Ukraine determining procedural position of the court, limits of its activity in research of evidence and the legal prerequisites for implementation of tactical decisions during the trial. Using the system-structural method, an analysis of the place of trial tactics in the general system of forensics was carried out, and structural elements of tactical and forensic support of judicial proceedings in cases of criminal offenses against justice were determined.

Comparative legal method contributed to the comparison of scientific approaches to determining the status of judicial tactics, possibilities of its isolation as an independent direction and its correlation with the tactics of pre-trial investigation. Hermeneutic method was used with the aim of interpreting doctrinal provisions and scientific concepts related to forensic support of the trial, which helped to clarify their substantive accents and practical significance.

Method of generalization and analysis of judicial practice made possible to systematize typical tactical situations characteristic of consideration of criminal offenses against justice, as well as to formulate practically oriented conclusions regarding organizational and tactical principles of the court's activities.

Analysis of Essential Researches and Publications

Scientists are constantly developing and improving the issues of combating crimes against justice. In particular, the issue of criminal liability for their commission has been studied by N. Alieksieieva, H. Bershov, A. Vorontsov, S. Didyk, V. Zatolochnyi, A. Martirosian, L. Paliukh, V. Tiutiuhin, O. Shnypko et al [1].

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Issue of tactical support for the trial of criminal cases (trials) in modern legal science is considered within the framework of research on forensic tactics, forensic support for judicial proceedings, and the problems of organizing the administration of justice. A significant contribution to the development of procedural and tactical aspects of supporting the prosecution in court and trial was made by I. Kohutych, I. Shepitko et al [2].

The issue of methodological and forensic support for the investigation of crimes against justice is analyzed in research papers by S. Knyzhenko [3], Ye. Sup [4], K. Romanauskas [5], M. Shepitko [6], researchers emphasize the need to adapt tactical and methodological approaches to specifics of this category of criminal offenses (in particular, at the stage of trial). The theoretical principles of the formation of methodological complexes of forensic support for judicial proceedings and the role of situational approach in making tactical decisions are revealed in multidisciplinary research by Yu. Myroshnychenko [7].

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7 Мирошниченко Ю. М. Криміналістичне забезпечення судового провадження: концептуальні основи : дис. ... д-ра юрид. наук. Кропивницький, 2024. 493 с. URL: https://

Important place in development of the concept of judicial tactics is occupied by the works of I. Kohutych, devoted to the use of forensic knowledge during the consideration of criminal cases in court and the analysis of methodological problems of the development of forensic tactics [8]. Theoretical aspects of tactics of judicial consideration of criminal proceedings, in particular the principles of selectivity of tactical influence and ensuring the tasks of judicial consideration, contain research papers by V. Alieksieichuk [9], O. Oderiyi and R. Hiertsyk [10] et al.

Separate area of researches is related to the issues of overcoming resistance to the judicial examination of criminal proceedings, that is highlighted in research papers by R. Mudretskyi [11].

At the same time, the analysis of scientific sources indicates that most of the research is devoted to general issues of forensic tactics of pre-trial investigation or general aspects of legal proceedings. However, the specifics of tactical support for trial of criminal offenses against justice as an independent object of research are not sufficiently covered. It necessitates further scientific understanding of this issue and development of a systematic approach to the formation of relevant tactical recommendations.

Main Content Presentation

Forensic tactics are traditionally considered as a component of forensics, encompassing a system of scientifically based provisions, recommendations and techniques for organizing and implementing procedural activities aimed at establishing the circumstances of a criminal offense, effectively using evidentiary information and achieving the objectives of criminal proceedings. The provisions that currently comprise an independent section of criminalistics are the result of generalizing practical experience in solving crimes: they were accumulated and passed down from generation to generation, so they gradually acquired a more orderly nature. Scientists note that the criterion for history periodization of criminalistics is nature of knowledge, according to which two large time periods are distinguished in development of science. The same applies to forensic tactics. The first, pre-scientific, covers the time from the emergence of primary forensic knowledge to the end of the 19th century. and contains two stages: the emergence of elements of tactical-forensic knowledge (from ancient times to the 1830s) and the formation of theoretical prerequisites for the forensic branch

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10 Одерій О. В., Гєрцик Р. В. Методика судового розгляду кримінальних проваджень (теоретичний аспект). *Правовий часопис Донбасу*. 2024. Т. 2. № 4. С. 178—184. DOI: 10.32782/2523-4269-2022-81-4-2-178-184 (date accessed: 04.02.2026).

11 Мудрецький Р. В. Подолання протидії судовому розгляду у кримінальних провадженнях : дис. … канд. юрид. наук. Кривий Ріг, 2019. 263 с. URL: https://uacademic.info/ua/document/0420U100095 (date accessed: 04.02.2026).

of knowledge (1830s – end of the 1830s). Research in the second period is related to the formation and further development of forensic tactics as a component of the science of criminalistics [12].

The second stage characterizes the functioning of forensic tactics within the boundaries of mature science (from the 1980s to the present) and is marked by internal stages associated with the end of the conventional "era of Soviet criminalistics" and the inertial continuation of its paradigm in the first decade of Ukraine independence. The period from the beginning of the 1960s was marked by an increase in the pace of development of forensics and general theory, which contributed to the clarification of the doctrine of investigation planning and forensic versions, as well as an active analysis of the nature of investigative actions and the tactics of their conduct. At this time, new directions in forensic tactics were developed (in particular, doctrine of investigative situations, tactical combinations and forensic operations), approaches to tactical decisions were formed, and methods for performing individual investigative actions continued to be improved. Researchers separately emphasize the role of research papers devoted to the leading categories of tactics (tactical technique, tactical combination, investigative situation, surprise factor), as well as the contribution of research on the situational approach, conflict situations, tactical risk, and theory formation of investigative situations [13].

It is worth noting that forensic tactics were formed and continue to develop at the intersection of criminal procedural law, psychology, logic and law enforcement practice, providing optimal methods of action for participants in criminal proceedings depending on the specific procedural situation. In the modern sense, forensic tactics go beyond the limits of exclusively pre-trial investigation and also cover the activities of subjects related to the forensic examination of evidence [14].

In scientific literature, there has been a long-standing discussion about the possibility of distinguishing trial tactics as an independent direction of forensic tactics. Skeptical positions were justified by the fact that the court, unlike the parties to criminal proceedings, should remain impartial and cannot use tactical techniques in an adversarial sense. At the same time, modern development of forensics and the analysis of the practice of legal proceedings indicate the validity of using the category *trial tactics*.

One of the main issues in formation of a system of scientific provisions on forensic support for the trial of criminal cases is determining their place in the general system of forensics. The traditional structure of this science includes general provisions, forensic techniques, forensic tactics (mainly focused on pre-trial investigation) and forensic methods of investigating crimes. In connection with the development of the judicial aspect of criminal proceedings, there is a need to expand this

12 Мирошниченко Ю. М. З історії криміналістичної тактики (донауковий період). *Науковий вісник Міжнародного гуманітарного університету. Серія: Юриспруденція*. 2019. № 42. Т. 1. С. 141—144. DOI: 10.32841/2307-1745.2019.42-1.30 (date accessed: 04.02.2026).

13 Його ж. Криміналістична тактика в період становлення науки криміналістики. *Юридичний бюлетень*. 2020. Вип. 13. С. 201—207. DOI: 10.32850/LB2414-4207.2020.13.26 (date accessed: 04.02.2026).

14 Журавель В. А., Коваленко А. В. Дослідження доказів у кримінальному провадженні як складова процесу доказування. *Вісник Національної академії правових наук України*. 2022. Т. 29. № 2. С. 313—328. DOI: 10.31359/1993-0909-2022-29-2-313 (date accessed: 04.02.2026).

system through provisions and recommendations intended for the stage of trial. We agree with V. Alieksieichuk that in scientific literature the issue of the place of means of forensic support for the trial is interpreted differently, and the most debatable issue is the determination of the status of forensic methods of trial. The author summarized approaches of scientists to feasibility of studying the tactics of trial. Thus, one of the approaches she singled out involves introducing such methods as separate sets of recommendations into full-fledged forensic methods that cover both pre-trial investigation and trial of certain types of crimes. However, this approach raises doubts, since the grounds for classification that are relevant at the investigation stage do not always retain their significance at the trial stage, where the specifics of the case may lose their distinguishing significance. More justified, in the scientist's opinion, is the position according to which forensic methods and forensic tactics are internally divided into two parts: pre-trial and trial. Such an approach makes it possible to single out the methodology of trial and the tactics of judicial actions as independent components within the existing sections of forensics. At the same time, the problem of targeting such recommendations arises: they can be oriented towards the court, defense prosecution necessitating differentiation of recommendations taking into account the procedural functions of each subject.

Another approach, as V. Alieksieichuk notes, suggests forming separate systems of forensic recommendations intended for specific participants in the trial: judges, prosecutors or lawyers. However, such a model can lead to a loss of integrity of forensic knowledge and complicate a unified understanding of typical situations of legal proceedings, since the assessment of evidence and circumstances should be carried out in an interconnected context. Another concept she singled out involves the creation of an independent section of forensics: *forensic criminalistics*. However, this approach is criticized for a possible violation of the systematic nature of science, since technique, tactics and methodology are considered universal categories of forensics, and their judicial manifestations are more appropriate to treat as components of existing sections, rather than as a separate system. Summing up, the researcher notes that scientific discussions indicate lack of a unified approach to determining the place of forensic support for legal proceedings in the system of criminalistics that necessitates further theoretical understanding of this problem, taking into account systematic nature of science and the specifics of the judicial stage of criminal proceedings [15].

We consider appropriate to take the approach of studying and improving the principles of trial tactics, taking into account the fact that it should not be understood as influencing the outcome of the case in the interests of a particular party, but as a scientifically sound organization of judicial activity aimed at ensuring a complete, comprehensive and objective examination of evidence. Thereby, in our opinion, the position that trial tactics are a system of organizational, procedural and forensic techniques used by the court to effectively manage the procedure of proving evidence, examining evidence, overcoming procedural difficulties that arise during consideration of the case and ensuring implementation of the principles of fair trial seems justified. This is

15 Алєксєйчук В. І. Зазнач. твір. URL: https://elar.navs.edu.ua/server/api/core/bitstreams/ca035412-b508-4a33-b2e3-fef51a8beb90/content (date accessed: 04.02.2026).

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not about the tactical struggle of the parties, but about the tactical rationality of judicial activity, embodied in the choice of sequence of evidence examination, responding to procedural abuses, determining the optimal form of evidence examination and maintaining the proper dynamics of the trial.

Tactical support for the trial of criminal offenses against justice has a special specificity, due to the nature of these acts. Since such criminal offenses are directly related to the functioning of the justice system, the trial can be accompanied by an increased level of procedural tension, the presence of conflicting interests of the participants in the proceedings and the risks of influencing the evidentiary procedure. In such conditions, tactics of the trial are manifested primarily in ability of the court to timely identify typical tactical situations and choose adequate ways to resolve them without violating independence and impartiality principles.

Among the main components of trial tactics, it is advisable to single out tactical planning of the trial, determining rational sequence of evidence examination, ensuring procedural discipline, and organizing effective communication between the participants in the proceedings. Of particular importance is overcoming resistance to the trial (in particular, attempts to delay the trial or other forms of resistance) that requires the court to make balanced organizational and tactical decisions.

Therefore, the use of the category of *trial tactics* is scientifically justified provided that it is understood as an element of forensic support for the court's activities, aimed at achieving the objectives of criminal proceedings through the rational organization of procedural activities. Court performance of procedural duties within the limits of the objectives of criminal proceedings objectively determines its active participation in the investigation of case circumstances aimed at comprehensive and objective establishment of the truth. This implies the court ability to choose the most rational methods of examining evidence, combining procedural mechanisms defined by law with scientifically sound recommendations of criminalistics [16].

In the context of criminal offenses against justice, such tactics are an important tool for ensuring the effectiveness of judicial proceedings and strengthening confidence in justice.

Tactical support for the trial of criminal offenses against justice is a system of scientifically based provisions, techniques and recommendations aimed at creating optimal conditions for the court to conduct a full, comprehensive and objective investigation of the circumstances of the criminal proceedings, as well as *"the selection by the judge of a rational line of conduct, effective methods of conducting procedural actions aimed at researching, checking and evaluating judicial evidence in order to establish the actual circumstances of the event under investigation and making a lawful and informed decision"* [17].

The content of tactical and forensic support of the trial is due to specifics of criminal offenses that directly impinge on the functioning of the justice system and may be accompanied by an increased level of procedural conflict, attempts to influence the participants in the process, as

16 Мирошниченко Ю. М. Криміналістичне забезпечення ... : дис. ... . С. 387. URL: https://dnuvs.ukr.education/wp-content/uploads/2024/08/dysertacziya_myroshnychenko_yu_m_compressed.pdf (date accessed: 04.02.2026).

17 Там само. С. 105—106, 389.

well as various forms of counteraction to the establishment of the truth in the case.

We agree that *"the tactics of the court are largely determined by the procedural conditions of the trial, as well as by a number of objective and subjective factors under the influence of which the situation of a particular trial is formed a specific judicial situation"* [18]. The study of criminal case materials, court decisions and sentences allows us to generalize that the following features are characteristic of judicial situations formed during the trial of criminal offenses: opposition, which consists in providing contradictory and biased testimony by the participants in the proceedings; a high level of interest of individual subjects in the results of the trial, which in some cases borders on opposition to the lawful activities of the court; the complexity of evaluating evidence of a procedural nature, the need to protect the participants in the trial. Within the limits of each tactical situation, the court must form an appropriate model of behavior, which involves planning, choosing the optimal sequence of evidence examination, tactical planning of judicial actions and their effective conduct that allows achieving the planned results.

Therefore, in the context of determining the principles of tactical support for the trial of criminal offenses against justice, it should be noted that it is necessary to ensure a balance between the active role of the court in examining evidence and compliance with the principles of adversarial proceedings and procedural equality of the parties. Tactical support in this case involves the application by the court of a complex of organizational and intellectual solutions aimed at timely identification and neutralization of procedural risks, in particular, delaying the trial, fabricating and falsifying evidence, or creating artificial obstacles to justice administration.

Organizational and tactical aspect of a trial includes planning trial, determining sequence of evidence examination, managing dynamics of the trial and ensuring proper communication between trial participants. Effective combination of organizational and tactical elements helps ensure reasonable trial deadlines and improves quality of the court decision.

Specific of tactical support in cases of criminal offenses against justice is the need to take into account increased standards for the validity of court decisions, since such proceedings directly affect authority of the judiciary and the level of public trust in justice. This determines the importance of careful examination of evidence, critical analysis of the parties' positions, and the use of forensic knowledge in the process of judicial investigation of case circumstances.

Conclusions

Traditional understanding of forensic tactics as predominantly *investigative* (pre-trial) at the current stage of development of science and the field of criminal justice does not reflect the real needs of modern judicial practice. Forensic tactics by their nature are a complex of scientifically based techniques and recommendations that ensure the rational organization of procedural activities depending on the specific situation, and therefore cover judicial stage of criminal proceedings. This makes it possible to justify the expediency of distinguishing such a section as tactical

18 Мирошниченко Ю. М. Криміналістичне забезпечення ... : дис. ... . С. 390. URL: https://dnuvs.ukr.education/wp-content/uploads/2024/08/dysertacziya_myroshnychenko_yu_m_compressed.pdf (date accessed: 04.02.2026).

and forensic support for the trial of criminal offenses against justice that should be considered as a comprehensive tool for increasing the efficiency of judicial activities, combining forensic, procedural and organizational components and aimed at achieving the objectives of criminal proceedings and ensuring fair justice.

To date, science has not developed a unified approach to determining the place of forensic support for trial in the system of criminalistics. The most controversial issue is the status of forensic methods of trial and their relationship with methods of pre-trial investigation (in particular, regarding the criteria for classification and the limits of differentiation of recommendations). Relevance of solving the problem of developing and studying tactical support for the trial of criminal offenses against justice is due to increasing requirements for the efficiency and fairness of justice, as well as the increasing procedural complexity of such proceedings, in which there are often manifestations of opposition to establishment of the truth and influence on trial participants.

Based on generalization of case law content, it was determined that the tactical support of the trial of criminal offenses against justice is characterized by increased procedural sensitivity, conflict and risks of counteraction that requires the court to timely identify typical tactical situations and select adequate organizational and procedural solutions taking into account adversarial nature and equality of the parties. Leading elements of the trial tactics in this category of proceedings are tactical planning of the trial; determining rational sequence of evidence examination; ensuring procedural discipline; organizing communication between participants; responding to procedural abuses and other forms of counteraction; taking into account security aspects of participation of the parties and witnesses.

It is emphasized that specificity of criminal offenses against justice requires increased standards of validity of court decisions, and therefore requires enhanced control over quality of evidentiary content, critical analysis of the parties' positions, and the correct use of forensic knowledge during the trial. Therefore, there is a need to further develop a systematic approach to the formation of a set of tactical recommendations for the trial of criminal offenses against justice, in particular by developing a typology of judicial tactical situations, algorithms for responding to procedural opposition, and methodological guidelines for organizing research on evidence within the framework of fair trial.

Тактичне забезпечення судового розгляду кримінальних правопорушень проти правосуддя

Тетяна Бобко

Досліджено теоретичні та прикладні аспекти тактичного забезпечення судового розгляду кримінальних правопорушень проти правосуддя. Метою роботи є визначення змісту, особливостей і місця тактики судового розгляду в системі криміналістики, а також обґрунтування її значення як елемента криміналістичного забезпечення судової діяльності. Методологічне підґрунтя дослідження становлять загальнонаукові методи аналізу, синтезу й узагальнення, а також діалектичний, логіко-семантичний, формально-юридичний, системно-структурний, порівняльно-правовий і герменевтичний. Проаналізовано сучасний стан наукових досліджень у сфері криміналістичної тактики й організації судового розгляду, а також основні підходи до визначення міс-

ця тактики судового розгляду в системі криміналістики. Обґрунтовано необхідність розширення традиційного розуміння криміналістичної тактики за межі досудового розслідування та визнання її значення для судової стадії кримінального провадження. Доведено, що тактичне забезпечення судового розгляду кримінальних правопорушень проти правосуддя характеризується підвищеною процесуальною чутливістю, конфліктністю та ризиками протидії здійсненню правосуддя, що зумовлює потребу в застосуванні судом організаційно-процесуальних і криміналістичних прийомів. Визначено ключові елементи тактики судового розгляду, поміж яких тактичне планування процесу, раціональна послідовність дослідження доказів, забезпечення процесуальної дисципліни й реагування на вияви процесуальних зловживань. Зроблено висновок, що тактика судового розгляду є важливим інструментом підвищення ефективності судової діяльності, спрямованим на забезпечення повного, усебічного й об'єктивного дослідження обставин кримінального провадження та зміцнення довіри суспільства до правосуддя. Окреслено перспективи подальших досліджень, пов'язані з розробленням типології судових тактичних ситуацій і практико-орієнтованих рекомендацій для судової діяльності.

Ключові слова: *кримінальне провадження; досудове розслідування; криміналістичне забезпечення; тактика; тактичний прийом; правосуддя; судовий розгляд.*

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Declaration of Competing Interest

Author declares no conflict of interest.

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Research Papers

Inspection of Documents Detailing the Mechanism of Unlawful Conduct by Professional Participants in Proceedings

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The Article Purpose is to determine particularities of inspecting and analysing paper and electronic documents as sources of information about the mechanism of unlawful conduct by professional participants in proceedings during the investigation of criminal offenses against justice. To meet this goal, a variety of general scientific, special legal, and philosophical methods have been employed, which made sure there was a systematic approach to studying documents as carriers of evidence in the context of proceedings digitalisation. It has been substantiated that inspection of documents is derivative and objective in nature and is carried out within the framework of a uniform legal procedure for inspection stipulated by Art. 237 of the Criminal Procedure Code of Ukraine. The paper determines permissible sources of document origin that may be subjected to inspection: voluntary provision by participants in proceedings, temporary access to documents, and seizure during searches. The last one is the most common method of obtaining access to and seizing documents in cases of this category. A classification system for typical objects of inspection (procedural documents of the prosecution, documents

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relating to the exercise of the right to defence, materials and digital records of automated systems, restricted-access official documents, internal official correspondence, and other organizational and administrative materials) has been discussed. It has been generalized that documents can be either forged (containing signs of material or intellectual forgery) or formally authentic without external signs of falsification, but unlawful in terms of content or functional purpose within the mechanism of abuse. Emphasis is placed on particularities of inspecting electronic documents and computer data: the need to engage a specialist, record metadata and event logs, ensure consistency in digital information, and properly document results in line with procedural requirements. Research findings will be of practical use in refining tactical recommendations for document inspection and enhancing a proof procedure in criminal proceedings concerning crimes against justice committed by professional participants in proceedings.

Keywords: *justice; investigative (search) action; inspection; document; electronic document; investigative tactics.*

Research Problem Formulation

Professional participants in proceedings—judges, prosecutors, lawyers, investigators, and other parties vested with procedural authority—fulfil duties closely related to the observance of principles of the rule of law, lawfulness, and justice. Their legal status stipulates special rights, duties, and guarantees of independence designed to ensure the effective administration of justice and the safeguarding of human rights.

Meanwhile, the practice of bringing individual members of this group to criminal liability is inextricably linked to unlawful actions that pose a heightened danger to society. The specific nature of these offenses lies in the fact that they are often perpetrated by individuals who exploit their official position, have access to procedural information, and are able to affect participants in proceedings and the course of a trial. In this area unlawful conduct is generally complex and multi-layered, involving a combination of formally lawful procedural decisions and covert unlawful actions and thereby making it difficult to detect and document such actions in a timely manner.

The procedure for these activities is set out in various types of documents: procedural decisions and records, rulings, other materials of criminal proceedings; expert opinions; official inspection reports; court decisions; analytical reports, etc. A specific dataset may be captured in electronic documents and records represented in electronic information systems, such as the Unified Register of Pre-trial Investigations (hereinafter referred to as the *URPI*). Such data are contained in the automated case assignment among judges, and in the electronic document management system of pre-trial investigation authorities and courts, etc. It is precisely such information arrays that often contain traces of interference, manipulation, or abuse, which are of significant evidentiary value for establishing the method, stages, and conditions contributing to the execution of criminal intent.

Documents, as tangible data media, record the sequence of actions, decisions made, their rationale, and consequences. They can be used to reconstruct the mechanism of unlawful conduct. At the same time, the present-day conditions of proceedings digitalisation necessitate the examination not only of printed documents, but also of electronic data, metadata, log files, and other digital traces that may testify to the nature and manner of unlawful intent.

Despite this, academic research focuses predominantly on the classification of individual crimes or on procedural aspects of proof, while the issue of systematic analysis of documents as a source of information about the mechanisms of unlawful conduct by professional participants in proceedings remains inadequately developed. Specifically, there is no comprehensive approach to the tactics of inspecting and analysing both traditional (paper) and electronic documents that circulate within state information systems.

In view of the above, there is a need for a comprehensive study of documents detailing the mechanism of unlawful conduct by professional participants in proceedings, with the determination of their information potential, forensic characterizations, and the development of recommendations on tactics for inspecting paper and electronic documents. It is precisely these aspects that constitute the scientific issue determining the relevance of our research.

Article Purpose

Delineate particularities of inspecting and analysing paper and electronic documents as sources of information about the mechanism of unlawful conduct by professional participants in proceedings during the investigation of criminal offenses.

Research Methods

Methodological framework of the study was developed with consideration of the purpose and objectives of the article and presented as a set of interrelated general scientific, special legal, and philosophical methods. These methods were employed to conduct a comprehensive and systematic analysis of documents as information sources about the mechanism of unlawful activities perpetrated by professional participants in proceedings and enabled the development of practical recommendations on the tactics for inspecting paper and electronic documents.

Analysis and synthesis took the leading place in the structure of methods. Through analysis, the main components of the unlawful conduct mechanism were identified, as outlined in documents (procedural decisions, records, rulings, case materials, official correspondence, electronic records, and information system logs), and groups of documents that are most often inspected were systematized. Synthesis facilitated the generalization of identified patterns and the development of a comprehensive model for a tactical approach to document inspection.

Induction was applied to formulate general conclusions based on summarising practical observations regarding methods of obtaining documents in proceedings of this category and to delve into common manifestations of manipulation with documentary information. In the present-day context of proceedings digitalisation, deduction made it possible to verify theoretical provisions of forensic tactics by correlating them with the procedural nature of document inspection, which is a type of inspection set out in Art. 237 of the Criminal Procedure Code of Ukraine [1] (hereinafter referred to as the *CPC of Ukraine*), as well as with features of digital evidence.

Systemic-structural method was employed to determine interconnections between the legal status of a professional participant in proceedings, his/her procedural powers, access to information resources, and the nature of documentary evidence of unlawful conduct.

Formal-legal method proved useful for analysing regulations that determine the procedural format of document and computer data inspection, limits of permissible access to documents, and establish correlation between inspection and other procedural instruments (search, temporary access to items and documents).

Logical and legal method helped to construct a consistent argumentation regarding the forensic significance of documents in reconstructing the mechanism of unlawful conduct, in distinguishing between technical and intellectual forgery, and in justifying the need to combine formal analysis of details with substantive and chronological analysis of documents. It was this very method that enabled the identification of typical logical contradictions, inconsistencies in time parameters, and discrepancies in documents, which are deemed to be possible manipulation markers.

Comparative method was utilized to compare tactical approaches to inspecting paper and electronic documents. Theoretical and empirical framework of the study involves the processing and generalization of case materials from investigative and judicial practices, as well as the analysis of typical documents and digital records used in criminal proceedings against professional participants in proceedings. This provided a practical basis for drawing conclusions about the most common groups of documents, for defining typical ways of obtaining such documents, and for assessing common risks associated with the distortion of documentary information.

The combination of these methods enabled us to formulate theoretically sound and practically relevant conclusions about information potential of documents in proceedings within this category and to develop recommendations on tactics for inspecting paper and electronic documents, with due consideration given to the digitization of proceedings and the risks of data manipulation.

Analysis of Essential Researches and Publications

The issue of inspecting documents as a source of information falls traditionally within the ambit of forensic tactics and technology. Ukrainian scientists have developed theoretical guidelines for examining written and electronic documents, as well as specific recommendations for identifying signs of forgery and falsification. The following scholars have made significant contributions to the study of documents as physical data media: H. Avdieieva, T. Bezsonna, S. Honhalo, A. Ishchenko, N. Klymenko, N. Komissarova, O. Oderii, M. Saltevskyi, V. Sezonov, K. Chaplynskyi, V. Shevchuk, V. Shepitko, et al. The legal theoreticians have elaborated on forensic characterizations of documents, mechanisms of their creation, and the methodology for detecting traces of intellectual and technical forgery. Their

1 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: 25.01.2026).

papers interpret a document as a complex system of details and substantive elements that represent not only information but also the way it is formed.

Current evolutions in the judiciary, digitization of procedural procedures, and introduction of electronic document management have led to the emergence of new research avenues. Issues related to the examination of electronic documents, their metadata, digital traces, and falsification mechanisms are addressed within the scope of digital forensics. These aspects have been the focus of research by H. Avdieieva [2], A. Amelina and A. Serednia [3], A. Kovalenko [4], V. Lysenko [5], R. Stepaniuk and S. Perlin [6], V. Shepitko and M. Shepitko [7], V. Shevchuk [8], M. Shcherbakovskyi and V. Sezonov [9], and others.

Currently, analysis of scientific sources shows that most studies are devoted either to general issues of forensic document examination or to the common issue of electronic evidence. However, the mechanism of unlawful conduct by professional participants in proceedings as a specific object of forensic document analysis is still underdeveloped. There are hardly any multidisciplinary studies in which the tactics of inspecting paper and electronic documents are considered through the prism of reconstructing abuses in the field of justice and pre-trial investigations of criminal offenses.

Accordingly, despite significant achievements in the field of forensic examination of documents and digital evidence, document inspection tactics as a means of detecting signs and traces of unlawful conduct by professional participants in proceedings requires further systematic development. This justifies the

2 Avdeeva G. Technological breakthrough in criminalistics and forensic examination: new horizons. *Archive of Criminology and Forensic Sciences.* 2025. Vol. 11. No. 1. Pp. 100—110. DOI: 10.32353/acfs.11.2025.06 (date accessed: 19.01.2026).

3 Амеліна А. С., Середня А. І. Проведення слідчого огляду документів при розслідуванні кримінальних правопорушень у сфері господарської діяльності. *Науковий вісник Ужгородського національного університету. Серія: Право.* 2021. Вип. 67. С. 262—266. DOI: 10.24144/2307-3322.2021.67.50 (date accessed: 19.01.2026).

4 Коваленко А. В. Організація і тактика проведення огляду комп’ютерних даних. *Науковий вісник Херсонського державного університету. Серія «Юридичні науки».* 2023. № 4. С. 53—58. DOI: 10.32999/KSU2307-8049/2023-4-9 (date accessed: 19.01.2026).

5 Лисенко В. В. Проблеми практики вилучення органами досудового розслідування речей і документів у суб’єктів господарювання. *Вісник Луганського державного університету внутрішніх справ імені Е. О. Дідоренка.* 2023. Вип. 1 (101). С. 269—287. DOI: 10.33766/2524-0323.101.269-287 (date accessed: 19.01.2026).

6 Степанюк Р. Л., Перлін С. І. Цифрова криміналістика й удосконалення системи криміналістичної техніки в Україні. *Там само.* 2022. Вип. 3 (99). С. 283—284. DOI: 10.33766/2524-0323.99.283-284 (date accessed: 19.01.2026).

7 Шепітько В., Шепітько М. Доктрина криміналістики та судової експертизи: формування, сучасний стан і розвиток в Україні. *Право України.* 2021. № 8. С. 12—27. DOI: 10.33498/louu-2021-08-012 (date accessed: 19.01.2026).

8 Шевчук В. М. Європейський вектор розвитку сучасної криміналістики. *Адаптація правової системи України до права Європейського союзу: теоретичні та практичні аспекти* : мат-ли VI Всеукр. наук.-практ. конф. (Полтава, 29.09.2022). Полтава, 2022. С. 325—327.

9 Щербаковський М., Сезонов В. Збирання та дослідження електронних документів із застосуванням спеціальних знань. *Теорія та практика судової експертизи і криміналістики.* 2024. Вип. 3 (36). С. 10—23. DOI: 10.32353/khrife.3.2024.02 (date accessed: 19.01.2026).

relevance and scientific validity of our research.

Main Content Presentation

Document inspection is a type of review, rules for which are set out in Art. 237 of the CPC of Ukraine [10]. This article defines the standard legal procedure for inspection. This procedure involves the inspection of area, premises, items (excluding corpses).

Pursuant to regulatory provisions and for the purpose of identifying and recording information about circumstances of a crime, investigator or public prosecutor shall carry out visual inspection of the area, premises, items and documents to find and record the information relating to the commission of a criminal offence [11]. Having meticulously analysed Parts 2–7 of Art. 237 of the CPC of Ukraine, we stand by the statement above [12]. All procedural guarantees, the procedure for the participation of persons, the rules for recording results, the possibility of seizing items and documents, the use of technical means, as well as the powers of the investigator ensuring the proper conduct of an action are specifically intended for inspection, which is viewed as a unified investigative (search) action. No distinction is made by the law between procedures depending on whether the object is an area, an item, or a document. Therefore, in this legal rule, documents are considered not as a separate subject of an individual procedural action, but as one of its objects.

Even the provisions of Pt. 5 of Art. 237 of the CPC of Ukraine, mentioning the option of *"seizure... of items and documents"*, confirm that a document is considered a type of inspection object, rather than a ground for a separate legal procedure. Furthermore, the law stipulates that seized documents are subject to immediate inspection and sealing, i.e., the legislator ties their examination specifically to the inspection procedure, rather than to any other action.

Amendments to the CPC of Ukraine [13], introduced by Law No. 2137-IX of 15 March 2022 [14], deserve special attention, as computer data have been added to the list of objects subjected to inspection and the procedure for presenting them in the record of inspection has been specified in detail. However, the legislator did not single out a new additional investigative (search) action, but only clarified the specific nature of conducting inspections of individual objects: digital data. This approach demonstrates the preservation of a single procedural construct for inspections with object variability.

Therefore, document inspection is derivative and objective in nature: its procedural nature is strictly defined by the overall framework of inspection set out in Art. 237 of the CPC of Ukraine [15]. It is

10 Кримінальний процесуальний кодекс … . URL: https://zakon.rada.gov.ua/laws/show/4651-17#Text (date accessed: 25.01.2026).

11 Там само.

12 Там само.

13 Там само.

14 Про внесення змін до Кримінального процесуального кодексу України та Закону України «Про електронні комунікації» щодо підвищення ефективності досудового розслідування «за гарячими слідами» та протидії кібератакам : Закон України від 15.03.2022 р. № 2137-IX. URL: https://zakon.rada.gov.ua/laws/show/2137-20#Text (date accessed: 25.01.2026).

15 Кримінальний процесуальний кодекс … . URL: https://zakon.rada.gov.ua/laws/show/4651-17#Text (date accessed: 25.01.2026).

not an independent investigative (search) action: it is a formal type of inspection depending on examination subject. Accordingly, tactical considerations of document inspection do not alter its legal procedure, but only specify the content of the investigator's activities in terms of the procedure already defined by law. This is of fundamental importance for the correct distinction between document inspection and other investigative (search) actions, in particular searches and temporary access to items and documents.

When discussing tactical aspects of document inspection, one cannot ignore the admissible sources of origin of such documents. Only those documents to which the prosecuting party has already obtained legal access or which have been voluntarily submitted by participants in criminal proceedings may be subjected to inspection. Therefore, this conclusion is logical following a systematic interpretation of the provisions of the CPC of Ukraine governing the methods of obtaining items and documents.

If documents are in possession of a person who does not provide them voluntarily, they can only be obtained through a procedure of temporary access to property and documents or through a search. In other words, inspection is not a standalone basis for entering a person's premises or forcibly seizing documents. Inspection is exploratory in nature, not search-oriented. If the defence counsel, the victim, or other participants in criminal proceedings voluntarily provide documents, they shall be examined by means of an inspection in conformity with Art. 237 of the CPC of Ukraine, with mandatory procedural recording of their content, details, and external features [16]. Such an inspection serves to formally record evidentiary information.

In situations where documents are seized during other investigative (search) actions on legal grounds (for example, during a search or arrest), their further examination is also carried out in accordance with the procedure specified in Pt. 5 of Art. 237 of the CPC of Ukraine [17]. Therefore, inspection in such cases is a logical continuation of the procedural action already taken, rather than a separate means of accessing information.

It is worth noting that documents seized during the execution of an investigating judge's ruling on temporary access to items and documents are also to be inspected. Temporary access procedure is intended to ensure lawful acquisition of documents held by individuals or legal persons. This being said, temporary access does not replace the investigative stage in the procedural scrutiny of documents. After the documents have been received, they need to be recorded, their details, content and external features should be analysed, and this information is to be entered in the record of inspection. It is at this stage that inspection framework must be utilised as per Art. 237 of the CPC of Ukraine [18].

Thus, temporary access serves to legitimise the receipt of documents, while inspection ensures their procedural scrutiny and recording of evidentiary information. These are procedural instruments that differ in their legal nature but are functionally interrelated.

This aligns with the rationale of Pt. 5 of Art. 237 of the CPC of Ukraine, accor-

16 Кримінальний процесуальний кодекс … . URL: https://zakon.rada.gov.ua/laws/show/4651-17#Text (date accessed: 25.01.2026).

17 Там само.

18 Там само.

ding to which seized items and documents are subjected to immediate inspection and sealing [19]. Although this rule is closely related to the general inspection procedure, its content also extends to documents obtained during other procedural actions, in particular temporary access. In fact, in such cases, inspection is the next mandatory stage in working with documents that have already acquired the procedural status of potential evidence.

Therefore, inspection of documents seized during temporary access to items and documents is designed to ensure the collection of evidence and is carried out with the aim of properly recording content of documents, verifying their integrity, determining their authenticity, and temporarily seizing them for the purpose of examination and use in criminal proceedings. Roughly speaking, this approach ensures procedural balance: compulsory access to documents is only possible upon court authorisation, and their subsequent examination is carried out within the framework of the general inspection procedure, an investigative (search) action.

Study of criminal case files involving professional participants in proceedings demonstrates that, in practice, documents are most often seized during searches. This approach is due to the specific nature of unlawful conduct in the justice system. Documents reflecting such actions are usually not handed over voluntarily and are not publicly accessible. Conversely: they can be hidden, stored in official archives, safes, on work computers or other data media with restricted access. Given the potential risks, interviewed investigators from the State Bureau of Investigations as well as employees of the prosecutor's office have determined that temporary access to items and documents cannot be viewed as a viable measure. Simultaneously, even if documents are seized during a search, they should undergo further procedural scrutiny in accordance with Art. 237 of the CPC of Ukraine [20]. Searches serve to forcibly locate and seize documents, while inspections ensure that they are recorded, their content is analysed, and they are given the status of evidence.

When investigating criminal offences against justice committed by professional participants in proceedings, objects of inspection are most often documents that outline and reflect procedural activities of relevant actors and record the exercise of their official or professional powers. We propose to combine typical objects of inspection into the following groups:

1) Procedural documents drawn up by the prosecution during a pre-trial investigation. These include the arrest report, notice of suspicion, motion for preventive measures, reports of investigative (search) actions, indictments, etc. Such documents are the pivotal elements in proceedings under Arts. 371 and 372 of the CC of Ukraine [21], as they record decisions on the restriction of liberty or the bringing of a person to criminal liability.

   A separate subgroup includes interrogation records and their appendices (audio and video recordings). They are paramount in cases involving coercion to testify, as these

19 Кримінальний процесуальний кодекс … . URL: https://zakon.rada.gov.ua/laws/show/4651-17#Text (date accessed: 25.01.2026).

20 Там само.

21 Кримінальний кодекс України від 05.04.2001 р. № 2341-III (зі змін. та допов.). URL: https://zakon.rada.gov.ua/laws/show/2341-14#Text (date accessed: 25.01.2026).

documents may outline certain observations made by the interrogated individual regarding the compiled document;

2) Documents compiled by other persons, institutions and organisations and pertaining to the provision of legal aid. These include, inter alia, orders issued by the free legal aid office, records explaining the right to counsel, statements waiving the right to a defence counsel, court session journals, court rulings, etc.;
3) Documents and electronic data relating to the functioning of automated systems in the field of justice. These include registration logs in automated court document management systems, access log files, case distribution data, electronic records in the URPI, and electronic procedural documents with metadata;
4) Official materials of criminal proceedings, correspondence, extracts from the URPI, procedural documents marked as restricted access, receipts, as well as internal use documentation. They are usually drawn up when a person is notified of the prohibition on disclosure of information relating to pre-trial investigations and operational (search) activities, and are also associated with the application of security measures against a person;
5) Other documents (official visitor logs; internal official correspondence; drafts of procedural documents and their rough drafts; orders, instructions and management orders; staff or disciplinary documents, where they are relevant to the subject of proof).

It can be summarised that it is most often official procedural documents that are subject to inspection, which record the exercise of powers by professional participants in proceedings, as well as electronic documents and official materials outlining the actual decision-making. It is these documents that contain information about lawfulness or unlawfulness of actions of the relevant authority, chronological sequence of decision-making, its content, and legal procedure.

Consequently, in this category of criminal proceedings, a document is more than just a source of information; it is a direct reflection of the mechanism of unlawful conduct, determining its leading role as an object of inspection and proof.

Documents that are subjected to inspection during investigations of crimes against justice may differ in their forensic nature. They can contain signs of complete or partial forgery, or they might be formally authentic, without any technical defects or signs of falsification.

Sometimes a document is subject to technical or intellectual forgery. This involves entering false information into the record of investigative actions, changing dates of their compilation, backdating documents, amending without proper certification, forging signatures of participants in criminal proceedings, manipulating electronic file metadata, interfering with automated document management systems, etc. The purpose of inspecting such documents is to identify signs of forgery.

Scientists have rightly pointed out that among methods of detecting intellectual forgery, logical analysis of a document's content, as well as comparing it with well-known facts and circumstances established during pre-trial investigations, holds a central place. This involves not only formal reading of text, but also its holistic analysis, taking into account all evidence gathered. The significance of an in-depth substantive analysis of a document is due to its nature: a document is a materialised form of human thought, a means of recording the will and intellectual activity of a specific person. It embodies both the information about the event and the author's interpretation of it. That is why a thorough study allows us to trace the author's logic, identify internal contradictions, assess his/her actions, and determine whether the information presented corresponds to actual circumstances of a case.

Logical analysis applies not only to the text of a document, but also to its external design. The investigator must carefully examine all available evidence: structure of a document's narrative, style, terminology, sequence of the document's details, their completeness and compliance with procedural requirements. At the same time, formal validity of a document does not guarantee its authenticity.

We also agree with I. Smal that when examining documents, it is essential to consider behavioural psychology of a person who has prepared a document. Current practice indicates a lack of sufficient recommendations for detecting forgeries due to missing or incorrectly filled details. On the contrary, sometimes a forged document looks more "flawless" than an authentic one. Aware of the unlawful nature of their actions, individuals may demonstrate increased diligence, carefully reproducing the form, structure and even stylistic features of official documents in an effort to convey a convincing illusion of lawfulness [22].

Therefore, intellectual forgery is rarely detected using only formal criteria. Its detection requires a holistic approach combining logical, substantive, comparative, and psychological analyses of a document with other pieces of evidence in criminal proceedings.

The situation is much more challenging from a proof perspective when a document does not contain any external or technical signs of forgery but reflects an unlawful decision or action. In this situation, procedural documents that adhere to all legal formalities but are substantively unlawful often come into play. For instance, the resolution to bring a knowingly innocent person to criminal liability or the ruling to impose a preventive measure in the absence of sufficient grounds may be duly executed, contain all necessary details, be signed by an authorised person and registered in the agreed-upon manner. However, this does not exclude criminal and unlawful nature of this document.

Under such circumstances, unlawfulness lies not in the technical forgery of a document, but in the abuse of authority, deliberate distortion of facts, conscious disregard of evidence, or artificial creation of evidentiary basis. In this case, the document becomes a means of enforcing an unlawful decision, rather than a forged imitation of it.

The following factor should not be overlooked: there may be situations where a document is entirely authentic and corresponds to actual circumstances, but is used unlawfully as part of a mechanism to legalise unlawful conduct. Official letters, reports, and motions, for example, may represent real procedural actions, but their totality and sequence testify to a premeditated intention to create a formal illusion of lawfulness.

In other words, investigations into criminal offences in these categories typically involve situations where a document may be:

22 Смаль І. В. Методика розслідування підроблення проїзних квитків : дис. ... канд. юрид. наук. Донецьк, 2007. С. 96.

1) Subject to forgery (technical or intellectual);
2) Formally genuine, but containing knowingly false information;
3) Completely authentic, but serving as an instrument for enforcing an unlawful decision. This necessitates a multifaceted approach to its inspection. The examination should not be limited to inspecting details, signatures, or integrity of forms. Of decisive importance are content analysis of a document, its comparison with other materials of criminal proceedings, verification of the decision-making chronology, consistency with facts, procedural logic and legal requirements.

With regard to material document forgery, it is important to note that during inspection of documents, identification and examination of their individual features is first and foremost carried out by means of direct observation, i.e., visual perception. Although, ordinary visual inspection has its limitations. When examining documents with the naked eye, it is nearly impossible to detect small and microscopic details (in particular, features of strokes, variations in writing instrument pressure, paper micro-defects, minor differences in dye shades, or sequence of execution of document details). That is why, in order to properly identify and record such signs, it is necessary to use special scientific and technical means and techniques developed by criminalistics. These include the use of magnifying equipment, various lighting modes (oblique, ultraviolet, infrared) and high-resolution digital recording, as well as other methods that enable micro-level document examination [23]. Therefore, thorough document inspection involves combining initial visual analysis with the use of special forensic tools that enable the detection of hidden or subtle signs that may be of significant importance for further investigation.

Particularities of inspecting electronic documents are due to their intangible nature, specific storage and reproduction, and the possibility of quick modification or destruction. Regarding computer data examination, scientific literature highlights the following aspects: an electronic document lacks independent physical existence; a document is inherently informational and stored on a physical medium as a digital code, therefore inspection actually covers studying document content as well as technical characteristics of a medium, software environment in which it was developed or opened, and terms of access to the medium. This necessarily requires engagement of an information technology (IT) expert.

The principle of data immutability is of top priority. During inspection, the risk of information modification must be minimal. It is advisable to use specialized technical means for copying (creating bit-by-bit copies, medium images), screen capture, and logging system parameters. Any opening, editing, or saving of a file may alter its metadata, potentially affecting further investigation of these objects.

When inspecting an electronic document, research subject is both the text and graphic content of a document, as well as its metadata: date and time of creation and last editing, authorship, revision history, digital signatures, electronic identifiers, IP addresses, etc. It is these technical attributes that often enable the actual cir-

23 Степанюк Р. Л., Гусєва В. О., Кікінчук В. В. та ін. Криміналістика: криміналістична техніка : навч. посіб. Харків, 2023. 388 с. URI: https://dspace.univd.edu.ua/handle/123456789/16118 (date accessed: 25.01.2026).

cumstances of a document's creation or falsification to be determined. The record shall detail the type and model of a device, software, file access algorithm, sequence of actions taken by the investigator / specialist, and method of copying and storing information. Electronic media with copies of files, printouts, screenshots, and hash values shall be attached to the record to confirm data integrity. A specific feature of electronic data is the possibility of remote data storage (cloud-based services, servers, network resources). In this case, inspection can be accompanied by technical measures to record network connections, access logs, and account data [24].

Therefore, electronic document inspection distinguishes itself from paper document inspection in that it focuses not only on the perception of content, but also on the technical analysis of digital environment in which documents exist. This type of inspection demands specific expertise, use of forensic and information technology tools, strict adherence to the principle of preserving digital immutability, and the most precise procedural recording of all actions.

Conclusions

When dealing with unlawful activity by professional participants in proceedings, a document is not always viewed as a forgery in the traditional forensic sense. Often it is completely legitimate in form, but unlawful in content. It is this circumstance that necessitates heightened requirements for its inspection and analytical investigation.

Documents (paper and electronic) in criminal proceedings concerning crimes against justice committed by professional participants in proceedings are the primary source of information that enables the reconstruction of the mechanism of unlawful activity: sequence of procedural decisions, rationale behind their adoption, ways of exerting pressure on participants in proceedings, and hidden elements of abuse disguised as lawful conduct.

Only documents legal access to which has already been secured may undergo procedural inspection: those voluntarily provided by participants in criminal proceedings, obtained through temporary access, or seized during a search or other investigative (search) actions. Inspection cannot replace means for mandatory document submission and does not constitute grounds for entering a person's premises or forcibly seizing documents.

Documents are more often seized during searches in proceedings involving professional participants in proceedings, as they are linked to the mechanism of abuse and are not usually provided voluntarily, but are hidden or stored in official archives, safes, on work computers or other data media. Given these circumstances, temporary access is often a less effective way of securing evidence, whereas a search makes it possible to minimise the risks of documents being destroyed, selected or modified.

We believe that typical inspection of objects in the category of crimes under investigation can be classified as follows: procedural documents of the prosecution (in particular, records, notices of suspicion, motions, indictments); documentation confirming the right to a defence (legal aid office orders, statements, records of rights advisement, court session

24 Коваленко А. В. Криміналістичне вчення про збирання, дослідження та використання доказів у кримінальному провадженні : монографія. Київ, 2024. 558 с. URI: https://rep.dnuvs.ukr.education/handle/123456789/3916 (date accessed: 25.01.2026).

journals, rulings); restricted access official materials and internal documents; electronic documents and digital records of automated systems (URPTI, automated distribution, electronic document management, access logs, log files, and metadata).

Documents in cases involving the group we are studying may vary in their forensic nature: they may be forged (with signs of material or intellectual forgery) or formally authentic and flawless in terms of details, but unlawful in terms of content or functional purpose of abuse. These factors necessitate a multifaceted approach to inspection, which combines verification of details and physical attributes of a document with logical, substantive, and chronological analysis thereof. The aforementioned is studied along with other pieces of evidence.

Inspection of electronic documents and computer data requires consideration of and compliance with several tactical aspects and increased requirements for recording, since digital data can be easily altered, may be available in multiple copies, and are stored in data format on physical media or remote servers. The priorities are to ensure immutability (creation of copies/images, hash sums) and to record metadata, event logs and access parameters, as well as to keep detailed records of the sequence of actions performed by the investigator and specialist using technical means (screenshots, screen recordings, printing of electronic forms in an accessible form).

Efficiency of a proof procedure in proceedings concerning crimes against justice committed by professional participants in proceedings depends largely on the correct identification of the source of documents, the due procedural form for their inspection, and the investigator's ability to distinguish technical signs of forgery from "formally valid" documents that actually constitute a procedural abuse.

The obtained findings lay the foundation for further development of forensic recommendations on document inspection tactics (specifically, electronic documents) and can be utilized to improve the quality of evidence recording, minimise the risks of digital trace loss, and refine the investigation methods for criminal offences against justice committed by professional participants in proceedings.

Огляд документів, що відображають механізм протиправної діяльності професійних учасників судочинства

Євген Суп, Євгеній Зозуля

Мета статті — визначити особливості огляду й аналізу паперових і електронних документів як джерела відомостей про механізм протиправної діяльності професійних учасників судочинства під час розслідування кримінальних правопорушень проти правосуддя. Для досягнення мети застосовано комплекс загальнонаукових, спеціально-юридичних і філософських методів, що забезпечили системний підхід до вивчення документів як носіїв доказової інформації в умовах цифровізації судочинства. Обґрунтовано, що огляд документів має похідний, об'єктний характер, його здійснюють у межах єдиної процесуальної форми огляду, передбаченої ст. 237 Кримінального процесуального кодексу України. Визначено допустимі джерела походження документів, що можуть бути об'єктами огляду: добровільне надання учасниками провадження, отримання в порядку тимчасового доступу, а також вилучення під час обшуку, який у справах цієї категорії є найбільш поширеним способом отримання доступу до документів і їх вилучення. Запропоновано класифікацію *типових об'єктів огляду (процесуальні документи сторони обвинувачення, документи щодо реалізації права на захист, матеріали й цифрові записи автоматизованих систем, службові документи з обмеженим доступом, внутрішнє службове листування й інші організаційно-розпорядчі матеріали). Узагальнено, що документи можуть бути як підробленими (містити ознаки матеріальної або інтелектуальної підробки), так і формально автентичними без зовнішніх ознак фальсифікації, однак протиправними за змістом або функційним призначенням у механізмі зловживань. Акцентовано увагу на особливостях огляду електронних документів і комп'ютерних даних: необхідності залучення спеціаліста, фіксації метаданих, журналів подій, забезпеченні незмінності цифрової інформації та належного процесуального документування результатів. Результати дослідження можуть бути застосовані для вдосконалення тактичних рекомендацій з огляду документів і підвищення ефективності доказування в кримінальних провадженнях щодо злочинів проти правосуддя, учинених професійними учасниками судочинства.*

Ключові слова: *правосуддя; слідча (розшукова) дія; огляд; документ; електронний документ; слідча тактика.*

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Declaration of Competing Interest

The authors declare no conflict of interest.

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Methods, Tools and Means of Committing Criminal Offenses in the field of Professional Legal Assistance

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The purpose of the article is to reveal forensic essence of the methods, instruments and means of committing criminal offenses in the field of professional legal assistance, determine their structure, functional features and significance for formation of forensic characteristics and improvement of the methodology for investigating this category of offenses. For achieving this goal, a set of general scientific (analysis and synthesis, induction and deduction) and special (dialectical, systemic-structural, formal-legal, comparative-legal, generalization) methods of scientific cognition were applied. It is substantiated that method of committing criminal offense is one of the most important elements of the forensic characteristics reflecting patterns of criminal behavior, determines peculiarities of the trace picture and is crucial for organization of the pre-trial investigation. It is proved that in the field of providing professional legal assistance, methods of committing criminal offenses are characterized by a combination of open and latent forms of influence, including physical, psychological, informational and procedural-organizational pressures, and are associated with growing role of digital technologies in the implementation of criminal intent. Generalization of scientific approaches made it possible to clarify the ratio of the categories "method", "instrument" and "means" of committing a criminal offense. A distinction is proposed, according

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to which instruments are objects that are directly used during the implementation of the objective side of a criminal offense, while the means include resources that provide training, facilitate implementation of a criminal plan or contribute to the concealment of criminal activity. It is determined that the same object, depending on its functional role, can act as both an instrument and a means of committing a criminal offense. Based on the analysis of provisions of Criminal Code of Ukraine, the characteristic methods of committing criminal offenses under its Articles 374, 397-400, 400-1 are revealed, typical models of criminal influence on the subjects of professional legal assistance are outlined. It is proved that research on methods, instruments and means of committing such offenses has not only theoretical but significant practical significance, as it allows to predict typical traces, form reasonable investigative versions and improve tactical approaches to the investigation. The obtained results contribute to deepening of forensic ideas about the mechanism of criminal offenses in the field of professional legal assistance and create the basis for the development of special methodological recommendations for their detection, investigation and proof, as well as for strengthening the guarantees of independence of advocacy and the effectiveness of human rights protection.

Keywords: *criminal offense; legal assistance; method of crime committing; means; proof; assignment of powers.*

Research Problem Formulation

The field of professional legal aid is an integral part of functioning of a democratic state based on the rule of law, as it ensures the implementation of constitutional guarantees of the right to protection, access to justice and a fair trial. In current conditions of legal system transformation and strengthening of the role of the legal profession, the number of criminal and unlawful acts related to the exercise of professional legal activities is increasing. Such acts are carried out by perpetrators both in the form of unlawful influence on lawyers and other entities providing legal aid, and in the form of abuse of legal instruments by participants in legal relations that negatively affects authority of legal profession and effectiveness of functioning of justice system as a whole.

Public danger of criminal offenses in this category is due to their double negative effect: on the one hand, they encroach on the rights of specific person: lawyers, representatives or clients, and on the other hand, they create risks of undermining the institutional foundations of independence of the bar and trust in justice. The investigation of such offenses is complicated by the need to ensure a balance between the tasks of criminal prosecution and guarantees of the professional activity of lawyers, in particular the observance of legal secrecy, procedural guarantees and the principle of independence.

In the forensic aspect, one of leading elements of characteristics of this group of criminal offenses are the ways and means of their commission. It is the method of implementing the criminal intent that determines the mechanism of interaction of the offender with the victim, situation and other elements of the criminal event, forms a trace picture and affects the construction of investigative versions. At the same time, current conditions for development of professional communication, digitalization of legal activities and the spread of remote interaction significantly modify traditional methods of criminal influence, combining physical, information, psychological and technical means of implementing illegal actions.

Despite increased attention of individual scientists to criminal offenses in the field of professional legal assistance, most researches focus on the issues of their criminal legal qualification, classification, mechanism of commission or individual elements of forensic characteristics. However, the issue of methods, tools and means of committing such offenses as an independent object of forensic analysis has not yet received a comprehensive scientific understanding. The lack of a systematic approach to their research complicates formation of effective methodological recommendations for pre-trial investigation bodies, reduces level of typification of investigative situations and burdens the prediction of offender behavior.

Thus, relevance of research on methods, tools and means of committing criminal offenses in the field of professional legal assistance is due to the need for an in-depth forensic analysis of the mechanism of criminal activity in this area, definition of typical models of illegal behavior and development of scientifically based approaches to improving effectiveness of their investigation.

In view of the above, research on methods, tools and means of committing criminal offenses in the field of providing professional legal assistance acquires not only theoretical, but significant practical significance for the development of forensic science and improvement of activities of pre-trial investigation bodies. The analysis of these components of the forensic characteristic will allow to more deeply reveal regularities of the mechanism of criminal activity, outline typical forms of the implementation of criminal intent and determine the directions of optimizing investigative activity in the specifics of the legal sphere. This is what determines the need for comprehensive scientific research aimed at systematizing the methods, tools and means of committing such criminal offenses, determining their forensically significant signs and forming scientifically sound approaches to their use in investigation procedure.

Article Purpose

Reveal the forensic essence of methods, tools and means of committing criminal offenses in the field of professional legal assistance, to determine their structure, functional specifics and significance for formation of forensic characteristics and improvement of methodology for investigating this category of offenses.

Research Methods

For achieving this goal, a complex of general scientific and special methods of scientific cognition was applied. Dialectical method made possible to reveal the essence and dynamics of criminal offenses that encroach on the provision of professional legal assistance, identify their objective and subjective conditions, to trace the relationship between the legal guarantees of a lawyer's activities, criminal-legal constructions of the relevant structures and the forensic signs of unlawful influence (in particular, in the forms of open and latent pressure, procedural manipulations and digital encroachments).

System-structural method is used to determine the place and method of commission in the mechanism structure of criminal activity and in the system of forensic characteristics, as well as to identify and streamline the forensic criteria for the analysis of offenses of the group under research (method, situation, identity of the offender, identity of the victim, traces, consequences). This method contributed to substantiation of distinction between the instruments and means of committing a criminal offense depending on their functional role in implementation of objective side, preparation or concealment of criminal activity.

Formal-legal method was useful for analyzing structure of criminal offenses belonging to the group of offenses committed in the field of professional legal assistance, clarifying content of their objective and subjective signs and determining possible forms of implementation of unlawful influence, taking into account the provisions of the Criminal Code of Ukraine [1]. It helped to correctly link criminal-legal characteristics with forensic manifestations of the methods of commission and the specifics of proof.

Formal-logical methods were used to establish common and distinctive features of the methods of committing various types of offenses in the studied area, as well as to typify models of criminal behavior. Analysis made possible to isolate individual specifics of separate methods (physical, psychological, informational, procedural and organizational), synthesis, integrate them into a single system and coordinate them with the mechanism of the crime, induction to formulate general provisions based on the study of individual manifestations, deduction to verify generalizations by correlating them with normative constructs and forensic logic of proof.

Comparative legal method contributed to comparison of scientific approaches to determining the method of committing a crime, the distinction between related categories (method, mechanism, instrument, means), as well as the analysis of Ukrainian and foreign developments in the forensic typology of methods of unlawful influence on subjects of legal activity (in particular, in the context of digitalization of professional communication and the growth of information attacks).

Generalization method made possible to formulate conclusions regarding forensic significance of methods, tools and means of committing criminal offenses in the field of providing professional legal assistance, outline practical guidelines for their establishment and proof, and identify promising areas for improving methodological recommendations for organizing pre-trial investigation in this category of criminal proceedings.

Analysis of Essential Researches and Publications

Theoretical foundations of the method analysis of committing criminal offense were formed in research papers of representatives of the forensic school, who studied the mechanism of criminal activity and regularities of formation of traces.

1 Кримінальний кодекс України від 05.04.2001 р. № 2341-III (зі змін. та допов.). URL: https://zakon.rada.gov.ua/laws/show/2341-14#Text (date accessed: 01.02.2026).

A significant contribution to the development of this issue was made by V. Bakhin, P. Bilenchuk, A. Volobuiev, V. Zhuravel, V. Konovalova, V. Shepitko, V. Shevchuk and other scientists, who substantiated the importance of the method of committing a crime as one of the leading elements of the forensic characteristic. Their research became the methodological basis for further study of the mechanism of criminal and illegal activity in various spheres of social relations.

In modern research, scientists are increasingly paying attention to the study of individual elements of the mechanism of crime. In particular, the development of individual aspects of forensic typification of methods of criminal behavior in the sphere of justice is presented in research papers by S. Knyzhenko, Ya. Oliynyk, D. Rusanivska, E. Sup, M. Shepitko, and others. Their research papers consider forensic classifications of relevant offenses, specifics of evidence, circumstances of commission, as well as the specifics of the subject composition and typical methods of unlawful influence from interference in the activities of defense attorney to threats, violence, and property encroachments [2].

At the same time, the analysis of scientific sources indicates that most of the research is focused either on general theoretical issues of the mechanism of the crime, or on individual criminal-legal aspects of the corresponding components of criminal offenses. The issue of multidisciplinary forensic research on methods, tools and means of committing criminal offenses in the field of professional legal assistance remains insufficiently developed. Thus, current state of scientific development indicates availability of a solid theoretical basis for studying mechanism of criminal activity in general, but at the same time reveals a gap in the systematic analysis of the methods, tools and means of committing criminal offenses in the field of professional legal assistance. This circumstance determines the need for further development of forensic approaches to the study of this category of offenses and justifies relevance of performed research.

Main Content Presentation

Category of the method of committing a criminal offense belongs to the leading and most discussed categories of the

2 Книженко С. О. Способи втручання в діяльність судових органів. *Актуальні проблеми кримінального процесу та криміналістики* : тези доп. Міжнар. наук.-практ. конф. (Харків, 29.10.2021). Харків, 2021. С. 169—171. URL: https://files.znu.edu.ua/files/Bibliobooks/Inshi67/0049006.pdf (date accessed: 01.02.2026) ; Олійник Я. С. Методика розслідування погрози або насильства щодо захисника чи представника особи : дис. … д-ра філос. в галузі права. Львів, 2021. 239 с. URI: https://ena.lpnu.ua/handle/ntb/56783 (date accessed: 01.02.2026) ; Русанівська Д. Д. Розслідування втручання в діяльність захисника чи представника особи : дис. … д-ра філос. в галузі права. Київ, 2023. 260 с. URI: https://elar.navs.edu.ua/handle/123456789/26837 (date accessed: 01.02.2026) ; Суп Є. Ю. Типові способи вчинення кримінальних правопорушень професійними учасниками судочинства. *Вісник Кримінологічної асоціації України.* 2025. Т. 34. № 1. С. 365—373. DOI: 10.32631/vca.2025.1.26 (date accessed: 01.02.2026) ; Шепітько М. В. Спосіб вчинення злочинів проти правосуддя як системоутворююча ознака: кримінально-правовий та криміналістичний аспекти. *Вісник Львівського торговельно-економічного університету. Юридичні науки.* 2015. № 2. С. 336—346. URL: https://journals-lute.lviv.ua/index.php/visnyk-law/article/view/189 (date accessed: 01.02.2026).

sciences of the criminal law cycle, since it is with its help that the practical side of criminal activity and the mechanism of its implementation are revealed. Several approaches to understanding the concept of "method of committing a criminal offense" have been formed in the scientific literature. Thus, S. Zavialov defines it as a system of interrelated actions determined by a set of objective and subjective factors, which reflects the qualitative characteristics of a criminal act. The scientist emphasizes that the method of committing reflects the personal characteristics of the offender, the form of guilt, the motives and purpose of the crime, and is also manifested in the behavior of the person before, during and after the commission of a criminal offense, leaving traces suitable for forensic cognition [3]. This position is shared by V. Piaskovskyi, who considers the method of committing a crime as a systematically organized system of actions of the subject, which includes the stages of preparation, direct implementation and concealment of the crime [4].

We agree with I. Hora that forensic interpretation of the method of committing a crime is not identical to its understanding within the limits of other branches of knowledge, since it is determined by specificity of the topic and tasks of criminalistics. In criminalistics, method of committing crime is considered as a complex phenomenon of objective reality, that research is based on identification of regularities of its formation, reflection in trace information, repeatability and determinism by various objective and subjective factors. The results of such cognition are the basis for development of forensic means, tactical techniques and methods aimed at identifying, collecting, researching and applying forensically significant information about the method of committing crime and characteristics of the criminal during investigation [5].

Generalization of scientific approaches allows us to conclude that method of committing a criminal offense is characterized by three basic signs: first, it is always determined by a combination of external and internal factors; second, in its essential aspect it is a certain system of interrelated actions united by a single criminal intent; third, it can have a complex multi-level structure.

Method structure of committing criminal offense, as scientists rightly note, is variable and depends on the nature of the offender's behavior, situation specifics and other conditions for criminal intent implementation [6]. Depending on these factors, it can be three-level (preparation – commission– actions after crime completion), two-level or single-level, when it covers

3 Зав'ялов С. М. Спосіб вчинення злочину: сучасні проблеми вивчення та використання у боротьбі зі злочинністю : автореф. дис. ... канд. юрид. наук. Київ, 2005. 19 с.

4 Пясковський В. В. Спосіб учинення злочину як елемент криміналістичної характеристики умисного вбивства дитини батьками, родичами або особами, на яких покладено обов'язки з її виховання. *Криміналістичний вісник.* 2016. № 1 (25). С. 70. URL: https://elar.navs.edu.ua/server/api/core/bitstreams/17d37da9-ecbe-47ba-86f6-7a6d06251833/content (date accessed: 01.02.2026).

5 Гора І. Поняття спосіб вчинення злочину та його значення в розкритті та розслідуванні. *Legea și viața.* 2012. № 9. С. 38. URL: http://www.legeasiviata.in.ua/archive/2012/9/08.pdf (date accessed: 01.02.2026).

6 Велика українська юридична енциклопедія. У 20 т. Т. 20 : Криміналістика, судова експертиза, юридична психологія / редкол.: В. Ю. Шепітько (голова) та ін. Харків, 2018. С. 770—771.

only immediate phase of implementation of criminal intent. Therefore, method of committing should be considered as a dynamic system of actions formed under influence of specific environmental conditions.

Factors determining specifics of manner in which a crime is committed include external environment, conditions of the place and time of the event, psychological and physiological characteristics of the person, his (her) experience, level of preparedness, and individual behavior patterns. All of these element influence both the choice of tools and means and nature of the traces that are formed and can be used during investigation.

The issue of correlation between the method of committing and concealing a criminal offense requires special attention. Actions aimed at concealing a crime do not always become organic components of the structure of the method of committing it. In some cases, they may form an independent complex of behavior, separated in time and aimed at avoiding detection, and sometimes even constitute a separate component of a criminal offense (Article 396 of the Criminal Code of Ukraine [7]). This indicates the need for a flexible approach to the analysis of the method of committing a crime, especially in those forms of criminal activity that are complex and in which boundaries between committing and concealing cannot be obvious.

Thus, method of committing crime in criminalistics is considered as a typical (lawful) system of actions of the offender, by means of which the criminal intent is realized, the goal of the offense is achieved and the corresponding trace information is formed. It is not limited to "one action": it reflects the entire model of the offender's behavior from the choice of the object of influence and the method of contact with the victim to the use of tools / means and the reaction to counteraction. In the legal sphere, the method often acquires not so much a "physical" as an intellectual and psychological nature, since it is implemented by means of purposeful obstruction of the professional duties of a lawyer or other subject of legal assistance (in particular, indirectly through other persons or institutional mechanisms). It is advisable to reveal the structure of the method of committing as a sequence of interrelated stages: preparation, direct commission and concealment (masking) of the consequences. This approach is consistent with the idea of crime mechanism of as a process that includes preparation, implementation and concealment in connection with the situation, motives and interaction of participants, as well as with the use of tools and means [8].

At the same time, in criminal offenses committed against entities providing legal assistance, concealment can be minimal or even missing (when influence is demonstrative) and sometimes, on the contrary, it takes on sophisticated forms (when pressure is exerted through procedural manipulations, information channels, or technical means). It is important to take this into account so as not to look for "classic" signs of concealment where the criminal model is built on publicity or imitation of legality.

7 Кримінальний кодекс України … . URL: https://zakon.rada.gov.ua/laws/show/2341-14#Text (date accessed: 01.02.2026).

8 Zhuravel V. A. Crime mechanism as a category of criminalistics. *Journal of the National Academy of Legal Sciences of Ukraine*. 2020. Vol. 27. No. 3. Pp. 142—154. DOI: 10.37635/jnalsu.27(3).2020.142-154 (date accessed: 01.02.2026).

In the field of professional legal assistance, the method of committing a criminal offense is characterized by increased variability and a combination of open and hidden forms of influence. This is due to special status of victims (lawyers, representatives, other participants in legal activities), procedural guarantees of their activities and a high level of legal awareness of the parties. In this regard, criminal behavior is often focused not only on causing direct harm, but on creating conditions that make impossible to implement functions of protection or representation.

The performed analysis allows to generalize several typical models of the method of committing such offenses. The *first* is an overt act accompanied by physical impact, threats, damage to property or other forms of demonstrative pressure. They are characterized by availability of an obvious event, clearly expressed conflict between the offender and the victim and formation of material traces that facilitates primary documentation. The *second* model includes psychological and informational influences threats, harassment, discrediting, dissemination of compromising information aimed at weakening professional position of the lawyer or influencing his procedural behavior. The *third* model is characterized by the use of formally legal or pseudo-procedural actions, when unlawful goal is disguised as legal mechanisms (simulating legal activity, using forged documents, artificially creating obstacles to access to the client, etc.). This model is the most difficult to investigate, since its external form may appear legitimate.

Digitalization of professional activities of lawyers has a significant impact on the transformation of the methods of committing offenses. Increasingly, unlawful influence is implemented using electronic communications, social networks, mobile communications or technical means of covert information collection, distribution of discrediting materials on the Internet, which leads to the formation of digital traces. This changes traditional approaches to evidence and requires adaptation of investigation tactics to the specifics of digital environment.

A more detailed analysis of the methods of committing crimes by the group we are studying requires taking into account structure of the components of the relevant criminal offenses provided for by the Criminal Code of Ukraine, as well as a forensic understanding of the method as a system of actions aimed at achieving an unlawful goal.

The methods of committing crimes provided for in Article 397: *Interference in the activities of a defense attorney or representative of a person* of the Criminal Code of Ukraine [9] are characterized by various forms of unlawful influence aimed at preventing performance of professional functions. Most often, this is the creation of artificial procedural obstacles, restriction of access to the client, illegal seizure of documents, obstruction of participation in procedural actions, blocking communication with the client, as well as informational pressure. The method here is mainly of an intellectual and organizational nature, since it is implemented through the violation of procedural guarantees and the use of formally legal mechanisms for an unlawful purpose.

The crime specified in Article 398: *Threat or violence against a lawyer or representative of a person* of the Criminal Code of

9 Кримінальний кодекс України … . URL: https://zakon.rada.gov.ua/laws/show/2341-14#Text (date accessed: 01.02.2026).

Ukraine [10] is characterized by methods of physical and psychological influence. They can be embodied in the form of verbal or written threats, harassment, demonstrative acts of intimidation, infliction of bodily harm, use of weapons or other objects as instruments of violence. Peculiarity of such methods is their focus on changing the procedural position of the lawyer or terminating his professional activities in a specific case. Often, such a crime is committed demonstratively that aims to create an atmosphere of fear.

The methods of committing crimes outlined in Article 399: *Intentional destruction or damage to the property of a defender or representative of a person* of the Criminal Code of Ukraine [11] consist in causing material damage through arson, damage to vehicles, office equipment, documentation, housing, etc. From a forensic point of view, such methods often combine physical impact with psychological pressure, since the goal is not only material damage, but demonstrative warning or intimidation. In such cases, choice of the damage object that is usually related to professional victim activities is important.

The methods of committing offenses specified in Article 400 *Encroachment on the life of a defender or representative of a person in connection with activities related to the provision of legal assistance* of the Criminal Code of Ukraine [12] are characterized by a high level of public danger and usually involve preliminary preparation. This can be attack with the use of weapons, organization of intentional causing of death, creation of dangerous conditions for the life of the victim. The method in such cases often contains elements of careful preparation that consists in conspiracy, the choice of time and place of implementation of the criminal intent that complicates investigation and requires an analysis of the mechanism of criminal activity in general.

As for the crime described in Article 374: *Violation of the right to defense* of the Criminal Code of Ukraine [13], here the methods of commission are mainly of an official and procedural nature. They are manifested in preventing defense counsel from participating in the proceedings, limiting possibility of confidential communication, ignoring the requests of the defense party, violating the right to choose a defense counsel, as well as other actions or inactions that make it impossible to exercise the right to professional legal assistance. Specific of such a method is its external formal compliance with the procedure for the actual violation of the content of the right to defense.

For the criminal offense provided for in Article 400-1: *Representation in court without proper authority* of the Criminal Code of Ukraine [14], methods related to performance of legal activities by a person who is not authorized to do so or does not have the right due to the lack of appropriate qualifications, or is deprived of the right to engage in legal activities are characteristic. This includes the use of forged or invalid documents (instructions, warrants, contracts, certificates of the right to practice law, etc.), misleading court or client about the lawyer status, unauthorized representation of the interests of a person,

10 Кримінальний кодекс України … . URL: https://zakon.rada.gov.ua/laws/show/2341-14#Text (date accessed: 01.02.2026).

11 Там само.

12 Там само.

13 Там само.

14 Там само.

etc. Such methods are often accompanied by documentary manipulation and abuse of trust in the institution of the bar.

Therefore, the methods of committing criminal offenses in the field of providing professional legal assistance are characterized by a combination of physical, psychological, informational and procedural and organizational forms of influence.

In the structure of the method of committing a criminal offense, an important place is occupied by tools and means of its implementation, which have an independent forensic significance and require a clear distinction. Tools should be understood as objects of the external world that are directly used during implementation of the objective side of the criminal offense, that is, which are an instrument of direct unlawful influence. In turn, means of commission include material, technical, informational or organizational resources that provide preparation, facilitate the implementation of a criminal plan or contribute to the concealment of criminal activity, but do not constitute the main action itself [15]. This approach makes it possible to avoid mixing related concepts and clearly determine the functional place of each element in the mechanism of the crime.

It is important to consider that the same object, depending on its role in a specific situation, can act as both a tool and a means of committing a criminal offense. The decisive criterion is its functional purpose in the structure of criminal activity: whether it is used directly to carry out an action prohibited by law, or whether it only creates the conditions for its implementation. For example, a technical device for covert surveillance is a tool if it is used to prepare or collect information, but it can acquire characteristics of a tool if it is used to directly interfere with professional activities of a lawyer.

In view of this, it is advisable to classify the tools and means of committing criminal offenses in the field of professional legal assistance according to their functional purpose, nature of their use, and their impact on the criminal record. Such a classification makes possible to systematize resources used by offenders, as well as to predict typical mechanisms of criminal influence and sources of evidentiary information.

The first group includes material and physical means that provide preparation or facilitate the implementation of illegal actions. These can be vehicles, means of disguise, auxiliary technical devices, flammable substances or other objects that create conditions for the commission of a crime. At the same time, weapons or objects that directly cause damage or destroy property, in certain cases, become instruments of committing a criminal offense.

A separate group is made up of technical means used to covertly obtain information, control or monitor the activities of legal aid subjects. These include audio and video devices, GPS trackers, special software, remote access systems or interception of electronic communication. Their use is characteristic primarily of latent forms of criminal influence aimed at obtaining information constituting a law-

15 Матвійчук В. К. Дискусійні проблеми щодо деяких ознак об’єктивної сторони злочину. *Кримінальне право: традиції та новації* : мат-ли міжнар. кругл. столу, присвяч. 90-літ. з дня народж. видат. вчен., героя Укр., акад. В. В. Сташиса (Полтава — Харків, 09—10.07.2015). Полтава — Харків, 2015. С. 75—76. URL: https://ivpz.kh.ua/wp-content/uploads/2019/02/kriminalne_pravo_tradicii_ta_novacii_stashis.pdf#page=72 (date accessed: 10.02.2026).

yer's secret or at exerting hidden psychological pressure. The result of such use is formation of specific digital traces that require special methods of fixation and research.

An important role is played by information tools used for psychological, reputational or social influence on lawyers. These include electronic communication platforms, social networks, media resources, media channels, etc. These resources can be used to implement discrediting campaigns, spread threats or false information. Peculiarity of such tools lies in the scale of their impact and the difficulty of quickly eliminating the consequences that complicates proving and requires taking into account the information dynamics of the crime.

Within the category of criminal offenses under research, means in the form of paper and digital documents acquire special importance. They manifest themselves in the use of forged or invalid documents, manipulation of procedural decisions, creation of formal obstacles to access to legal aid or use of procedural mechanisms for an unlawful purpose. When such documents become a direct instrument for implementation of an act (for example, in the case of illegal representation), they can acquire characteristics of an instrument for criminal offense commission.

Forensic significance of the analysis of tools and means of committing criminal offenses lies in the possibility of establishing the level of preparedness of the offender, his professional awareness, access to resources and the nature of interaction with other persons. Research on these elements contributes to reconstruction of the method of committing a crime, formation of substantiated investigative versions and determination of optimal tactics of pre-trial investigation.

Thus, in criminal offenses in the field of professional legal assistance, tools and means are interconnected, but different in content, elements of the mechanism of criminal activity. Their distinction allows for a deeper understanding of the structure of method of committing crime, clarifying the sources of evidentiary information and creating a scientifically sound basis for developing effective investigation methods.

Conclusions

From a forensic point of view, establishing the method of committing a crime is crucial for organizing an investigation. Analysis of the method makes possible to predict nature of the trace pattern, determine sources of evidentiary information and possible subjects, and reconstruct the logic of criminal behavior. In cases related to professional legal activities, this is especially important, since criminal actions are often aimed at manipulating procedural mechanisms or violating guarantees independence of legal profession that requires the investigator to have a high level of analytical work and take into account the professional context of the event.

Method of committing criminal offenses in the field of providing professional legal assistance is a complex structured system of actions that is formed under influence of the situation, professional status of the victims and the offender's goal orientation. Its study creates a theoretical and practical basis for building individual forensic investigation methods and determines leading areas of evidence in criminal proceedings of this category. In such offenses, the method is characterized by increased variability and a combination of open and latent forms of influence. This specificity is due to the special professional status of the victims (lawyers, defenders, representatives), availability of procedural guarantees for their activities, as well as the orientation of offenders not only to causing direct harm, but also to creating conditions that make it impossible or significantly complicate the implementation of the functions of protection or representation.

Based on performed analysis, we consider reasonable to distinguish the following typical models of methods of committing offenses of this group: 1) open forms of pressure (physical influence, threats, property encroachments), which form a predominantly material trace picture; 2) psychological and informational influences (persecution, blackmail, discrediting), which create complex, often digital evidence base; 3) formal-legal and pseudo-procedural manipulations, when unlawful goal is disguised as outwardly legal mechanisms. The latter model is the most difficult to detect and prove, since the boundary between lawful procedural activity and criminal influence may not be obvious.

It is important to clearly distinguish between instruments and means of committing criminal offenses in the field of legal aid as functionally different components of the mechanism of criminal activity. Instruments should be considered objects of external world that are directly used during implementation of objective side of the criminal offense and which are an instrument of direct unlawful influence. Means of commission include resources that provide preparation, facilitate implementation of a criminal plan or contribute to the concealment of criminal activity. The defining criterion for distinction is functional role of the topic in a specific situation, since the same object can acquire a different status depending on the method of its application.

Способи, знаряддя та засоби вчинення кримінальних правопорушень у сфері надання професійної правничої допомоги

Крістіна Романаускас

Мета статті — розкрити криміналістичну сутність способів, знарядь і засобів учинення кримінальних правопорушень у сфері надання професійної правничої допомоги, визначити їхню структуру, функційні особливості та значення для формування криміналістичної характеристики й удосконалення методики розслідування цієї категорії правопорушень. Для досягнення поставленої мети застосовано комплекс загальнонаукових (аналіз і синтез, індукція і дедукція) та спеціальних (діалектичний, системно-структурний, формально-юридичний, порівняльно-правовий, узагальнення) методів наукового пізнання. Обґрунтовано, що спосіб учинення кримінального правопорушення є одним з найважливіших елементів криміналістичної характеристики, який відображає закономірності злочинної поведінки, зумовлює особливості слідової картини та має вирішальне значення для організації досудового розслідування. Доведено, що у сфері надання професійної правничої допомоги способи вчинення кримінальних правопорушень характеризуються поєднанням відкритих і латентних форм впливу, включно з фізичним, психологічним, інформаційним і процесуально-організаційним тисками, а також пов'язані зі зростанням ролі цифрових технологій у реалізації злочинного умислу. Проведене узагальнення наукових підходів дало змогу уточнити співвідношення категорій «спосіб», «знаряддя» і «засоби» учинення кримінального правопорушення. Запропоновано розмежування, відповідно до якого знаряддями є предмети, якими безпосередньо користуються під час реалізації об'єктив-

ного боку кримінального правопорушення, тоді як засоби охоплюють ресурси, які забезпечують підготовку, полегшують реалізацію злочинного задуму або сприяють приховуванню злочинної діяльності. Визначено, що той самий предмет залежно від функційної ролі може виступати як знаряддям, так і засобом учинення кримінального правопорушення. На підставі аналізу положень Кримінального кодексу України розкрито характерні способи учинення кримінальних правопорушень, передбачених його ст. 374, 397—400, 400-1, окреслено типові моделі злочинного впливу на суб'єктів професійної правничої допомоги. Доведено, що дослідження способів, знарядь і засобів учинення таких правопорушень має не лише теоретичне, а й істотне практичне значення, оскільки дає змогу прогнозувати типові сліди, формувати обґрунтовані слідчі версії й удосконалювати тактичні підходи до розслідування. Здобуті результати сприяють поглибленню криміналістичних уявлень про механізм кримінальних правопорушень у сфері професійної правничої допомоги та створюють підґрунтя для розроблення спеціальних методичних рекомендацій з їх виявлення, розслідування й доказування, а також для зміцнення гарантій незалежності адвокатської діяльності й ефективності захисту прав людини.

Ключові слова: *кримінальне правопорушення; правнича допомога; спосіб учинення злочину; засіб; доказування; присвоєння повноважень.*

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Declaration of Competing Interest

Author declares no conflict of interest.

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Electronic Evidence or Evidence in Electronic Form: Issues Behind the Rationale for Terminological Division

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The Article aims to trace a correlation between the terms "electronic evidence" and "evidence in electronic form". The study examines their theoretical and legal disparities, practical utility of these terms within the framework of criminal proceedings, and seeks to formulate a scientifically grounded approach to their terminological division. The goal has been achieved through the comprehensive application of general scientific methods (analysis, synthesis and generalisation), as well as dialectical, logical-semantic, formal-legal, systemic-structural, comparative-legal, and hermeneutic methods. This paper analyses the current state of academic research into the legal nature of electronic information within the system of procedural sources of evidence, along with principal approaches to its terminological interpretation in criminal procedure doctrine. The focus is on distinctive features of digital data as data media capable of being reproduced repeatedly without changing content, leading to a debate on their relationship with traditional physical evidence and documents. It has been noted that the terms "electronic evidence", "digital evidence" and "evidence in electronic form" are used interchangeably in academic discourse, indicating a lack of a consistent approach to distinguishing between their meanings. Drawing on an analysis of legislative provisions and doctrinal propositions, the appropriateness of using the term "evidence in electronic form" has been substantiated, since it most accurately reflects the informational nature of digital data and aligns with the prevailing

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framework of proving in criminal procedure. It has been concluded that the electronic form serves as a medium for evidentiary data, rather than constituting a standalone procedural category. Prospects for further research related to the development of uniform criteria for procedural identification of evidence operating in a digital environment have been outlined.

Keywords: *criminal procedure; pre-trial investigation; evidence; proof; electronic evidence; legal procedure.*

Research Problem Formulation

Today's fast-paced development of digital technologies and extensive use of electronic information systems in criminal proceedings have led to the emergence of new ways of recording and storing information of evidentiary value. Accordingly, in academic discourse and law application practice, the terms *electronic evidence*, *digital evidence* and *evidence in electronic form* are commonly used interchangeably, indicating a lack of a consistent approach to distinguishing between their meanings. The lack of clarity in terminology has made it difficult to develop a single doctrinal approach and has complicated the procedural qualification of relevant objects in criminal proceedings.

The issue of determining procedural nature of objects that are the target of criminal acts becomes challenging if these objects are electronic documents, software, or other forms of electronic information. Criminal law doctrine often recognises information itself (a constituent part of information infrastructure) as the subject of information technology offenses, thereby highlighting the need to revise conventional approaches to the physical nature of evidence and its procedural formalisation.

Intangible nature of electronic information complicates its correlation with traditional physical evidence, which is a tangible object. In criminal proceedings, parties involved in proving do not, in fact, deal with primary information, but rather with its representations: visualised data, graphic copies, or audio signals. It is therefore necessary for us to refine the conceptual framework, in particular the relationship between concepts that focus either on the technological nature of information (*electronic evidence*) or on the form in which it exists (*evidence in electronic form*).

Further academic discussion is also required to address the application of the traditional *physical evidence* concept—in particular its uniqueness—in a digital environment, where information can be reproduced multiple times without altering its content. These issues lead to a methodological inconsistency between classical criminal procedure constructs and current technological realities, directly impacting the choice of terminology and the determination of the legal nature of corresponding evidence.

Consequently, there is no agreed approach to the use of the terms *electronic evidence* and *evidence in electronic form*, as well as *digital evidence*. Accordingly, there is a need to comprehensively analyse their semantic relationship, identify theoretical and legal disparities, and develop a sound terminological approach that would be consistent and relevant to the current context of criminal proceedings digitalisation.

Article Purpose

Determine the semantic relationship between the terminological constructs *electronic evidence* and *evidence in electronic form*, define their theoretical and legal disparities, and analyse practical utility of these terms in criminal proceedings, as well as formulate a scientifically grounded approach to their terminological division.

Research Methods

The specified goal was achieved through integrated application of methodological instruments, namely: philosophical, general scientific and specialised methods.

Dialectical method has contributed to exploring the development of scientific approaches to understanding the nature of electronic information in criminal proceedings, and to identifying contradictions between traditional procedural categories of proof and modern digital practices. Logical-semantic method has been employed to analyse the content of the terms *electronic evidence*, *digital evidence* and *evidence in electronic form*, facilitating the refinement of their semantic boundaries and the identification of distinctive features characterizing academic and regulatory usage of these terms.

Formal-legal (dogmatic) method has helped to study provisions of Ukraine's criminal procedure legislation, specifically the Criminal Procedure Code of Ukraine [1] (hereinafter referred to as the *CPC of Ukraine*), governing the system of evidence sources and the procedures for handling electronic information. Systemic-structural method has provided a deep dive into the role of electronic information within the broader framework of procedural sources of evidence, and has identified interrelationships between the categories of physical and electronic evidence.

Comparative and legal method have been applied to compare academic positions on the legal nature of evidence in electronic form and approaches to its classification. Hermeneutic method has been helpful in interpreting doctrinal concepts and legal rules, enabling us to identify their substantive focus and practical consequences for law application practice.

Generalisation has made it possible to systematise existing academic approaches and to formulate the author's view on the appropriateness of using the terminological construct *evidence in electronic form* as the one most consistent with both informational nature of digital data and the current model of criminal procedure proving.

Analysis of Essential Researches and Publications

The issue of evidence existing in the digital environment has taken centre stage in academic research over the last few years. Academic debate focuses on the procedural nature of electronic information, its place within the system of evidence sources, specific features of its collection, recording and assessment, as well as on the establishment of an appropriate terminological framework. Current legal doctrine remains divided on the legal nature of electronic (digital) evidence, resulting in a variety of approaches to its theoretical interpretation and practical application.

1 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: 18.01.2026).

Researchers have made a significant contribution to the study of digital traces and evidence by focusing on interpretation of electronic (digital) information as a source of evidence, on identification of its forensic characterisation, and on challenges associated with its procedural formalisation. Scientific papers by O. Vakulenko [2], I. Kalancha [3], O. Kvashuk [4], A. Kovalenko [5], S. Kolomiitsev [6], O. Nikishev [7], V. Fihurskyi [8], M. Shcherbakovskyi and V. Sezonov [9], and other scholars have laid the theoretical framework for understanding digital traces as specific data media that are to be analysed and examined using special methods. These academic developments have demonstrated a shift in conventional forensic doctrine about traces, with a focus on integrating the digital component.

A separate research field is concerned with determining the place of electronic information within the system of procedural evidence sources. Certain researchers argue that it is appropriate to recognise electronic evidence as a distinct category of evidence, given its specific nature and the fact that it differs from documents and physical evidence. Notably, academic literature has put forward proposals to incorporate a distinct category of electronic evidence into the CPC of Ukraine and to develop specific procedural rules for handling such pieces of evidence. In contrast, another group of scientists views electronic information as a form of existing procedural sources—primarily documents—that does not necessitate the introduction of a new category of evidence.

2 Вакуленко О. Ф. Поняття властивостей доказів у кримінальному провадженні. *Право.ua.* 2021. № 4. С. 249—254. DOI: 10.71404/LAW.UA.2021.4.37 (date accessed: 18.01.2026).

3 Каланча І. Г. Докази електронної форми у кримінальному процесі України: теорія та практика : дис. ... д-ра юрид. наук. Київ, 2025. 617 с. URI: https://elar.navs.edu.ua/handle/123456789/38317 (date accessed: 18.01.2026).

4 Квашук О. Д. Використання електронних доказів у кримінальному провадженні. *Центральноукраїнський вісник права та публічного управління.* 2025. Вип. 2 (10). С. 50—56. DOI: 10.32782/cuj-2025-2-5 (date accessed: 18.01.2026).

5 Коваленко А. В. Поняття та сутність електронних (цифрових) слідів кримінального правопорушення. *Вісник Луганського державного університету внутрішніх справ імені Е. О. Дідоренка.* 2022. Вип. 4 (100). С. 226—236. DOI: 10.33766/2524-0323.100.226-236 (date accessed: 18.01.2026).

6 Коломійцев С. О. Криміналістичні технології пошуку та фіксації комп’ютерних даних під час проведення слідчих дій : дис. ... д-ра філос. в галузі права. Харків, 2025. 237 с. URI: https://dspace.univd.edu.ua/handle/123456789/24554 (date accessed: 18.01.2026).

7 Нікішев О. В. Цифрові (електронні) докази у кримінальному провадженні в умовах надзвичайних правових режимів. *Право.ua.* 2025. № 1. С. 365—371. DOI: 10.71404/law.ua.2025.1.54 (date accessed: 18.01.2026).

8 Фігурський В. М. Докази в електронній формі у кримінальному провадженні. *Галицькі студії: Юридичні науки.* 2023. Вип. 4. С. 97—105. DOI: 10.32782/galician_studies/law-2023-4-14 (date accessed: 18.01.2026).

9 Щербаковський М. Відкриті джерела кіберпростору як об’єкти судово-експертного дослідження. *Теорія та практика судової експертизи і криміналістики.* 2024. Вип. 2 (35). С. 10—27. DOI: 10.32353/khrife.2.2024.02 (date accessed: 18.01.2026) ; Щербаковський М., Сезонов В. Збирання та дослідження електронних документів із застосуванням спеціальних знань. *Там само.* Вип. 3 (36). С. 10—23. DOI: 10.32353/khrife.3.2024.02 (date accessed: 18.01.2026).

The issue of terminological clarity holds an important place in contemporary research. Research papers point out that concurrent use of the terms *electronic evidence, digital evidence* and *evidence in electronic form* is a sign of an evolving legal framework and the lack of a unified doctrinal position. In these circumstances, some authors emphasise the need for terminological division as a prerequisite for developing a uniform law application practice and for ensuring the cohesion within criminal procedural law.

Research focusing on digital traces as primary carriers of forensically relevant information plays a crucial role in the development of scientific thought. Contemporary criminalistics regards digital traces as a distinct category of information representations arising from users' interaction with the digital environment, capable of being transformed into admissible evidence provided they are properly recorded and verified. Such approaches support the idea that conventional understanding of evidence and its tangible nature should be re-evaluated.

There is an ongoing debate regarding the legal nature of digital data. Some researchers (A.-M. Anheleniuk [10], A. Kovalenko [11], A. Kryzhanovskyi [12], O. Metelev [13], D. Tsekhan [14]) insist that digital data should be treated as a separate category of evidence, while others (I. Kalancha [15], V. Fihurskyi [16]) argue that electronic nature of evidentiary information merely refers to the form in which it is recorded, and not to its standalone procedural category. This ongoing discourse confirms that contemporary academic thought is currently seeking a balanced approach that would reconcile the technical nature of digital data with the existing model of procedural proving.

Therefore, analysis of current academic research shows that considerable progress has been made in addressing theoretical and practical aspects of utilising electronic information in criminal proceedings. At the same time, the lack

10 Ангеленюк А.-М. Ю. Використання електронних доказів у кримінальному процесуальному праві України (проблемні питання). *Науковий вісник Ужгородського національного університету. Серія: Право.* 2023. Вип. 79. Ч. 2. С. 214—218. DOI: 10.24144/2307-3322.2023.79.2.32 (date accessed: 18.01.2026).

11 Коваленко А. В. Електронні докази в кримінальному провадженні: сучасний стан та перспективи використання. *Вісник Луганського державного університету внутрішніх справ імені Е. О. Дідоренка.* 2018. Вип. 4 (84). С. 237—245. DOI: 10.33766/2524-0323.84.237-245 (date accessed: 18.01.2026).

12 Крижановський А. С. Критерії віднесення електронної інформації до видів доказів. *Аналітично-порівняльне правознавство.* 2025. Вип. 2. С. 1027—1032. DOI: 10.24144/2788-6018.2025.02.152 (date accessed: 18.01.2026).

13 Метелев О. П. Гносеологічна і правова природа цифрових доказів у кримінальному процесі. *Правова позиція.* 2018. № 1 (20). С. 75—86. URI: http://biblio.umsf.dp.ua/jspui/handle/123456789/3159 (date accessed: 18.01.2026).

14 Цехан Д. М. Цифрові докази: поняття, особливості та місце у системі доказування. *Науковий вісник Міжнародного гуманітарного університету. Серія: Юриспруденція.* 2013. № 5. С. 256—260. URL: https://www.vestnik-pravo.mgu.od.ua/archive/juspradenc5/56.pdf (date accessed: 18.01.2026).

15 Каланча І. Г. Зазнач. твір. URI: https://elar.navs.edu.ua/handle/123456789/38317 (date accessed: 18.01.2026).

16 Фігурський В. М. Зазнач. твір. DOI: 10.32782/galician_studies/law-2023-4-14 (date accessed: 18.01.2026).

of consensus regarding the terminological definition of the phenomenon under study, various approaches to determining its procedural status, and insufficient consistency between forensic and procedural concepts call for further research into the relationship between the concepts *electronic evidence* and *evidence in electronic form.*

Main Content Presentation

The status of electronic information within the system of sources of evidence is set out in cl. 1 of Sec. 2 of Art. 99 of the CPC of Ukraine [17]. Analysis of these legal principles suggests that investigative (search) actions may yield information recorded in electronic form which shall possess independent evidentiary value. Consequently, researchers rightly observe that at this stage of criminal procedure, there are two main methods of incorporating electronic information into criminal procedural proving: seizure of a physical data medium or copying of relevant electronic (digital) data [18].

Analysis of characteristic features of electronic (digital) traces reveals that the main information contained therein can be entirely reproduced by copying or displaying the relevant computer data. The specified methods of procedurally introducing electronic information into the proving procedure are closely related to specific attributes of digital data, necessitating their separate analysis. For this reason, forensic approaches detailing types of digital information sources and conditions for their identification and recording within criminal proceedings become particularly valuable.

Classification of computer data and their storage media depends on a bunch of forensically relevant criteria, including characterisations of storage media, level of user's control over information, and significance of data for carrying out tasks in criminal proceedings, their role in the process of solving and investigating crimes, their accessibility and availability for examination and detection, as well as the evidence of malicious software activity. S. Kolomiitsev believes that main digital sources of computer data include log files, metadata, network traffic, data remanence, malware, information on user activity, and data stored in cloud environments. The researcher views these sources as potential data media capable of serving the process of proof in criminal proceedings [19]. The forensic approaches listed above are consistent with a fundamental technical feature of digital information: its ability to be reproduced repeatedly without altering its content.

Unlike physical traces, which are inherently unique and cannot be fully reproduced without losing their individual properties, computer data can be copied an unlimited number of times without altering its content, provided that technical requirements are met. Discrepancies between the original and the duplicate data usually concern only metadata, not affecting information content.

This feature is codified in provisions of Pts. 3 and 4 of Art. 99 of the CPC of

17 Кримінальний процесуальний кодекс … . URL: https://zakon.rada.gov.ua/laws/show/4651-17#Text (date accessed: 18.01.2026).

18 Крижановський А. С. Зазнач. твір. С. 1028. DOI: 10.24144/2788-6018.2025.02.152 (date accessed: 18.01.2026).

19 Коломійцев С. О. Зазнач. твір. URL: https://dspace.univd.edu.ua/handle/123456789/24554 (date accessed: 18.01.2026).

Ukraine [20], pursuant to which copies of electronic documents and computer data, drawn up in accordance with the procedure established by this Code, shall be recognised by the court as the original document. It shows that it is information itself, rather than the data medium on which it is recorded, that is recognised as having procedural significance. Given the fact that digital data can be reproduced and transferred between different technical environments multiple times, electronic traces are not rigidly tied to a specific physical medium. Their existence and nature are determined by the specific characteristics of computer systems, within which information is in constant circulation across various storage devices and information environments [21]. Accordingly, the medium primarily serves as a technical environment for information storage, whilst information content is decisive for proving a case. With this approach, it can be concluded that electronic (digital) traces should be regarded, first and foremost, as information phenomena that are not limited to a specific physical medium in terms of their procedural significance. At the same time, characteristics of the medium, method and time of data transfer, as well as technical conditions of storage play a supporting role in establishing to what extent information is reliable and authentic.

The indicated features of digital data logically lead to a discussion pertaining to their procedural nature and the feasibility of equating a physical data medium with physical evidence.

Although we agree that electronic information has a dual nature, we cannot accept that the recording of electronic data on a physical medium constitutes grounds for recognising it as physical evidence. We cannot, therefore, fully endorse A. Kryzhanovskyi's view that provisions of Sec. 1 of Art. 98 of the CPC of Ukraine [22] indicate that there is no direct legislative reference on the exclusion of electronic data media from the category of physical evidence [23]. We consider this reasoning to be insufficiently convincing, since "statutory silence" does not necessarily mean that the rules governing physical evidence automatically extend to electronic media or digital data. At the same time, it worth noting that this approach is not limited to unambiguous classification of electronic information solely as physical evidence, as the author also considers other possibilities for its procedural qualification.

A. Kryzhanovskyi proposes understanding electronic information as a document in cases where such data exhibit signs of a document. The criterion for distinguishing between physical evidence and a document is not the type of medium, but the nature and functional significance of information for criminal proceedings. For practical purposes, the author offers a system of classification criteria whereby electronic information may be classified either as physical evidence or as documents. From his perspective,

20 Кримінальний процесуальний кодекс … . URL: https://zakon.rada.gov.ua/laws/show/4651-17#Text (date accessed: 18.01.2026).

21 Коваленко А. В. Поняття та сутність … DOI: 10.33766/2524-0323.100.226-236 (date accessed: 18.01.2026).

22 Кримінальний процесуальний кодекс … . URL: https://zakon.rada.gov.ua/laws/show/4651-17#Text (date accessed: 18.01.2026).

23 Крижановський А. С. Зазнач. твір. DOI: 10.24144/2788-6018.2025.02.152 (date accessed: 18.01.2026).

these criteria are as follows: structure of electronic information (content and metadata), its documented nature, its functional role in proceedings, and information possessing qualities of physical evidence (use as an instrument of crime, evidence of criminal activity, status of the object of encroachment, etc.) [24].

Therefore, A. Kryzhanovskyi seeks to integrate electronic information into the existing system of procedural evidence sources without establishing a separate category of electronic evidence. His approach stems from the concept of physical and informational unity of evidence and is aimed at developing a practical algorithm for classifying electronic information within the existing model of criminal procedure.

It should be noted that evidence available in the digital environment plays a key role in criminal proceedings of this category, as per the position of the Supreme Court. Such materials include photographic evidence, audio and video recordings, other data media (including computer data), which may be stored in open information networks (internet resources, online media, social networks) as well as in restricted-access environments (private messaging apps, Telegram channels, personal email correspondence, data from mobile devices, flash drives, memory cards, etc.).

In its ruling of 21 July 2025 in Case No. 201/11849/23, the Supreme Court stated that provisions of Art. 99 of the CPC of Ukraine provide a basis for considering materials containing facts of unlawful acts committed by a person or groups of individuals, provided they have been obtained by authorised agencies with due observance of procedural requirements, as documents that may be used as evidence in criminal proceedings [25]. One of the procedural mechanisms for identifying and recording relevant information is inspection: *"Investigator or public prosecutor shall carry out visual inspection of the area, premises, items and documents and computer data"* (Pt. 1 of Art. 237 of the CPC of Ukraine) [26].

Law application practice has shown that it is possible to record digital information by examining websites and Telegram channels, with their content documented in an investigative (search) action record. During such an inspection, it is possible to take screenshots, download video files, photographs and other electronic materials, which are attached as appendices to the record drawn up in line with the requirements of the CPC of Ukraine. Provided that the inspection procedure is followed and proper procedural formalities are observed, courts recognise inspection records on websites and Telegram channels as valid and admissible evidence, since corresponding factual data has been collected in accordance with the procedure stipulated by the CPC of Ukraine [27].

Moving from theory to practice calls for a closer look at a procedural mechanism through which digital data can be-

24 Крижановський А. С. Зазнач. твір. DOI: 10.24144/2788-6018.2025.02.152 (date accessed: 18.01.2026).

25 Постанова Верховного Суду від 21.07.2025 р. Справа № 201/11849/23. Провадж. № 51-584км25 / ЄДРСР : вебсайт. URL: https://reyestr.court.gov.ua/Review/129086893 (date accessed: 18.01.2026).

26 Кримінальний процесуальний кодекс ... . URL: https://zakon.rada.gov.ua/laws/show/4651-17#Text (date accessed: 18.01.2026).

27 Там само.

come valid and admissible evidence. We agree that the process of gathering and recording evidence in electronic form is linked to a specific investigative (search) action, where items and documents are seized or information is recorded by means of copying. This is precisely why researchers observe that only after verifying and evaluating obtained information in terms of its relevance, admissibility, and reliability does such information become evidence. Due to their legal nature, results of relevant procedural activities may be physical evidence or documents. That is why scientists believe that electronic data should be classified as physical evidence provided they are stored on physical media (they contain information capable of serving as evidence) [28]. Ongoing scientific debate necessitates a consideration of a broader range of doctrinal approaches regarding the place of electronic information within the system of procedural sources of evidence.

V. Fihurskyi's scientific paper notes that *"evidence in electronic form is information created, processed, stored or transmitted by means of analogue or digital signals, which is relevant to criminal proceedings"* [29]. The author points out that the specific nature of this information raises debate as to whether it should be included within the existing system of procedural sources of evidence in criminal procedure. The researcher identifies several key viewpoints on the legal nature of evidence in electronic form by analysing academic approaches. Under the first, such evidence is regarded as a type of document recognised under current criminal procedure legislation. Under this approach, electronic information (regardless of the form of a medium) can potentially be used as a document without having to be converted into another form. Criticising this approach, V. Fihurskyi aptly notes that it fails to fully address the specific nature of electronic information, which may serve not only as a data medium but also as a means of committing a criminal offence, an object of criminal encroachment, or evidence of criminal activity, thereby making it more similar to physical evidence. Under the second position, the author has concluded that evidence in electronic form is not a distinct procedural source, but rather a method of presenting evidentiary information. With this approach, digital materials may be regarded either as a form of physical evidence or as a combination of physical evidence and documentary evidence. The third approach, which V. Fihurskyi deems the most promising, involves recognising electronic evidence as an independent procedural source of evidence. Proponents of this approach argue that electronic information differs substantially from traditional documents in terms of how it is created, stored, and reproduced; it requires the use of specialised technical tools and can be edited, thus preventing it from being treated as equivalent to paper documents. Furthermore, they underscore the difference between electronic evidence and audio-visual materials, as the latter can only be a component of electronic information. Ultimately, V. Fihurskyi concludes that evidence in electronic form is a new socio-legal phenomenon of this information age, possessing distinct legal features and specific mechanisms of proof. Therefore, the

28 Крижановський А. С. Зазнач. твір. С. 1028—1029. DOI: 10.24144/2788-6018.2025.02.152 (date accessed: 18.01.2026).

29 Фігурський В. М. Зазнач. твір. DOI: 10.32782/galician_studies/law-2023-4-14 (date accessed: 18.01.2026).

author favours an approach whereby such evidence should be given a separate place within the system of procedural sources of evidence, alongside witness testimony, physical evidence, documents, and expert opinions [30].

An overview of these positions inevitably brings to the fore the issue of terminological clarity, as it is precisely the conceptual framework of a phenomenon that significantly influences the perception of its legal nature.

Given the ongoing terminological debate and taking into account the discussed features of digital information, it becomes evident that the phrase *evidence in electronic form* is more accurate. Thus, I. Kalancha uses the term *evidence in electronic form* instead of *electronic evidence* or *digital evidence*. In favour of the author's approach, we should note that she adheres to the principle of terminological accuracy and the necessity of avoiding conceptual confusion. A monograph focuses on the existence of various approaches—*electronic evidence*, *digital evidence*, and other derivatives—whilst emphasising that such a proliferation leads to terminological confusion, negatively impacting the needs of both academia and practice. It is for this reason that the author proposes terminological division as a prerequisite for establishing a unified legal position. I. Kalancha is also guided by provisions of the current CPC of Ukraine. She notes that, in criminal proceedings, electronic (or digital) evidence is not singled out as an independent procedural source of evidence. For this reason, the use of the *electronic evidence* term as a settled term could be premature or go beyond the scope of the current model of proof. In her dissertation, she also distinguishes between the *electronic* and *digital* aspects. The author refers to the academic view that *digital evidence* denotes the nature of information (binary code) from a technical perspective, whereas *electronic* refers to technical means of its creation and processing. Therefore, both terms contain an element of truth, but neither is universal. This is precisely why the scholar opts for the wording *evidence in electronic form* as a more neutral, procedurally sound term that:

- does not appear to be a separate category of evidence not provided for by the CPC of Ukraine;
- covers various digital representations of data;
- relates not to the new essence of evidence, but to the form of its existence and presentation;
- is consistent with the concept of the procedural nature of evidence in criminal proceedings.

Consequently, the concept *evidence in electronic from* is a compromise between the technical nature of the phenomenon and the procedural realities of criminal proceedings [31].

Analysis of academic approaches shows that the discussion is gradually shifting from the technical nature of digital data to the issue of their accurate terminological formulation within the framework of criminal procedure doctrine.

The approach advocating for the use of the *evidence in electronic form* term is therefore worth considering, as it emphasizes how evidence is stored rather than implying it is a separate type of evidence inherently connected to a specific medium.

30 Фігурський В. М. Зазнач. твір. DOI: 10.32782/galician_studies/law-2023-4-14 (date accessed: 18.01.2026).

31 Каланча І. Г. Зазнач. твір. URI: https://elar.navs.edu.ua/handle/123456789/38317 (date accessed: 18.01.2026).

Information-based nature of digital traces and their relative independence from physical media underpin the approach whereby electronic form characterises the manner in which evidence exists and is presented, rather than its independent procedural nature.

Conclusions

The research conducted confirms that advancement of digital technologies has fundamentally transformed traditional views on the nature of information possessing evidentiary value in criminal proceedings and led to the emergence of new approaches to its procedural formalisation. Analysis of current criminal procedure legislation and legal doctrine reveals that there is no uniform approach to defining the legal nature of electronic information and, consequently, to the application of the terms *electronic evidence, digital evidence,* and *evidence in electronic form.*

It has been proven that the specific characteristics of digital data—the ability to be copied repeatedly without altering their content, their relative independence from a physical medium, and the necessity of technical mediation for data accessibility—necessitate a rethinking of conventional approaches to classifying evidence based on its physical nature. In today's context, it is primarily data content that is of procedural significance, whereas a physical medium serves predominantly as a technical environment in which data exist.

Research into scientific perspectives has revealed the existence of several conceptual approaches to defining the place of electronic information within the system of sources of evidence: viewing it as a type of document, as a combination of physical evidence and documentary evidence, or as the separate, independent procedural source. However, analysis of the arguments regarding whether electronic information constitutes physical evidence has demonstrated that the lack of an explicit statutory prohibition cannot be regarded as sufficient grounds for extending the rules governing physical evidence to electronic information.

Under the current model of criminal procedural proving, electronic information is incorporated into the existing system of sources of evidence using the categories of documents and physical evidence, depending on how it was obtained and procedural formalities involved. This justifies the need for a rigorous terminological approach detailing not the creation of a new type of evidence, but the specific nature of evidentiary information.

Following the analysis, we have found that using the term *evidence in electronic form* is the most appropriate way to describe this concept, as it is best aligned with the informational nature of digital data and the current CPC of Ukraine. This wording avoids artificially singling out a distinct procedural framework, ensures terminological neutrality, and clarifies that electronic form refers to the manner in which evidence is stored and presented, rather than to its independent legal nature.

This means that terminological division between the concepts of *electronic evidence* and *evidence in electronic form* is of both theoretical and practical value, given that it has a direct impact on the procedural qualification of evidence and the choice of methods for its collection and evaluation in criminal proceedings. It is advisable to direct further research towards developing agreed criteria for procedural identification of evidence available in the digital environment, bearing in mind the rapid pace of information technology development.

Електронний доказ чи доказ в електронній формі: проблеми доречності термінологічного розмежування

Костянтин Караман

Мета статті — з'ясувати співвідношення термінологічних конструкцій «електронний доказ» і «доказ в електронній формі», визначити їх теоретико-правові відмінності та практичне вживання в кримінальному провадженні, а також сформулювати науково обґрунтований підхід до їх термінологічного розмежування. Поставлену мету реалізовано за допомогою комплексного застосування загальнонаукових (аналіз, синтез і узагальнення), діалектичного, логіко-семантичного, формально-юридичного, системно-структурного, порівняльно-правового та герменевтичного методів. Проаналізовано сучасний стан наукової розробленості проблеми правової природи електронної інформації в системі процесуальних джерел доказів, а також основні підходи до її термінологічного розуміння в доктрині кримінального процесу. Акцентовано увагу на особливостях цифрових даних як інформаційних об'єктів, здатних до багаторазового відтворення без зміни змісту, що зумовлює дискусійність їх співвідношення з традиційними речовими доказами й документами. Констатовано, що в науковому обігу паралельно вживають термінологічні конструкції «електронний доказ», «цифровий доказ» і «доказ в електронній формі», що свідчить про відсутність усталеного підходу до розмежування їхнього змісту. На підставі аналізу законодавчих положень і доктринальних позицій обґрунтовано доцільність застосування терміна «доказ в електронній формі» як такого, що найбільш повно відображає інформаційну природу цифрових даних і узгоджується з чинною моделлю кримінального процесуального доказування. Дійшли висновку, що електронна форма свідчить про наявність доказової інформації, а не про її самостійну процесуальну сутність. Окреслено перспективи подальших досліджень, пов'язані з виробленням єдиних критеріїв процесуальної ідентифікації доказів, що функціонують у цифровому середовищі.

Ключові слова: *кримінальний процес; досудове розслідування; докази; доказування; електронний доказ; процесуальна форма.*

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The author declares no conflict of interest.

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Certification and Periodic Verification of 3D Laser Scanners Used in Criminal Proceedings

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The purpose of this article is to analyze the presence or absence in current legislation of requirements for the certification and calibration of laser 3D scanners used in Ukrainian criminal proceedings, as well as to determine which national and international standards such devices must (or may) comply with. To achieve this goal, linguistic, formal-legal, formal-logical, comparative-legal methods, and forecasting were used. Current procedures for metrological control and supervision are highlighted. It has been determined that certain types (model lines, series) of measuring devices are subject to certification (approval of the type of measuring equipment). A list of legally regulated measuring equipment used to perform work on behalf of criminal justice authorities is provided. It is argued that under current legislation, laser 3D scanners used in criminal proceedings are not regulated measuring instruments and do not require specific certification and periodic verification. Such devices may be subject to voluntary certification and verification at the initiative of their manufacturers, suppliers, or users. National (ДСТУ) and international (ISO) standards are provided, according to which voluntary certification of laser 3D scanners used in criminal proceedings can be carried out.

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Keywords: *criminal proceedings; forensic technology; scientific and technical means; laser 3D scanner; measuring instrument; certification; verification; standard.*

Research Problem Formulation

Modern *3D laser scanning* technologies make possible to quickly, accurately and efficiently capture the dimensional and spatial characteristics of many material objects. Already today, the degree of detail of scanning and measuring of modern *3D* laser scanners reaches 5 microns (0.0005 mm), and the repeatability (permissible error between measurements) is 2 microns (0.0002 mm) [1]. Accurate measurements are regulated by legislation in the field of metrology and metrological activities; sometimes such devices require certification, periodic verification or other control measures.

In criminal proceedings, laser 3D scanners can be used both for visual recording of forensically significant objects and for measuring their dimensional and spatial characteristics. In case of fixing objects, these scientific and technical means do not require certification and verification. With the introduction of modern scientific and technical means into practice, some participants in criminal proceedings (primarily lawyers) have doubts about the accuracy of such devices, the repeatability of measurements, their compliance with standards, etc. That is why the issues of legal regulation of metrological control of laser 3D scanners and the mandatory nature of their certification and verification are extremely relevant.

Article Purpose

Analyze availability or lack in the current legislation of requirements for certification and verification of laser *3D scanners* as scientific and technical means in criminal proceedings and the introduction of national and international standards to which these devices should (can) comply.

Research Methods

For studying current legislation provisions on grounds and procedure for certification and verification of measuring instruments, methods of linguistic analysis and formal legal analysis were used. Formal logical method and a set of methods of logic (analysis, synthesis, deduction, induction) allowed the authors to identify measuring instruments that require mandatory certification and verification. The comparative legal method contributed to the comparison of the practice of manufacturers and users of 3D scanners regarding the initiative verification and certification of such devices. With the help of forecasting method, further prospects for scientific research in this field are formulated.

Analysis of Essential Researches and Publications

In recent years, Ukrainian scientists have repeatedly focused on specific issues related to the certification and calibration

1 Artec Micro II. Automated desktop 3D scanner for digitizing parts in 5-micron accuracy / Artec3d : web. URL: https://www.artec3d.com/portable-3d-scanners/artec-micro (date accessed: 18.12.2025).

of field forensic equipment. In particular, O. Dufeniuk [2], A. Poltavskyi, O. Ruvin [3], and Yu. Poliak [4] determined which international standards (ISO) can be applied to such devices; S. Svyrydenko and V. Piaskovskyi [5] argued for the benefits of involving representatives of forensic institutions as specialists in procedural actions due to their possession of certified equipment; R. Stepaniuk and S. Perlin [6] considered the possibilities of introducing international standards in the field of digital forensics, etc. However, questions regarding the mandatory nature and procedure for certification and verification of laser 3D scanners for use in criminal proceedings remain open, confirming relevance of the proposed research.

Main Content Presentation

The branches of legally regulated metrology and the list of metrological control and supervision measures that must be applied to measuring equipment are defined by the Law of Ukraine: *On Metrology and Metrological Activity* [7] (hereinafter referred to as the *Law on Metrology*).

In particular, the main measure of metrological control is the verification (verification of metrological characteristics) of measuring instruments is "set of operations, including verification and marking and/or issuance of a document on the verification of measuring instruments, which establish and confirm that this instrument meets the established requirements" (paragraph 18 of Part 1 of Article 1 of the Law on Metrology) [8]. According to this Law:

"Legislatively regulated measuring instruments in operation are subject to periodic verification and verification after each repair.

<…>

2 Дуфенюк О. М. Забезпечення судово-експертної діяльності у кримінальному провадженні: системна парадигма. *Вісник Львівського торговельно-економічного університету. Юридичні науки*. 2019. Вип. 8. С. 163—173. DOI: 10.36477/2616-7611-2019-08-18 (date accessed: 18.12.2025).

3 Полтавський А. О. До питання стандартизації технології огляду (дослідження) місця події. *Криміналістика і судова експертиза*. 2019. Вип. 64. С. 331—349. DOI: 10.33994/kndise.2019.64.29 (date accessed: 18.12.2025) ; Рувін О. Г., Полтавський А. О. Стандартизація техніко-криміналістичного та судово-експертного забезпечення правосуддя в Україні: праксеологічний аспект. *Там само*. 2017. Вип. 62. С. 51—60. URL: http://nbuv.gov.ua/UJRN/krise_2017_62_9 (date accessed: 18.12.2025).

4 Поляк Ю. П. Застосування технічних засобів при проведенні слідчих (розшукових), негласних слідчих (розшукових) дій та використання його результатів під час досудового розслідування : дис. … д-ра філос. в галузі права. Львів, 2022. С. 97. URI: http://dspace.lvduvs.edu.ua/handle/1234567890/4812 (date accessed: 18.12.2025).

5 Свириденко С., Пясковський В. Щодо питання залучення до участі в слідчих (розшукових) діях працівників МВС України як спеціалістів. *Підприємництво, господарство і право*. 2021. № 6. С. 205—209. DOI: 10.32849/2663-5313/2021.6.33 (date accessed: 18.12.2025).

6 Степанюк Р. Л., Перлін С. І. Цифрова криміналістика й удосконалення системи криміналістичної техніки в Україні. *Вісник Луганського державного університету внутрішніх справ ім. Е. О. Дідоренка*. 2022. Вип. 3 (99). С. 283—284. DOI: 10.33766/2524-0323.99.283-284 (date accessed: 18.12.2025).

7 Про метрологію та метрологічну діяльність : Закон України від 05.06.2014 р. № 1314-VII (зі змін. та допов.). URL: https://zakon.rada.gov.ua/laws/show/1314-18#Text (date accessed: 02.12.2025).

8 Там само.

Regarding legally regulated measuring equipment in operation, extraordinary, expert and inspection verification may also be carried out" (paragraphs 1 and 5 of Part 1 of Art. 17) [9].

Within the verification, the tool is calibrated, namely: determination and calculation of deviations of its indicators from the approved standard.

Verification of measuring instruments is carried out by authorized metrological centers and verification laboratories. The initiative to conduct periodic and post-repair checks, as well as payment for services for their implementation, should come from enterprises, institutions or organizations operating the relevant devices [10].

Similarly, certain types (model lines, series) of measuring devices are subject to certification: in the terminology of clause 7 of Part 1 of Art. 1 of the Law on Metrology: *"approval of the type of measuring instrument and approval of the type of measuring instrument is a decision of the designated conformity assessment body, made on the basis of a type assessment report, that the type of measuring instrument meets the established requirements and can be used in the field of legally regulated metrology in a way in which it is expected to provide reliable measurement results within a certain period of time"* [11]. As a result of approval of a certain type of measuring instrument, a certificate is issued, information about which is entered in the relevant open register [12].

Measuring instruments used in the field of legally regulated metrology are subject to mandatory certification and verification. Such areas, among others, include measuring *"works carried out on behalf of pre-trial investigation bodies, prosecution bodies and courts"* (paragraph 12 of Part 1 of Article 3 of the Law on Metrology) [13], id est performed in the field of criminal justice.

The list of legally regulated measuring instruments used during such work and subject to periodic verification is outlined in the annex to the Resolution of the Cabinet of Ministers of Ukraine dated 04.06.2015 No. 374 [14] (hereinafter referred to as the *Annex to the Resolution № 374*). These tools include, but are not limited to:

"13. Measurements of alcohol content in blood and exhaled air

<…>

25. Weights [the way of using this category of devices in modern conditions is difficult for us to imagine.]

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9 Про метрологію та метрологічну діяльність … . URL: https://zakon.rada.gov.ua/laws/show/1314-18#Text (date accessed: 02.12.2025).

10 Порядок проведення повірки законодавчо регульованих засобів вимірювальної техніки, що перебувають в експлуатації, та оформлення її результатів : затв. наказ. Мінекономрозвитку України від 08.02.2016 р. № 193 (зі змін. та допов.). URL: https://zakon.rada.gov.ua/laws/show/z0278-16#Text (date accessed: 02.12.2025).

11 Про метрологію та метрологічну діяльність … . URL: https://zakon.rada.gov.ua/laws/show/1314-18#Text (date accessed: 02.12.2025).

12 Порядок ведення Реєстру затверджених типів засобів вимірювальної техніки : затв. наказ. Мінекономрозвитку України від 13.07.2016 р. № 1161. URL: https://zakon.rada.gov.ua/laws/show/z1081-16#Text (date accessed: 04.12.2025).

13 Про метрологію та метрологічну діяльність … . URL: https://zakon.rada.gov.ua/laws/show/1314-18#Text (date accessed: 02.12.2025).

14 Перелік категорій законодавчо регульованих засобів вимірювальної техніки, що підлягають періодичній повірці : дод. до постанов. КМУ від 04.06.2015 р. № 374 (зі змін. та допов.). URL: https://zakon.rada.gov.ua/laws/show/374-2015-%D0%BF#Text (date accessed: 02.12.2025).

<…>

50. Non-automatic weighing instruments

<…>

74. Thermometers (for food control, safety of working conditions and conducting forensic examinations on behalf of pre-trial investigation bodies, prosecutor's offices and courts)" [15].

Consequently, all other measuring instruments used in criminal proceedings (including 3D laser scanners) are not legally regulated and do not require certification, regular verification and calibration [16].

Instruments for measuring length and area (in particular, rulers and tape measures, which are integral components of any set of forensic tools) are subject to periodic verification only if they are used to monitor the state of the environment, conducting trade and commercial transactions and settlements, determining the parameters of buildings, structures, and built-up areas, as well as registering national and international sports records (clauses 3, 7, 9, 13 of Part 1 of Article 3 of the Law on Metrology [17]). It should be noted that digital cameras, which, together with linear metric standards (most often, scale rulers), are used for measuring (monophotogrammetric) photography (in particular, during forensic examinations), are not subject to any certification or verification.

The closest scientific and technical means to 3D scanners mentioned in the annex to Resolution No. 374, is a total station theodolite: *"geodetic device designed to measure horizontal and vertical angles, distances and excesses id est to perform plan-altitude (tacheometric) survey of the terrain in a polar way"* [18] (its modern samples are based on *3D* technologies). At the same time, periodic verification of such devices is required only for topographic, geodetic, cartographic and hydrometeorological works, land management and determination of the parameters of buildings, structures and the territory of development (clauses 6, 9 of Part 1 of Article 3 of the Law on Metrology) [19].

Considering the above, we should note that certification and mandatory periodic verification are required based on *3D* -total station technologies, which are used to record the parameters of buildings and land plots during forensic engineering construction and technical, construction and evaluation, land and technical, evaluation and land examinations, and research on land management issues, the tasks of

15 Перелік категорій законодавчо регульованих засобів … . URL: https://zakon.rada.gov.ua/laws/show/374-2015-%D0%BF#Text (date accessed: 02.12.2025).

16 Коваленко А. В. До питання сертифікації та періодичної повірки засобів вимірювальної техніки, які використовуються у кримінальному судочинстві. *Актуальні питання судової експертології, криміналістики та кримінального процесу* : мат-ли VII міжнар. наук.-практ. конф. (Київ, 10.12.2025). Київ, 2025. С. 171. URI: http://repository.ukd.edu.ua/xmlui/handle/123456789/1905 (date accessed: 02.12.2025).

17 Про метрологію та метрологічну діяльність … . URL: https://zakon.rada.gov.ua/laws/show/1314-18#Text (date accessed: 02.12.2025).

18 Тахеометр / Альохін В. І. та ін. Мала гірнича енциклопедія. У 3 т. / за ред. В. С. Білецького. Т. 3 : С — Я / Донецьк, 2013. С. 247. URI: https://repository.kpi.kharkov.ua/handle/KhPI-Press/37398 (date accessed: 10.12.2025).

19 Про метрологію та метрологічну діяльність … . URL: https://zakon.rada.gov.ua/laws/show/1314-18#Text (date accessed: 02.12.2025).

which include [20], by the way, includes the works mentioned in the Law on Metrology.

For example, *Leica ScanStation P30/P40/P50*, *Leica* RTC360 laser scanners (which can be used as total stations) were certified by the National Scientific Center "Institute of Metrology" in 2020 for the period up to 2030 (inspection certificate *N№ UA.TR.113-0301-20*), however, in 2024 this certificate was canceled [21]. At the time of writing, the Register of Approved Measuring Instrument Types does not contain other references to 3D laser scanners.

At the same time, as O. Maletska notes, not only legally regulated measuring instruments [22] can be subject to verification. Other devices are certified and verified by authorized bodies at the initiative of enterprises, institutions, or organizations that operate and/or supply them. That is why manufacturers and suppliers of 3D scanners today certify and calibrate such devices in accordance with the regulatory requirements of other countries or in preparation for possible changes in Ukrainian legislation in the field of metrology and metrological activities. In addition, there are widespread proposals in scientific circles to expand the list of forensic scientific and technical means that should be certified in accordance with certain standards [23]. In view of the above, as well as the obvious inconsistency of the list of legally regulated measuring instruments (included in the appendix to Resolution № 374) to the current state of scientific and technological development, we consider it appropriate to determine which national and international standards laser 3D scanners can meet as measuring instruments in Ukrainian criminal proceedings.

In accordance with Part 7 of Art. 17 of the Law on Metrology, *"verification of legally regulated measuring instruments in operation is carried out according to the methods determined by the normative legal acts of the central executive body, which ensures the formation of state policy in the field of metrology and metrological activities, or national standards, to which there are relevant references in the normative legal acts of this central executive body"* [24].

Similarly, calibration of measuring instruments (calculation of deviations of the device indicators from the approved

20 Інструкція про призначення та проведення судових експертиз та експертних досліджень та Науково-методичні рекомендації з питань підготовки та призначення судових експертиз та експертних досліджень : затв. наказ. Мін'юсту України від 08.10.1998 р. № 53/5 (зі змін. та допов.). URL: https://zakon.rada.gov.ua/laws/show/z0705-98#Text (date accessed: 10.12.2025).

21 Реєстр затверджених типів засобів вимірювальної техніки / ДП «Укрметртестстандарт» : вебсайт. URL: https://legalzvt.kiev.ua (date accessed: 07.12.2025).

22 Малецька О. Є. Повірка та калібрування засобів вимірювальної техніки на підприємстві: розв'язання наявних проблем / Інститут підвищення кваліфікації і перепідготовки спеціалістів з метрології : вебсайт. 06.01.2022. URL: https://www.ipkm.org.ua/services (date accessed: 01.12.2025).

23 Дуфенюк О. М. Зазнач. твір. DOI: 10.36477/2616-7611-2019-08-18 (date accessed: 18.12.2025) ; Полтавський А. О. Зазнач. твір. DOI: 10.33994/kndise.2019.64.29 (date accessed: 18.12.2025) ; Рувін О. Г., Полтавський А. О. Зазнач. твір. URL: http://nbuv.gov.ua/UJRN/krise_2017_62_9 (date accessed: 18.12.2025) ; Поляк Ю. П. Зазнач. твір. URI: http://dspace.lvduvs.edu.ua/handle/1234567890/4812 (date accessed: 18.12.2025).

24 Про метрологію та метрологічну діяльність … . URL: https://zakon.rada.gov.ua/laws/show/1314-18#Text (date accessed: 02.12.2025).

standard) is carried out in accordance with national standards harmonized with the relevant international and European standards, and documents adopted by international and regional metrology organizations (Part 3 of Art. 27 of the Law on Metrology [25]).

Until 01.01.2026, ДСТУ ГОСТ ИСО 5725-1:2005, 5725-2:2005, 5725-3:2005, 5725-4:2005, 5725-5:2005, 5725-6:2005 “Accuracy (correctness and precision) of measurement methods and results” (parts 1–6) [26], the basis of which was the interstate standard ISO 5725-1:2023 [27]). Note: this interstate Standard was repeatedly updated (in particular, in 2023), which in no way affected the changes to the national standards, so we see the need to update the national standards in accordance with the current version of their international counterpart.

At the international level, a series of ISO 10360 standards [28] are used to regulate the requirements for measuring equipment. In particular, these international standards are used by the German company *Zeiss* [29], which produces, in particular, *3D* laser scanners, to certify its own measuring equipment. In Ukraine, ДСТУ ISO 10360-2:2006 “Technical requirements for product geometry (GPS)” has been adapted and approved. Acceptance and control tests of coordinate measuring machines. Part 2: Coordinate measuring machines for measuring dimensions (ISO 10360-2:2001, IDT)” [30].

The Chinese company *Shining 3D* has certified its laboratories in accordance with German national standards and calibrates its own 3D scanners according to the German engineering association standard *VDI/VDE 2634*, developed specifically for the certification of optical 3D measuring devices [31]. Similarly, the Luxembourg made *Artec Micro 2* [32] 3D scanner is certified according to the international standard ISO 12836 “Dentistry — Digitizing devices for CAD/CAM systems for indirect

25 Про метрологію та метрологічну діяльність … . URL: https://zakon.rada.gov.ua/laws/show/1314-18#Text (date accessed: 02.12.2025).

26 Про надання чинності в Україні міждержавним стандартам, змінам до міждержавних стандартів та скасування нормативних документів : наказ Держспоживстандарту України від 30.12.2005 р. № 387 (зі змін. та допов.). URL: https://zakon.rada.gov.ua/rada/show/v0387609-05#Text (date accessed: 02.12.2025).

27 ISO 5725-1:2023 Accuracy (trueness and precision) of measurement methods and results. Part 1: General principles and definitions / ISO : web. URL: https://www.iso.org/standard/69418.html (date accessed: 05.12.2025).

28 DIN EN ISO 10360 Standard Series for Coordinate Measuring Machines / Zeiss : web. URL: https://www.zeiss.com/metrology/en/explore/topics/din-en-iso-10360.html (date accessed: 05.12.2025).

29 Ibid.

30 Про затвердження національних стандартів України, скасування нормативних документів та внесення змін до наказу Держспоживстандарту України від 11.01.2005 № 10 : наказ Держспоживстандарту України від 29.06.2006 р. № 180 (зі змін. та допов.). URL: https://zakon.rada.gov.ua/rada/show/v0180609-06#Text (date accessed: 05.12.2025).

31 Accuracy Certification Pathway: From CNAS Accreditation to VDI/VDE 2634 Calibration Certificate / Shining 3d : web. Jul. 15th 2024. URL: https://www.shining3d.com/accuracy-certification-pathway-from-cnas-accreditation-to-vdi/vde-2634-calibration-certificate (date accessed: 05.12.2025).

32 Artec Micro II … . URL: https://www.artec3d.com/portable-3d-scanners/artec-micro (date accessed: 18.12.2025).

dental restorations — Test methods for accuracy assessment," [33] although this scanner is for general use and is not directly used in dentistry.

Consequently, as international as national standards can be applied for voluntary certification and verification of 3D laser scanners.

Conclusions

Summing up, we note that according to the current legislation of Ukraine, 3D laser scanners used for the needs of criminal proceedings do not belong to regulated measuring instruments and do not require specific certification and periodic verification. Perhaps the only exception to this rule is based on 3D total station theodolites that can be used to measure and record the parameters of buildings or land plots during forensic construction and technical, appraisal and construction, land and technical, appraisal and land forensic examinations and land management researches.

At the same time, manufacturers and suppliers of 3D scanners can certify and calibrate such devices in accordance with the regulatory requirements of other countries or in preparation for possible changes in Ukrainian legislation in the field of metrology and metrological activities. Until January 1, 2026, Ukraine was guided by ДСТУ ГОСТ ISO 5725-(1–6):2005 "Accuracy (trueness and precision) of measurement methods and results," as well as ISO 5725-1:2023 Accuracy (trueness and precision) of measurement methods and results. From January 1, 2026, ДСТУ ISO 10360-2:2006 "Technical requirements for product geometry (GPS). Acceptance and control tests of coordinate measuring machines. Part 2. Coordinate measuring machines for dimensional measurement (ISO 10360-2:2001, IDT)" and its international counterpart ISO 10360 Geometrical product specifications (GPS) — Acceptance and reverification tests for coordinate measuring machines. During certification and verification of 3D scanners, more specific international standards for engineering, construction, medicine and other industries may also be applied.

Сертифікація та періодична повірка лазерних *3D*-сканерів, якими користуються в кримінальному судочинстві

Артем Коваленко,
Володимир Коваленко

Мета статті — проаналізувати наявність або відсутність в чинному законодавстві вимог до сертифікації та повірки лазерних 3D-сканерів, якими користуються в українському кримінальному судочинстві, а також з'ясувати, яким національним і міжнародним стандартам мають (або можуть) відповідати такі пристрої. Для досягнення поставленої мети застосовано лінгвістичний, формально-юридичний, формально-логічний, порівняльно-правовий методи, прогнозування. Висвітлено поточні процедури метрологічного контролю й нагляду. Визначено, що сертифікації (затвердженню типу засобу вимірювальної техніки) підлягають певні типи (модельні лінійки, серії) вимірювальних пристроїв. Наведено перелік законодавчо регульованих засобів вимірювальної техніки, які застосовують для виконання робіт за дорученням органів кримінальної юстиції. Аргументовано, що за чинного законодавства

33 ISO 12836:2015 Dentistry — Digitizing devices for CAD/CAM systems for indirect dental restorations — Test methods for assessing accuracy. ISO : web. URL: https://www.iso.org/standard/68414.html (date accessed: 05.12.2025).

лазерні 3D-сканери, якими послуговуються в кримінальному судочинстві, не належать до регульованих засобів вимірювальної техніки й не потребують специфічної сертифікації та періодичної повірки. Такі пристрої можуть підлягати добровільній сертифікації й повірці за ініціативи їхніх виробників, постачальників або користувачів. Наведено національні (ДСТУ) і міжнародні (ISO) стандарти, за якими можна здійснювати ініціативну сертифікацію лазерних 3D-сканерів, якими користуються в кримінальному судочинстві.

Ключові слова: *кримінальне провадження; криміналістична техніка; науково-технічний засіб; лазерний 3D-сканер; засіб вимірювальної техніки; сертифікація; повірка; стандарт.*

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Prospects for Improving Forensic Support in the Investigation of Economic Crimes

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The primary concerns of this paper are to define the role and current trends in professional activities of forensic experts and specialists in criminal proceedings on economic crimes. The author analyses contemporary trends in the use of specific expertise as a scientific underpinning for the administration of justice in Ukraine, particularly during the investigation of economic crimes such as money laundering, smuggling and financial fraud, etc. The article highlights the crucial role of forensic experts and specialists in maintaining the accuracy and objectivity during criminal investigations, in ensuring that procedural decisions are impartial and reasoned, and in aligning national practice with European standards. Legal regulation, practical aspects and methodological challenges of engaging forensic experts have been discussed, and the importance of experts' independence, professional competence and adherence to procedural safeguards has been emphasised. Analysis of national and European case law has identified systemic issues, including gaps in Ukraine's criminal procedure legislation, lack of standardised methodological guidelines, and limited accessibility to the Register of Methodologies for Conducting Forensic Examinations for participants in criminal proceedings. Comprehensive measures have been proposed to improve Ukrainian legislation, establish a unified national inter-agency methodological body responsible for developing, registering and monitoring forensic examination methodologies that address actual capabilities of all parties involved in forensic activities, provide

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public access to the Register of Methodologies for Conducting Forensic Examinations, elaborate on professional development of forensic experts as well as upgrading of technical facilities, and govern participation of foreign specialists in the activities of national expert institutions. Adoption of these proposals will pave the way for improving the quality of proof, ensuring respect for human rights and the rule of law, and strengthening public confidence in Ukraine's criminal justice system in the context of European integration.

Keywords: *specific expertise; economic crime; business entity; criminal justice; regulatory and legal support; methodology.*

Research Problem Formulation

Specification of facts beyond a reasonable doubt is a cornerstone principle in criminal proceedings, guaranteeing the objective classification of offences under criminal law and the fair punishment of those who have committed crimes, as well as ensuring the strict observance of rights of all participants in criminal proceedings. Proving is of fundamental importance, as evidence determines the efficiency of individual procedural actions and the validity of procedural decisions. Amongst the evidence, expert opinions and specialist opinions take on particular significance due to the development of science and technology and of issues requiring the application of specific expertise.

We are drawn to the issue of forensic support for the administration of justice in Ukraine, particularly its compliance with European Union standards regarding the prosecution of economic crimes. The relevance of researching this topic stems from the need to improve practices for combating economic crime, and to enhance the effectiveness of practical activities in investigating criminal offences in the field of economic activity, which are highly dangerous to social stability, economic development and the State's investment appeal, thereby making it a priority area for Ukraine, which seeks to ensure rapid post-war recovery of the economy and the criminal justice system. At the same time, criminal offences undermining social relations in the area of public treasury allocation—such as those involving goods smuggling and money laundering—pose a challenge to national law enforcement agencies and condone transnational crime.

Investigating offences involving economic activities indeed requires an in-depth analysis of financial and economic records, a review of complex economic processes, and the resolution of issues concerning production, technology and organisation. Consequently, pre-trial investigation authorities and the judiciary actively make use of forensic science in practice and also employ the procedure for utilising professional expertise of specialists. However, Ukraine's current criminal procedure legislation is marked by significant gaps and internal inconsistencies in the rules governing the procedural status of specialists and ways they can participate in criminal proceedings, creating potential for evidence to be ruled inadmissible and adversely affecting efficiency of investigations into economic crimes.

Article Purpose

Define the contemporary trends and role of forensic experts and specialists in criminal proceedings relating to economic offences.

Research Methods

Methodological framework of the study has been developed considering general scientific, philosophical and specialised legal methods of cognition, which have been applied to clarify the current state of affairs and prospects for enhancing forensic support in investigations into economic crimes, as well as to align national practice with European standards for quality, admissibility and mutual recognition of evidence.

Dialectic method has been useful in identifying patterns of forensic activities development against the backdrop of shifting economic relations, the increasing complexity of economic criminal offences, and stricter requirements regarding the scientific validity of proof. It also has proven valuable in tracing the relationship between the evolution of EU criminalistics and the need to modernise the Ukrainian expert support system.

Systemic-structural approach has contributed to defining the role of forensic examination and to engaging forensic experts in proving within proceedings concerning economic crimes, as well as to analysing interaction between regulatory, institutional and methodological components of expert support (the procedural status of experts and specialists, the role of specialists in obtaining samples, standardisation of methodologies, accreditation of laboratories, and access to methodological resources).

System-structural method has been employed to reveal the practical purpose regarding the involvement of forensic experts and specialists at various stages of criminal proceedings (specifically during collection of comparative samples, technical recording, and analysis of digital and financial-economic data). It has also proven helpful in assessing the impact of regulatory gaps regarding specialist involvement on the efficiency of investigations and in identifying potential risks of evidence being ruled inadmissible.

Formal-logic methods (analysis, synthesis, induction, deduction, etc.) have been utilised to substantiate conclusions regarding legal fragmentation in the regulation of specialist involvement, the terminological inconsistency between the concepts of *involvement* and *participation*, and to draft proposals for resolving conflicts, refining procedural rules, and enhancing the predictability of law application.

Legal-dogmatic method has facilitated the review of provisions in Ukraine's criminal procedure legislation defining the procedural status of forensic experts and specialists, the procedure for obtaining materials and samples, the criteria for evidence admissibility and grounds for dismissal, along with the analysis of the regulatory framework for quality assurance in expert activities (including issues of accreditation and methodological regulation).

Comparative legal method has come in handy for comparing Ukrainian approaches to forensic activity organisation with European criteria for quality assurance and mutual recognition of forensic analysis findings (notably in the framework of strategic documents on the creation of a common forensic research area).

These methods have provided a complete theoretical and practical understanding of current trends in forensic support for the investigation of economic crimes, and have also allowed us to formulate well-founded proposals for amending legislation, enhancing methodological regulation and the institutional infrastructure of Ukrainian forensic science against the backdrop of European integration.

Theoretical framework of the study is grounded in certain regulatory documents of national importance and international standards. Empirical section of the study draws on the case law of the European Court of Human Rights (hereinafter referred to as the *ECHR*).

Analysis of Essential Researches and Publications

Scholars are working relentlessly to identify the most pressing issues and priority areas for improving forensic support. Ella Simakova-Yefremian rightly observes that there is an urgent need for a complete overhaul of Ukrainian legislation governing forensic activities, as the current regulatory framework is riddled with significant gaps, inconsistencies and terminological discrepancies, adversely affecting the efficiency of forensic support for justice administration. The researcher emphasises the need to clearly define the procedural status of forensic experts, to broaden the range of parties involved in forensic activities, to review a monopoly held by state institutions, and to harmonise the Basic Law with relevant procedural codes. The professor provides an integrated analysis of issues surrounding expert motivation, accreditation of institutions, funding of forensic examinations, as well as development of international cooperation, viewing implementation of these measures as a key prerequisite for improving the quality, independence of expert services and for enhancing public trust in forensic expert activities within Ukraine [1]. All these challenges remain relevant to this day.

Researchers are increasingly turning their attention to the training and professional development system for staff at forensic expert institutions. These ideas are articulated in research papers by S. Hasparian [2], I. Petrova [3], O. Uhrovetskyi et al. [4], O. Kurdes [5], and others.

As regards recent studies, I. Perevozova et al., for example, believe that the main “bottlenecks” in forensic expert support to justice system are the lack of statistical

1 Сімакова-Єфремян Е. Б. Про необхідність удосконалення законодавства щодо здійснення судово-експертної діяльності в Україні. *Теорія та практика судової експертизи і криміналістики*. 2019. Вип. 19. С. 118—129. DOI: 10.32353/khrife.1.2019.09 (date accessed: 02.02.2026).

2 Гаспарян С. Г. Шляхи підвищення якості підготовки кадрів для судово-експертних установ Міністерства юстиції України. *Там само*. 2018. Вип. 18. С. 281—287. DOI: 10.32353/khrife.2018.31 (date accessed: 02.02.2026).

3 Петрова І. А. Наукові засади управління розвитком персоналу судово-експертних установ. *Архів кримінології та судових наук*. 2020. № 1. С. 109—119. DOI: 10.32353/acfs.1.2020.09 (date accessed: 02.02.2026).

4 Угровецький О., Катарага О., Давиденко Д. Напрями впровадження іноземної інноваційної практики в кадрове забезпечення судово-експертних установ України. *Теорія та практика судової експертизи і криміналістики*. 2023. Вип. 3 (32). С. 34—47. DOI: 10.32353/khrife.3.2023.03 (date accessed: 02.02.2026).

5 Курдес О. Наставництво як метод адаптації, підготовки та підвищення кваліфікації судових експертів. *Науковий вісник Дніпропетровського державного університету внутрішніх справ*. 2021. № 1. С. 244—253. DOI: 10.31733/2078-3566-2021-1-244-253 (date accessed: 02.02.2026).

record-keeping and quality monitoring, inconsistency in the technical support available to institutions, and obstacles associated with full-scale incorporation of international (particularly European) standards and practices. The authors propose a comprehensive approach to digitalisation of processes, incorporation of international expertise, standardisation of record-keeping, strengthening of inter-agency cooperation and to broader involvement of independent forensic experts, and view this approach as a promising model for development. Such model will eventually enhance efficiency within the justice system and increase public trust in expert opinions [6].

These recommendations remain valid today; nevertheless, we believe it is advisable to further refine them with a view to improving forensic support provided during investigations and trials of economic criminal offences.

Main Content Presentation

Current doctrine of Ukrainian criminal procedure law suggests that forensic experts and specialists are persons authorized to use specific expertise. It is precisely this procedural status that is held by those who possess specific medical expertise, by psychiatrists, psychologists and other specialists participating in criminal proceedings. Both the prosecution and the defence have the right to receive qualified assistance from specialists and forensic experts. This guarantee is a manifestation of principles of equality of arms and adversarial criminal proceedings.

In keeping with the provisions of the Criminal Procedure Code of Ukraine (hereinafter referred to as the *CPC of Ukraine*), an expert opinion constitutes an independent procedural source of evidence (Pt. 2, Art. 84) [7]. Obtaining such evidence often necessitates involvement of specialists (in particular, when taking samples, recording information or providing technical support in conducting certain procedural actions). Forensic experts are categorically prohibited from carrying out such actions on their own. The forensic expert's powers in this matter are limited to the right to request additional materials and samples. At the same time, case materials and samples received must be included in the expert opinion. Should an expert examination be ordered by a court, the materials and samples shall be selected by the court or by a specialist appointed by the latter. An expert opinion cannot be founded on evidence deemed inadmissible by a court [8], resulting in heightened requirements regarding the lawfulness of methods used to obtain supporting materials and comparative samples.

Analysing the rules of the CPC of Ukraine reveals specialist participation is governed in a fragmentary and selective manner. The law explicitly provides for the possibility of his/her involvement only during certain investigative (search) and covert investigative (search) actions. These include inspections, searches, investigative experiments, collection of samples for expert examination, covert, audio and video

6 Перевозова І. В., Сочка М. Б., Морозова О. С. Експертне забезпечення правосуддя в Україні: стан, динаміка та перспективи. *Актуальні проблеми сталого розвитку*. 2025. Т. 2. № 3. С. 29—40. DOI: 10.60022/2(3)-4S (date accessed: 02.02.2026).

7 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: 02.02.2026).

8 Там само.

surveillance of a person, and collection of information from transport telecommunication networks [9]. At the same time, in a number of other procedural steps that are of significant importance to the investigation of economic crimes (in particular, monitoring of bank accounts, locating radio-electronic devices, special production of items and documents, or conducting certain types of covert operations), specialist involvement is not provided for or explicitly governed.

With regard to the principle of lawfulness and restrictive interpretation of government authorities' powers, as enshrined in the Constitution of Ukraine (Art. 19) [10], the lack of a clear-cut rule allowing for the involvement of a specialist in a particular procedural action precludes his/her participation in such an action. This can lead to numerous contradictions in law application practice, where a forensic expert may be called upon to analyse information that has already been obtained, but not to assist in its covert collection, or where his/her participation in overt investigative (search) actions is permitted, but his/her involvement is not directly regulated in covert operations.

When investigating economic crimes, it may be needful to obtain comparative samples of a person's handwriting or voice. For effective implementation of such a measure, the investigator may involve a forensic expert possessing specific expertise to participate as a specialist in the investigative (search) action. In such cases, the lack of consistency in terminology within legislation poses extra challenges: in particular, the absence of a clear distinction between the concepts of *involvement* and *participation* of a specialist. This bears significance for the recusation process, as a specialist's participation in procedural actions may preclude his/her subsequent involvement in criminal proceedings in a different procedural status, thereby potentially undermining the principles of equality of arms and adversarial criminal proceedings.

Given the above, there is a risk that a specialist who is actually only providing technical or advisory support for sample collection may subsequently not be appointed as a forensic expert to carry out a relevant expert examination or, conversely, that his/her participation as a specialist may be grounds for challenging his/her appointment or appealing against expert examination findings. Consequently, such regulatory uncertainty is potentially detrimental both to the efficiency and exhaustiveness of pre-trial investigations and to the admissibility and relevance of obtained evidence, as the defence may reasonably question the impartiality of a forensic expert or legitimacy of the procedural order for sample collection. Accordingly, for matters of this nature, there is a requirement for a clear legal distinction between the roles of a specialist and a forensic expert, as well as for clear procedures governing involvement of specialists in the selection of comparative samples, in order to reduce procedural disputes and ensure compliance with the standards of fair trial.

Emphasis should be made on recent legislative amendments covering involvement of foreign specialists, formally broadening the scope of specific expertise application. Note should also be taken of

9 Кримінальний процесуальний кодекс … . URL: https://zakon.rada.gov.ua/laws/show/4651-17#Text (date accessed: 02.02.2026).

10 Конституція України : Закон України від 28.06.1996 р. № 254к/96-ВР (зі змін. та допов.). URL: https://zakon.rada.gov.ua/laws/show/254к/96-вр#Text (date accessed: 02.02.2025).

the existence of factors that effectively limit their participation due to provisions in the methodologies for conducting forensic examinations. Involving such specialists outside legally defined cases poses certain risks, including the possibility that evidence obtained may be deemed inadmissible and that actions of pre-trial investigation authorities could be classified as exceeding their authorised powers.

Another issue that continues to raise concerns is the manner in which specific expertise is utilised, depending on the stage of criminal proceedings. Prior to the entry of information into the Unified Register of Pre-trial Investigations, a specialist may provide certificates on any matter within their field of expertise; however, once a pre-trial investigation has commenced, the law significantly restricts the scope for obtaining such certificates and their admissibility as evidence. This limitation is applicable to cases involving criminal offences. At the same time, the specialist's services are subject to remuneration regardless of the type of their involvement, thereby effectively acknowledging certificates and advice as full-fledged procedural participation in criminal proceedings. When it comes to a pre-trial investigation (the pre-trial stage), the law does not, in practice, limit getting expert opinions or certificates from specialists; however, there are no grounds for treating them as pieces of evidence either.

Collectively, these issues point to the need for a full review of the legislative framework governing specialist involvement in criminal proceedings, specifically in cases involving economic crimes. Addressing terminological inconsistencies, expanding the legal framework for involving qualified specialists, and clearly defining their areas of competence are essential prerequisites for ensuring evidence admissibility, streamlining pre-trial investigations, and ensuring the proper trial of criminal offences in the field of economic activity.

International legal regulations set out the procedure for specific expertise application in the field of criminal justice (in particular, Recommendation № R (87) 18 of the Committee of Ministers to Member States Concerning the Simplification of Criminal Justice): The authorities responsible for the prosecution, investigation and trial of cases which require it should have available the assistance of experts in fields such as social psychology, medicine, psychiatry, accountancy, economics, finance or forensic science in sufficient numbers to cope with the growing technicality of crime and the taking of evidence [11]. It is also crucial that participation of a forensic expert and a specialist ensures the objective safeguarding of an individual's right to a fair trial, as enshrined in Art. 6 of the European Convention on Human Rights (hereinafter referred to as the Convention), and to other guarantees under the Convention [12]. Apart from conventional guarantees, it is also necessary to take into account certain other legal and organisational principles.

11 Recommendation № R (87) 18 of the Committee of Ministers to Member States Concerning the Simplification of Criminal Justice (Adopted by the Committee of Ministers on 17 Sept1987 at the 410th meeting of the Ministers' Deputies) / Council of Europe : web. 6 p. URL: https://rm.coe.int/16804e19f8 (date accessed: 19.01.2026).

12 Конвенція про захист прав людини і основоположних свобод (Європейська конвенція з прав людини) від 04.11.1950 р. (зі змін. та допов.) ; ратифік. Законом України від 17.07.1997 р. № 475/97-ВР ; чинна для України з 11.09.1997 р. URL: https://zakon.rada.gov.ua/laws/show/995_004#Text (date accessed: 22.01.2026).

According to the European Court of Human Rights case law, specialist involvement must be justified if confidential data are collected, as the disclosure of such information is recognised as a violation of right to respect for private and family life guaranteed by Art. 8 of the Convention [13]. Accordingly, in the case of Surikov v. Ukraine, the ECHR ruled that collection of such information by government authorities in the absence of sufficient grounds constituted a breach of the above-mentioned legal provisions [14].

It is also essential to ensure that the forensic expert or specialist involved meets the requirements for independence. Such persons must maintain formal and legal independence from those involved in a criminal offence [15]. In its case law, the European Court of Human Rights has ruled that the bias of a court-appointed expert may, in certain circumstances, lead to a breach of the principle of equality of arms, which is an integral part of the concept of a *"fair trial"* [16]. Among other things, consideration should be given to factors such as the expert's procedural position or status and their role in relevant proceedings, as well as their relationship with other parties to criminal proceedings [17]. Any doubts about the impartiality of a forensic expert or specialist undermine public trust in the judicial system; therefore, *"appearance of impartiality"* is crucial [18].

One of the legal principles governing the use of an expert's specific expertise is pre-trial investigation secrecy, or the principle prohibiting the disclosure of information relating to criminal proceedings. This obliges the forensic expert not to disclose any information that has come to his/her knowledge in the course of his/her professional activities, without the permission of a party to criminal proceedings that engaged them, or a court. This information may only be made public with the written consent of the investigator or prosecutor, within boundaries set by the latter [19].

Apart from regulatory requirements, there are issues related to methodological support that warrant attention. Globalisation of cross-border crime has made it mandatory for EU Member States to improve international mechanisms for combating crime and to reinforce mutual

13 Конвенція про захист прав людини … . URL: https://zakon.rada.gov.ua/laws/show/995_004#Text (date accessed: 19.01.2026).

14 Рішення ЄСПЛ у справі «Суріков проти України» від 26.04.2017 р. (за заявою № 42788/06) / HUDOC. European Court of Human Rights : web. URL: https://hudoc.echr.coe.int/#{%22itemid%22:[%22001-192315%22]} (date accessed: 19.01.2026).

15 Case of Bajić v. Croatia 16 Dec 2004 (applic. No. 3742/02) / Ibid. URL: https://hudoc.echr.coe.int/eng?i=001-67778 (date accessed: 21.01.2026).

16 Case of Bönisch v. Austria 6 May 1985 (applic. No. 8658/79) / HUDOC. European Court of Human Rights : web. URL: https://hudoc.echr.coe.int/eng?i=001-57443 (date accessed: 26.01.2026).

17 Case of Letinčić v. Croatia 3 Aug 2016 (applic. No. 7183/11) / Ibid. URL: https://hudoc.echr.coe.int/eng?i=001-162422 (date accessed: 26.01.2026) ; Case of Sara Lind Eggertsdóttir c. Islande 5 Oct 2007 (applic. No. 31930/04) / Ibid. URL: https://hudoc.echr.coe.int/eng?i=001-81433 (date accessed: 26.01.2026).

18 Case of Bajić v. Croatia … . URL: https://hudoc.echr.coe.int/eng?i=001-67778 (date accessed: 21.01.2026).

19 Case of Bédat v. Switzerland 29 March 2016 (applic. No. 56925/08) / Ibid. URL: https://hudoc.echr.coe.int/eng?i=001-161898 (date accessed: 26.01.2026) ; Affaire Sellami c. France 17 March 2021 (applic. No. 61470/15) / Ibid. URL: https://hudoc.echr.coe.int/eng?i=001-206518 (date accessed: 26.01.2026).

recognition of the results of evidence gathering and analysis (in particular, evidence obtained through international cooperation). In this context (alongside purely legal issues pertaining to admissibility and recognition of evidence), another, no less significant issue is becoming increasingly obvious: methodological framework of forensic expert activities. This is essential to ensure comparability of expert opinions and credibility thereof in different jurisdictions. For Ukraine, this issue adds another layer of complexity due to the constitutionally enshrined strategic course towards gaining full membership in the EU (Art. 85 of the Constitution of Ukraine), objectively requiring the national forensic science system to be aligned with European standards regarding the quality, transparency and verifiability of expert procedures.

The Association Agreement between Ukraine, of the one part, and the European Union and the European Atomic Energy Community and their Member States, of the other part, envisages strengthening cooperation (this applies to the fields of accreditation and conformity assessment: Ars. 55 and 56), with a view to deepening mutual understanding of the respective systems and facilitating market access [20]. Ukraine shall take necessary measures in order to gradually achieve conformity with EU technical regulations and EU standardisation, metrology, accreditation, conformity assessment procedures and the market surveillance system, and undertakes to follow the principles and practices laid down in relevant EU Decisions and Regulations. Under such circumstances, the issue of laboratory accreditation, method validation and standards harmonisation takes on significance not only from an economic or technical perspective, but also from a procedural and legal perspective, since it directly impacts the capacity of parties to criminal proceedings to justify their opinions with credible and admissible evidence.

For the purpose of ensuring well-managed and coordinated implementation of harmonisation processes in the field of criminalistics, the Council of the EU adopted the *Vision for European Forensic Science 2020 (EFSA 2020)* Strategic Document in 2011. The document aims to create a European Forensic Science Area and advance forensic infrastructure to ensure mutual recognition of forensic findings. The fundamental principle underlying this approach is to set up a common framework within which expert opinions can be mutually recognised through agreed methodologies, international standards and transparent assessment criteria. The document puts emphasis on both standardising technicalities of laboratory workflow and on strengthening trust in expert opinions in legal proceedings [21]. These aspects are inextricably linked to guarantees of a fair trial.

In view of the foregoing, particular importance is attached to accreditation of forensic institutions in line with the

20 Угода про асоціацію між Україною, з однієї сторони, та Європейським Союзом, Європейським співтовариством з атомної енергії і їхніми державами-членами, з іншої сторони : ратифік. із заяв. Законом України від 16.09.2014 р. № 1678-VII (зі змін. та допов.). URL: https://zakon.rada.gov.ua/laws/show/984_011#Text (date accessed: 26.01.2026).

21 Proposal for a Regulation of the European Parliament and of the Council on the provision of food information to consumers (Second reading) : Brussels, 6 June 2011 / Council of the European Union : web. 56 p. URL: https://data.consilium.europa.eu/doc/document/ST-11001-2011-INIT/en/pdf (date accessed: 30.01.2026).

International Standard ISO/IEC 17025 [22], development of harmonized training standards for forensic experts, incorporation of advanced scientific means, and fostering conditions for regular forensic information sharing between Member States. The *common minimum standards* concept means that collection, processing, use and transmission of forensic data should be carried out in accordance with comparable rules, and providers of forensic services must operate on the basis of agreed quality assurance procedures [23]. In terms of practical application, it is accreditation of forensic laboratories that is regarded as the cornerstone of trust in forensic examination findings and as a prerequisite for their subsequent use in criminal proceedings.

Another landmark event was the establishment of ENFSI (*The European Network of Forensic Science Institutes*), and its development of Vision of the European Forensic Science Area 2030. This document sets out framework for biometrics, artificial intelligence, new digital tools for on-scene work, and omics-based methods for analysing biological samples, whilst also addressing the challenges posed by Industry 4.0 and big data. It also underlines the need to prove reliability of methods through fundamental research, to identify error rates, to improve reference databases, and to account for the human factor, which may potentially influence expert judgements [24]. In the context of criminal proceedings, these factors are meaningful in procedural terms. By verifying the scientific validity of opinions, such factors reduce the risk of evidence being challenged on the grounds that methods were inappropriate or procedures were not followed.

In line with ENFSI strategic roadmap for 2025, the ENFSI Action Plan for 2025–2026 has been adopted; this serves as a practical tool for implementing the *ENFSI* Strategic Plan for 2023–2026 and the *EFSA* Action Plan 2.0. The document focuses on the systematic implementation of the EU Council's decisions regarding the European Forensic Science Area 2.0 and is based on three key pillars: a forward-looking approach, enhancing the weight of forensic examination findings, and demonstrating the reliability of expert opinions. In view of the foregoing, the ENFSI has been tasked with the overall responsibility for coordinating and implementing a range of measures (through expert working groups, standing committees and EU-funded projects).

The Action Plan primarily focuses on the introduction of innovations and *horizon scanning* in the field of forensic science, including the analysis of mid- and long-term science and technology trends, the development of interdisciplinary approaches, and the assessment of the potential and risks inherent in AI use during forensic analyses. The plan covers not only technical adoption of new tools but also development of a framework for the admissibility of these tools by the judiciary through training, guidance, and potential

22 ДСТУ EN ISO/IEC 17025:2019 Загальні вимоги до компетентності випробувальних та калібрувальних лабораторій (EN ISO/IEC 17025:2017, IDT; ISO/IEC 17025:2017, IDT) : затв. наказ. ДП «УкрНДНЦ» від 23.12.2019 р. № 483 [Чинний від 01.01.2021]. URL: https://online.budstandart.com/ua/catalog/doc-page.html?id_doc=88724 (date accessed: 30.01.2026).

23 Proposal for a Regulation … . URL: https://data.consilium.europa.eu/doc/document/ST-11001-2011-INIT/en/pdf (date accessed: 30.01.2026).

24 Vision of the European Forensic Science Area 2030 / ENFSI : web. 3 p. URL: https://enfsi.eu/wp-content/uploads/2021/11/Vision-of-the-European-Forensic-Science-Area-2030.pdf (date accessed: 30.01.2026).

legislative amendments, highlighting the procedural importance of these expert innovations.

Simultaneously, the *ENFSI* Action Plan emphasises strengthening the institutional capacity of the network itself through the professionalisation of management, the development of a unified IT infrastructure, the standardisation of communication products, and the strengthening of international cooperation, particularly within the *IFSA — the International Foundation for Social Adaptation* [25]. This approach shows an understanding that trust in forensic examination findings is built not only through methodologies and technologies, but also through transparent management procedures, high-quality staff training and synchronized cooperation between the expert community and the criminal justice systems of diverse states.

However, even with the availability of pan-European strategies in the field of forensic science, Ukraine still faces a range of systemic issues on the methodological framework for forensic expert activities. Specifically, the lack of a unified approach to structuring methodologies, their development by various institutions at different times, and the use of different formatting models can lead to inconsistencies in content and variations in the quality of methodological tools. The situation is further exacerbated by the lack of a unified methodological body that would carry out inter-agency reviews of methodologies, decide on their registration, and ensure the involvement of representatives from various expert organizations, thereby minimizing conflicts in practice. Competition between methods exacerbates the problem within the adversarial judicial system: if different expert organisations adopt varying approaches to examining the same object, they may arrive at contradictory expert opinions, thereby undermining trust in results credibility. No less important is the issue of accessibility of methodologies for forensic experts, investigators, prosecutors, judges and defence counsels, since it is virtually impossible to properly review expert opinions and verify their scientific validity without open access—or at least regulated access—to registered methodologies.

Within the framework of economic criminal offences, forensic accounting examination warrants particular attention; this involves analysing historical financial data to resolve current or future legal disputes, and requires a blend of expertise in accounting, auditing, investigative methods and proving standards. Practical value of this research type lies in the investigation of fraud, embezzlement and terrorist financing, as well as in assessing the volume of losses in civil and economic disputes. However, a further challenge is the lack of standardised procedures for training such specialists, which, as evidenced by comparative experience in other countries, is a global trend: training curricula can be incohesive and do not always match actual real-world needs, leading to a gap between educational competencies and the demands of professional environment [26].

25 ENFSI Action Plan : Ref. Code BRD-FWK-010. Is. No. 007. Is. Dste 12.05.2025 / ENFSI : web. URL: https://enfsi.eu/wp-content/uploads/2025/07/ENFSI-Action-Plan-2025-2026.pdf (date accessed: 30.01.2026).

26 Alzahrane M. A. Insights from forensic accounting educators and practitioners within the KSA context regarding the optimal forensic accounting skills set: an implication on the socio-economic development. *Journal of Business and Socio-Economic Development*. 2024. Vol. 4 Is. 1. Pp. 66—80. DOI: 10.1108/JBSED-08-2022-0082 (date accessed: 02.02.2026).

Bearing in mind the above, there appears to be a clear rationale to consistently reform the methodological framework for forensic expert activities in Ukraine (specifically through the institutionalisation of a unified methodological coordination body, the regulatory consolidation of requirements for the structure and content of methodologies, the creation and legal regulation of forensic methodology registers, the definition of register access policies and of validation and implementation procedures for research findings). This approach would help bring the national system of forensic science into alignment with European standards, enhance the quality of expert opinions, ensure that they are scrutinised in adversarial proceedings and, ultimately, would bolster public and judicial confidence in forensic support for economic criminal offenses.

Conclusions

This study has revealed a number of legal and organisational issues associated with the provision of forensic support for pre-trial investigations of criminal offences (particularly in the field of economic activity). From our perspective, these issues can be addressed by consistently adopting the following measures:

1) Improving legislative framework by amending the CPC of Ukraine to define clear conditions, procedures and the scope of specialist involvement in all types of procedural actions, including covert investigative (search) actions, whilst observing the principle of the pre-trial investigation authority's powers not being excessive);
2) Introducing a unified methodological body (setting up a national body responsible for developing, registering and overseeing forensic methodologies that would take into account actual capabilities of all subjects involved in forensic activities, regardless of their inter-agency affiliation). This will ensure consistency in the choice of approaches, thereby preventing inconsistencies and increasing trust in expert opinions;
3) Adopting an open-access model for methodologies for conducting forensic examinations (establish legal provisions for access to the Register by parties involved in criminal proceedings—investigators, prosecutors, lawyers and judges—which will ensure the transparency and verifiability of opinions, whilst taking into account a number of procedural considerations during the conduct of any expert examination);
4) Streamlining the procedure for engaging foreign experts (refining the mechanism for engaging foreign experts by establishing clear grounds, requirements and limitations for their participation, simultaneously expanding the areas where such participation is possible, especially in cases involving cross-border crime and complex financial schemes);
5) Developing standards for the execution of specialist certificates and opinions, thereby ensuring legal certainty and admissibility of these documents in proceedings;
6) Improving technical and material capabilities within forensic expert institutions (developing state laboratory capability building programs, standardizing procurement of modern equipment and introducing cutting-edge technologies,

which will ensure a high level of accuracy and credibility in forensic research).

Implementing these recommendations will help improve proving quality, ensure human rights and the rule of law, and strengthen public trust in Ukraine's criminal justice system as it integrates into the European Legal Area.

Перспективи вдосконалення судово-експертного забезпечення розслідування господарських злочинів

Віталій Усатий

Мета статті — визначити роль та сучасні тенденції професійної діяльності судових експертів і спеціалістів у кримінальних провадженнях про господарські злочини. Проаналізовано сучасні тенденції користування спеціальними знаннями як науковим підґрунтям забезпечення правосуддя в Україні, особливо під час розслідування злочинів у сфері господарської діяльності, таких, як легалізація грошових коштів, контрабанда та шахрайство з фінансовим ресурсами тощо. Акцентовано на вирішальній ролі судових експертів і спеціалістів у забезпеченні точності, об'єктивності кримінальних розслідувань, прийнятті об'єктивних і обґрунтованих процесуальних рішень та узгодженні національної практики з європейськими стандартами. Досліджено правове регулювання, практичні аспекти й методичні проблеми залучення експертів, підкреслено важливість їхніх незалежності, професійної компетентності та дотримання процесуальних гарантій. На основі аналізу національної і європейської судових практик визначено системні проблеми, зокрема прогалини в кримінальному процесуальному законодавстві України, відсутність уніфікованого методичного забезпечення та повноцінного доступу учасників кримінального провадження до Реєстру методик проведення судових експертиз. Запропоновано комплексні заходи для вдосконалення українського законодавства, створення єдиного національного міжвідомчого методологічного органа, відповідального за розроблення, реєстрацію та контроль методик судово-експертних досліджень, які враховуватимуть фактичні можливості всіх суб'єктів судово-експертної діяльності, відкриття для широкого загалу Реєстру методик проведення судових експертиз, підвищення кваліфікації експертів, модернізації технічної бази й урегулювання участі іноземних спеціалістів у роботі національних експертних установ. Реалізація цих пропозицій дасть змогу підвищити якість доказування, забезпечити дотримання прав людини та законності, а також зміцнити довіру суспільства до системи кримінального правосуддя України в умовах європейської інтеграції.

Ключові слова: *спеціальні знання; економічна злочинність; суб'єкт господарської діяльності; кримінальна юстиція; нормативно-правове забезпечення; методика.*

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Declaration of Competing Interest

The author declares no conflict of interest.

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Case Notes

Proving Weapons Smuggling: Opportunities for Applying Specific Weaponry Expertise

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The Article Purpose is to delineate possibilities for applying specific expertise in the field of weaponry studies when proving weapons smuggling, and to assess specific expertise relevance for identifying elements of a crime and for ensuring efficiency in criminal proceedings. The following methods have contributed to the achievement of the set goal: general scientific methods of analysis and synthesis, induction and deduction, as well as philosophical and specialised methods — dialectical, systemic-structural, comparative-legal and generalisation. It has been substantiated that specific expertise in the field of forensic weaponry science is a key component of forensic technical support in weapons trafficking investigations. Specific expertise application extends far beyond the provision of expert advice and encompasses preliminary forensic examinations, participation of specialists in investigative (search) actions, and conduct of forensic examinations. A systematic overview of scientific approaches and case law has revealed that primary means of applying specific expertise in cases of the above-mentioned category is forensic examination of weapons, traces and circumstances of their use, which enables a scientifically substantiated determination of the type of weapon, its technical specifications, suitability for use and other features necessary for the criminal law qualification of an act. It has been emphasised that in cases involving weapons smuggling, weaponry experts, ballistics experts, and specialists from the expert units of the Security Service of Ukraine and the expert service of the

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Ministry of Internal Affairs of Ukraine, the Ministry of Justice of Ukraine play a pivotal role. Their research findings help identify items, establish links between episodes of criminal activity, verify weapons against records, and formulate investigative scenarios. It has been argued that enhancing the efficiency of a proof procedure in cases of weapons smuggling requires proper interaction between law enforcement agencies and forensic institutions, obligatory consideration of preliminary examination results, and providing a forensic expert with a full set of necessary tools and materials, including a crime scene inspection record.

Keywords: *pre-trial investigation; smuggling; forensic examination; tactical support; ordering forensic examination; environmental damage.*

Research Problem Formulation

Nowadays, combating weapons smuggling goes beyond purely customs-related, economic or criminal law considerations and is evolving into a security concern, since it directly impacts national security, public order and human lives. Unlawful transportation of weapons, ammunition and their components across the customs border poses a threat of illicit weapons trafficking, using these weapons in violent crimes and worsening the crime situation in a country. In such proceedings, technical specifications of a smuggled object are of fundamental importance, as they determine criminal nature of an offence's subject matter, the degree of public danger posed by an act, and the possibility of correctly classifying the offence.

Meanwhile, analysis of pre-trial investigation authorities' and the judiciary's practices regarding the investigation and trial of criminal proceedings relating to weapons smuggling reveals significant difficulties in determining the legal status of seized items, their intended use, technical condition and suitability for use. It is not unusual for the assessment of such objects to be limited to a formal description of their external features, without a proper examination of their design features, technical specifications and suitability for their intended purpose. This approach leads to an incomplete understanding of case circumstances, creates risks of an incorrect legal assessment of an incident, and makes it more challenging to prove objective elements of a criminal offence.

Relevance of combating weapons smuggling in the current climate stems not only from the general rise in threats to public security, but also from the current statistics on weapons and ammunition seizures during border control. Based on analytical data from units of the State Border Guard Service of Ukraine, 195 units of weapons and 21,901 pieces of ammunition were seized during 2023 [1]. At the same time, a significant increase in the number of seizures was recorded in subsequent years: in 2024, 1,101 units of weapons and

1 Вичавка В., Андрушко О., Павлюк Т. Діяльність Головного експертно-криміналістичного центру Державної прикордонної служби України. *Наука і техніка сьогодні. Серія «Право».* 2024. № 6 (34). С. 93—100. DOI: 10.52058/2786-6025-2024-6(34)-93-100 (date accessed: 10.02.2026).

224,824 pieces of ammunition; in 2025, 1,383 units of weapons and 239,243 pieces of ammunition [2]. This pattern indicates an increase in the scale of the illicit weapons transportation across the state border and a high level of intensity in this type of unlawful activity.

The issue of proof in weapons smuggling cases is becoming increasingly critical, particularly regarding the objective establishment of characteristics of a crime's subject matter. Determining the type of weapon, its technical specifications, method of manufacture, evidence of modification, suitability for firing and compliance with technical standards and regulations requires specific weaponry expertise. Such expertise goes beyond the professional remit of an investigator, a prosecutor or a court: it can only be utilised by engaging specialists and ordering relevant forensic examinations.

In these circumstances, specific weaponry expertise is not secondary. It acts as an essential procedural tool for collecting evidence in criminal proceedings concerning weapons smuggling. It is forensic analysis that offers an evidence-based assessment of an object's characteristics, confirming its classification as a firearm, cold weapon or other type of weapon, and clarifying its method of manufacture and performance specifications, etc. Without specific expertise, a reliable determination of salient circumstances pertaining to criminal qualification of an act, assessment of evidence, and adoption of a lawful and reasonable procedural decision are unattainable. Consequently, in light of the proof of weapons smuggling, the study of specific expertise applicability in the field of weaponry studies is a pressing task for contemporary forensics.

Article Purpose

Identify typical ways in which specific weaponry expertise is applied in collecting evidence in cases of weapons smuggling.

Research Methods

A range of general scientific, specialised, and philosophical methods have proven useful in achieving the set goal. Analysis and synthesis, induction and deduction, as well as dialectical, systemic-structural, comparative-legal methods, and generalisation enabled us to analyse procedural and organisational prerequisites for specific weaponry expertise application, to identify typical instances of its application in criminal proceedings concerning weapons smuggling, and to define practical challenges pertaining to interaction between the investigator, the forensic expert, and departmental forensic institutions.

Dialectical method has provided justification for the interdependence between the growing threat of illicit weapons trafficking, the increasing sophistication of methods used to conceal or modify such weapons, and the objective need for expert verification of characteristics of the offence's subject matter. Internal inconsistencies have been observed between the need for a prompt response (initial investigative [search] measures, preliminary expert examinations) and the requirements for procedural sufficiency of proof (ordering expert examinations, securing relevant materials).

2 Результати оперативно-службової діяльності Держприкордонслужби / Державна прикордонна служба України : офіц. вебсайт. 10.03.2026. URL: https://dpsu.gov.ua/uk/the-results-of-operational-and-service-activities-of-the-state-border-service (date accessed: 10.02.2026).

Systemic-structural method has helped model the mechanism for applying specific weaponry expertise during criminal proceedings: 1) delineate principal components of this mechanism (detection and seizure of weapons; preliminary forensic examination; verification of initial data against official records; ordering a forensic examination; significance of the expert's opinion in the proving process); 2) evaluate the involvement of each party (investigator, specialist, forensic expert, record-keeping units) and their respective roles; 3) assess the role of forensic weapons examination as a key tool for identifying features of smuggled items and for confirming a weapon's suitability for use.

Formal-logical methods (analysis, synthesis, induction, deduction) have been employed to analyse statutory provisions and doctrinal approaches governing the use of specific expertise in criminal proceedings, as well as to provide a logical rationale for the substantiation of conclusions regarding the evidential value of forensic weapons examinations. Analysis has aided in meticulously studying common issues: a formalized approach to describing seized objects, errors in posing questions to a forensic expert, and a lack of materials for scenario-based forensic tasks. Synthesis has facilitated the incorporation of these observations into holistic recommendations for the procedural preparation of case materials (submission of previous research findings, inclusion of inspection records, provision of data for verifying markings). Induction has contributed to the development of common patterns based on provided examples and practically-oriented reasoning; deduction has helped to analyse propositions by comparing them with procedural requirements and the rationale of proof in proceedings concerning weapons smuggling.

Comparative legal method has been utilised to compare approaches to proving weapons smuggling, taking into account the specific nature of an offence, as well as to assess the roles of various departmental actors (the Security Service of Ukraine, the State Border Guard Service, the National Police, and the Ministry of Justice) in detection, documentation, and forensic examination of weapons. This has made it possible to substantiate the significance of investigative jurisdiction for the practice of ordering forensic examinations and to illustrate potential risks of information fragmentation arising from the lack of coordination between forensic records and the varying subordination of security forces and expert organisations.

Generalisation has been useful for systematising findings and drawing conclusions regarding typical applications of specific weaponry expertise, as well as for specifying ways to more effectively prove a case. It demonstrates that there is a need to strengthen inter-agency cooperation when examining weapon markings and identifiers, to standardise approaches to preparing materials for forensic experts, and to ensure the continuity of applying specific expertise: from preliminary forensic examinations to the issuance of a procedural expert opinion.

Analysis of Essential Researches and Publications

Certain aspects of investigating smuggling as a criminal offence have been studied by L. Biletska, A. Buha, I. Hora, O. Zaverkhovskyi, L. Kapitanchuk, O. Kofanov, R. Maliuha, A. Poliakh, I. Rudnytskyi, V. Topchii, Ya. Furman, O. Kharaberiush, V. Shevchuk, et al. The researchers developed a forensic characterization of criminal offences involving smuggling, defined specific elements of proof, typical investigative scenarios, as well as tactical approaches to conducting investigative (search) actions.

Academic papers by D. Andrieiev, V. Areshonkov, R. Veliiev, A. Voloboiev, V. Holubosh, S. Kozachenko, S. Melnychenko, M. Movchan, Ya. Novak, L. Pavlenko, S. Peretiatko, O. Tarasenko define forensic characterisation of criminal offences related to illicit weapons trafficking, general approaches to the collection and assessment of evidence in cases of illicit weapons trafficking, discuss the role of specific expertise in criminal proceedings, and the issue of cooperation between the investigator and forensic experts of various specialisations during investigations into these criminal offences.

Separate aspects of specific expertise application during weapon examinations have been addressed by A. Kofanov (2000) [3], D. Hamov (2005) [4], A. Poltavskyi et al. (2007) [5], Ya. Novak (2007) [6], T. Tyutyunnik (2008) [7], T. Bulba (2009) [8], R. Melnyk (2014) [9], V. Shapovalova (2015) [10], and others. Scientific papers by these scholars are devoted to the issues of ordering and conducting forensic examinations, to forensic weaponry, identification of weapons, to assessment of their technical specifications and serviceability, as well as to methodological principles of expert examination of weapons and ammunition. Analysis of scientific sources reveals that the issue of applying specific weaponry expertise, particularly in the context of proving weapons smuggling, has not been covered systematically and in depth. Numerous works provide only a fragmented view of the subject or consider this issue within the framework of general provisions on specific expertise application, failing to highlight procedural and tactical challenges of its implementation in relevant proceedings.

Accordingly, although there is considerable academic literature on general principles of forensic examination and forensic aspects of investigating smuggling, procedural and methodological aspects of utilising specific weaponry expertise in cases involving weapons smuggling remain insufficiently developed. This calls for further research aimed at identifying current possibilities for expert examination of weapon features as the subject of a crime,

3 Кофанов А. В. Теоретичні та практичні аспекти криміналістичного дослідження гладкоствольної вогнестрільної зброї : автореф. дис. ... канд. юрид. наук. Київ, 2000. 20 с. URI: https://dspace.nlu.edu.ua/handle/123456789/14006 (date accessed: 10.02.2026).

4 Гамов Д. Ю. Методика встановлення належності об’єкта до вогнепальної зброї та його придатності до стрільби (проведення пострілів) : методика. Київ, 2012. 34 с.

5 Полтавський А. О., Борзов О. П., Теплицький Б. Б. Порядок виявлення слідової інформації на вогнепальній зброї : метод. рек. Київ, 2007. 32 с.

6 Новак Я. В. Сучасний стан та перспективи розвитку криміналістичного дослідження вогнепальної зброї : автореф. дис. ... канд. юрид. наук. Київ, 2007. 20 с. URI: https://dspace.nlu.edu.ua/handle/123456789/14018 (date accessed: 10.02.2026).

7 Тютюнник Т. І. Теоретичні та організаційно-технічні основи інформаційного забезпечення судово-балістичної експертизи : автореф. дис. ... канд. юрид. наук. Харків, 2008. 19 с.

8 Бульба Т. М. Виявлення, попереднє дослідження та вилучення саморобних вибухових пристроїв : дис. ... канд. юрид. наук. Київ, 2009. 212 с.

9 Мельник Р. В. Криміналістичне дослідження об’єктів, перероблених у вогнепальну зброю : автореф. дис. ... канд. юрид. наук. Київ, 2014. 18 с.

10 Шаповалова В. С. Поняття, співвідношення та класифікація кримінальної зброї (криміналістичний аспект) : дис. ... канд. юрид. наук. Кривий Ріг, 2015. 267 с.

enhancing the practice of ordering relevant expert examinations, and improving the efficiency of the process of proving in criminal proceedings of this nature.

Main Content Presentation

The growing number of crimes committed with various types of weapons, along with the emergence of new weaponry with modified tactical and technical specifications, has objectively complicated and further impedes the work of law enforcement agencies. Today's weapons are distinguished by their increased effectiveness, variety of design features and the possibility of concealed use, requiring the appropriate level of training from authorised individuals. This is not limited to the ability to identify, document, describe, and seize such forensic objects, but extends to the ability to conduct qualified research on these items using specific expertise. In this respect, academics have rightly argued for the establishment of a separate branch within the system of forensic science: forensic weaponry studies.

Forensic weaponry studies is an interdisciplinary field within the broader field of forensic technology that encompasses a range of knowledge about concepts and classification of weapons, their design features, patterns of operation and formation of traces of use, as well as methods for detection, documentation, seizure, and forensic examination of relevant objects. Its subject matter is the patterns of creation and use of devices intended to damage a target or transmit special signals, and manifestation of these processes in physical traces and marks. We believe that bringing together provisions on firearms, cold weapons, pneumatic weapons, gas weapons, throwing weapons, ammunition, explosive devices and substances within a single academic discipline will ensure a systematic approach to their study and help standardise methodological principles for working with such forensic objects [11].

In cases concerning weapons smuggling (Art. 201 of the Criminal Code of Ukraine [12]), it shall be noted that this criminal offence comprises only those items which, by virtue of their physical, chemical or socially hazardous characteristics, are subject to special state control when being transported across the customs border. These include cultural values, toxic, potent, explosives, radioactive substances, weapons or ammunition (except for smooth-bore hunting weapons or ammunition thereto), as well as special technical means for secret obtaining of information. The high level of danger posed by such items is precisely what leads to criminalisation of their unlawful transportation.

Weapons smuggling violates both customs regulations and, above all, public security [13]. Instances involving smuggled

11 Пчеліна О. В. Щодо теоретичних і правових основ криміналістичного зброєзнавства. *Тенденції розвитку юридичної науки: проблеми та досягнення* : мат-ли Міжнар. наук.-практ. інтернет-конф. (Тернопіль, 11.10.2011). Тернопіль, 2011. С. 60–62. URI: http://dspace.univd.edu.ua/xmlui/handle/123456789/16073 (date accessed: 10.02.2026).

12 Кримінальний кодекс України від 05.04.2001 р. № 2341- III (зі змін. та допов.). URL: https://zakon.rada.gov.ua/laws/show/2341-14#Text (date accessed: 10.02.2026).

13 Мирошниченко Н. А. Об'єкт та предмет кримінально-караної контрабанди. *Традиції та новації юридичної науки: минуле, сучасність, майбутнє* : мат-ли Міжнар. наук.-практ. конф. (Одеса, 19.05.2017). У 2 т. Т. 2. Одеса, 2017. С. 211–213. URL: https://dspace.onua.edu.ua/server/api/core/bitstreams/c11a6357-4de1-4788-9dc4-98c208eb18c8/content (date accessed: 10.02.2026).

firearms and cold weapons are quite common in investigative and courtroom practice [14]. Such items are pistols, rounds thereof, submachine guns, and improvised smooth-bore small arms [15]. Specifically, this refers to individual parts of rifled firearms.

The determinative feature of weapons, ammunition, explosive substances, explosive devices and radioactive materials, as specified in the Resolution of the Plenum of the Supreme Court of Ukraine: *On Judicial Practice in Cases of Kidnapping and Other Illegal Handling of Weapons, Ammunition, Explosives, Explosive Devices or Radioactive Materials* No. 3 dated 26 April 2002, is their purpose: to strike a living target, and to destroy or damage the environment [16]. Consequently, these definitions are essentially quite different from the mechanism of economic crimes and do not align with them in terms of content.

The answer to the question of whether an object falls within the category of weapons falls within the remit of forensic examination of weapons, gunshot traces, and situational circumstances of shooting. Procedural framework for ordering such forensic examinations is set out in Arts. 242–244 of the Criminal Procedure Code of Ukraine [17] (hereinafter referred to as *the CPC of Ukraine*), while factual grounds for ordering such expert examinations are the requirement for specific expertise that falls outside the scope of the investigator's or court's expertise. Therefore, ordering an expert examination stems from the need to apply specific expertise, otherwise it would be impossible to establish legally relevant facts regarding the subject matter of an offence.

Forensic examination of weapons and situational circumstances of shooting is a type of forensic analysis. It may be divided into several sub-categories depending on objects under study: firearms and ammunition, gunshot traces, cold weapons, weapons with a non-kinetic damage principle, grenade launchers and barrelled artillery weapons, and missile (rocket-propelled) weapons. Although this type of expert examination is not included in a list of those required to be ordered under Art. 242 of the CPC of Ukraine [18], the investigator is still obliged to order a forensic examination, as it is clear that this matter falls outside the investigator's professional competence.

Analysis of court decisions in cases falling within the category under study has revealed that, typically, forensic examinations of weapons in smuggling cases are conducted by SSU expert institution: the Ukrainian Scientific and Research Institute of Special Equipment and Forensic Expertise (ISEE SSU). This naturally follows from investigative jurisdiction prin-

14 Вирок Комінтерн. райсуду м. Харкова від 13.12.2024 р. Справа № 641/6985/24. Провадж. № 1-кп/641/790/2024 / ЄДРСР : вебсайт. URL: http://reyestr.court.gov.ua/Review/123743119 (date accessed: 10.02.2026).

15 Вирок Горохів. райсуду Волин. обл. від 31.07.2024 р. Справа № 155/542/24. Провадж. № 1-кп/155/132/24 / Там само. URL: https://reyestr.court.gov.ua/Review/120713820 (date accessed: 10.02.2026).

16 Про судову практику в справах про викрадення та інше незаконне поводження зі зброєю, бойовими припасами, вибуховими речовинами, вибуховими пристроями чи радіоактивними матеріалами : постанова Пленуму Верхов. Суду України від 26.04.2002 р. № 3. URL: https://zakon.rada.gov.ua/laws/show/v0003700-02#Text (date accessed: 10.02.2026).

17 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: 10.02.2026).

18 Там само.

ciples laid down in criminal procedure legislation. As per provisions of Art. 216 of the CPC of Ukraine, criminal offences relating to smuggling are within the investigative jurisdiction of SSU investigators [19]. This means that it is precisely this authority that is authorised to carry out the bulk of investigative (search) actions, collect evidence, and initiate forensic examinations in such proceedings. As the subject of smuggling is often weapons, ammunition, explosives and other high-risk weaponry, it is paramount to utilise specific weaponry expertise at the initial investigation stage. Given this, investigators, acting in accordance with the principles of efficiency and procedural expediency, most often submit seized weapons to the forensic units within the SSU system, thereby establishing a long-standing practice of centralizing such expert examinations within a relevant agency's system.

In addition, the specific nature of offences relating to weapons smuggling necessitates not only determining technical specifications of an item, but also assessing its potential use in activities that could threaten national security, defence capabilities, or public order. This is precisely why SSU expert organisations, specialising in security research, are most commonly involved in conducting these forensic examinations. These studies require a combination of forensic, technical and security approaches in order to properly analyse objects under examination.

Consequently, predominance of SSU's forensic units in conducting forensic weapons examinations is due to procedural and organisational factors: statutory investigative jurisdiction over smuggling assigned to security agencies, existence of specialised forensic units within the SSU system, and the need for multidisciplinary expert examination of items posing a heightened public danger. This has given rise to a consistent practice whereby it is SSU forensic units that are primary authorities conducting forensic weapons examinations in criminal proceedings of such a nature.

The most common type of forensic examination in cases involving weapons smuggling is expert examination of firearms and ammunition; this is due to practical considerations regarding the identification of seized items and the determination of their technical suitability for firing. This is why one of the distinctive features of forensic examination is its direct connection to the need to establish crime elements, which is critical for determining criminal qualification of an act.

Another important aspect is to consider the procedural status and evidential value of forensic examination findings, which are set forth in the expert's written opinion. Researchers note that, oftentimes, sound procedural decisions in cases involving illicit trafficking of weapons cannot be made without a weaponry expert's opinion; indeed, the expert opinion may become the main piece of evidence, particularly when it is necessary to determine whether a seized item is a firearm or whether a shot was fired from a specific weapon [20].

19 Кримінальний процесуальний кодекс … . URL: https://zakon.rada.gov.ua/laws/show/4651-17#Text (date accessed: 10.02.2026).

20 Кікінчук В. В., Романюк В. В, Книженко С. О. та ін. Документування та розслідування фактів незаконного поводження зі зброєю, бойовими припасами або вибуховими речовинами, а також кримінальних правопорушень у сфері незаконного обігу наркотичних засобів, психотропних речовин, їх аналогів або прекурсорів, учинених із застосуванням новітніх технологій (витяги) : наук.-метод. рек. / Науково-дослідна діяльність Харківського національного університету внутрішніх справ в умовах воєнного стану :

Researchers also highlight common mistakes arising from inaccurately phrased questions addressed to forensic experts: such as mechanically copying questions from reference guides and failing to take into account factual circumstances of a case. These can lead to delays in forensic examination and thereby undermine its evidential value [21]. Consequently, a key point about forensic weapons examinations is that their efficiency depends to a large extent on the investigator's professional training and on accurately phrased expert questions.

Multidisciplinary nature of forensic research is taking on increasing importance. Certain types of forensic examinations involving weapons require interdisciplinary or multidisciplinary research, especially when dealing with combination weapons or determining circumstances of shooting. These forensic examinations help not only identify an object, but also determine its mechanism of operation, method of manufacture or modification, which is pivotal in cases concerning illicit manufacture or smuggling of weapons [22]. This once again proves the interdisciplinary nature of forensic weaponry studies as a body of knowledge integrating technical, trace evidence, and identification approaches. Not less significant is the fact that a forensic examination can only be carried out provided that case materials have been properly prepared and integrity of physical evidence has been preserved. Multiple studies also point out that improper packaging of physical evidence or inadequate recording of forensic objects seriously impede the investigation process or render it impossible.

Pursuant to procedure legislation, an expert opinion is drawn up solely from materials duly recorded in procedural documents, emphasising the procedural interdependence of investigative activities and forensic examinations.

Therefore, analysis of the sources cited above allows us to identify principal features of ordering a forensic weapons examination: its direct connection to the identification of crime elements; its crucial evidentiary value in criminal proceedings; questions are to be accurately worded and expert examinations have to be conducted in a logical sequence; prevalence of multidisciplinary forensic examinations; and the high degree of interdependence between the efficiency of forensic examination and the proper procedural preparation of case materials. Collectively, these findings confirm that forensic weapons examination is a key tool ensuring the optimal application of specific expertise in the field of criminalistics and an essential component of the modern *forensic weaponry* concept.

With a view to enhancing efficiency of pre-trial investigations into weapons smuggling, attention should be drawn to the need for close cooperation between law enforcement agencies of various institutional affiliations and forensic actors who are involved to carry out expert ex-

монографія // за заг. ред. В. В. Сокуренка, Д. В. Швеця, О. А. Моргунова. Вінниця, 2023. С. 23—52. URL: https://dspace.univd.edu.ua/handle/123456789/19431 (date accessed: 10.02.2026).

21 Тарасенко О. С. Розслідування незаконного поводження з вогнепальною зброєю, що вчиняється злочинними об'єднаннями : дис. ... канд. юрид. наук. Київ, 2017. 283 с. URL: https://dduvs.edu.ua/wp-content/uploads/files/Structure/science/rada/dissertations/18/1.pdf (date accessed: 10.02.2026).

22 Там само.

aminations in these types of cases. Unlike many other items subjected to expert examination, firearms require a preliminary comprehensive verification of their source data—factory numbers, markings, serial numbers on individual components, design modifications, and signs of alteration—against relevant records and databases. These actions are crucial for establishing the origin of a weapon, its possible theft, involvement in previous criminal offences, or links to other instances of criminal activity. Without timely cross-referencing of these data, expert examination findings may be inconclusive, and certain circumstances of forensic significance may be left unexplained.

Ballistic record-keeping is conducted exclusively by forensic institutions within the Expert Service of the MIA of Ukraine. Objects of ballistic record-keeping are firearms, bullets and cartridge cases with firing marks, ammunition, and other forensic objects with traces of gunshot or weapon impact. Analysis of scientific sources and criminal case files reveals that verification of such items against ballistic records holds substantial tactical value for pre-trial investigations. In particular, it facilitates the discovery of connections between specific criminal incidents, allows for the consolidation of criminal proceedings where the same weapon has been used, and enables the identification of common and individual weapon features and traces of its use. Verification also helps determine whether an item belongs to law enforcement agencies, military personnel or civilians, as well as establish whether improvised weapons have been manufactured using the same equipment [23].

It is worth noting that there are organisational challenges hindering the effective execution of tactical tasks related to investigating illicit trafficking of weapons, stemming from institutional lack of coordination between expert departments. Forensic organizations of the SSU and the NPU are subordinated to various governing bodies, thereby complicating real-time information sharing and limiting access to the full range of departmental records held by the MIA of Ukraine. This can lead to situations where individual weapons fall out of the sight of relevant law enforcement agencies or fail to undergo proper verification against all available information sources. This applies particularly to cases where weapon-related offences involve multiple authorities: for example, the theft of a weapon is investigated by the police, whilst its subsequent transportation across the state border is detected by units of the SBGSU, customs authorities, or the SSU. These information silos negatively affect investigative (search) actions, hinder the tracking of weapons throughout their entire "life cycle", and potentially result in the loss of crucial evidentiary information. In this regard, it has become especially important to streamline collaboration across all parties involved in weapons trafficking and analysis, with a focus on harmonizing record-keeping systems, ensuring prompt data exchange, and coordinating expert examinations. It is through coordinated action during verification of source data and subsequent expert analysis that we can ensure completeness of a proof procedure and enhance the effectiveness of efforts to combat crimes involving the illicit trafficking and smuggling of weapons.

23 Вуйма А. Г. Використання спеціальних знань під час розслідування вбивств : дис. ... д-ра філос. в галузі права. Харків, 2023. С. 112—113. URL: https://dspace.univd.edu.ua/server/api/core/bitstreams/649688f8-ab18-414d-bfc2-9b8ddf98b07b/content (date accessed: 10.02.2026).

Note that during investigations into weapons smuggling, specific weaponry expertise may be applied in the context of an extra-procedural form such as a preliminary forensic examination. Such findings must be taken into account when subsequently ordering a forensic examination and must be submitted to a forensic expert along with case materials. This is due to the very nature of preliminary expert examinations, which, despite their non-procedural nature and lack of independent evidential value, provide important indicative information regarding circumstances of events, specifications of a weapon, possible manner of its use, shooting direction, distance, number of weapons used, etc. Such information provides an initial insight into the subject under study and enables researchers to more accurately formulate questions for a forensic expert, avoid duplication of research activities, and ensure completeness and logical consistency in the course of expert analyses.

Given that preliminary criminalistics examinations actually cover the entire scope of subsequent forensic weapons examination, including classification, diagnostic and situational aspects, preliminary examination results should serve as the informational baseline for expert examination. Ignoring such information may lead to a loss of context surrounding the discovery of a forensic object, thereby complicating scene reconstruction and reducing the accuracy of expert analysis, particularly in complex scenarios where it is necessary to establish circumstances of weapon use or the relative positioning of those parties involved in an event. Providing a forensic expert with preliminary research data ensures continuity in specific expertise application: starting from initial inspection and ending with a procedural expert opinion.

In order to supplement case materials provided to a forensic expert, it is advisable to include a crime scene inspection record detailing circumstances under which weapons or other relevant items were seized. It is this procedural document that contains information about a crime scene's layout, the method of locating and documenting a weapon, its position, its relative positioning in relation to other objects, and the presence of gunshot marks or damage, all of which are of fundamental importance for situational reconstructions in forensic examinations. Providing the forensic expert with these case materials enables him or her to conduct research not in isolation, but within the context of an actual investigative scenario, thereby enhancing the scientific validity and reliability of an expert opinion and promoting more effective proving of facts in criminal proceedings.

Conclusions

Development of forensic weaponry studies as a distinct branch of forensic technology is conditioned by both the practical demands of investigating crimes concerning illicit trafficking and use of weapons, and the need for a theoretical synthesis of knowledge in this field. At present, the full-scale development of this area requires adequate regulatory support to help integrate forensic, technical, and legal aspects of weapons analysis into a unified, systematic framework.

In today's world, weapons smuggling poses a security threat that goes beyond a mere customs offence, as such an item poses a heightened danger to the public and has a direct impact on public and national security. The numerous statistics on the seizure of weapons and ammunition during customs controls between 2023 and 2025 show a consistent upward trend, which objectively underscores the importance of developing forensic approaches to proving this category of offences. Given these circumstances, it is crucial not only to record the fact of transportation, but also to scientifically substantiate an item's specifications, since these are essential for qualifying an offence and proving its objective elements.

The study has demonstrated that specific weaponry expertise is a key means of proof in proceedings concerning weapons smuggling. This knowledge allows for a scientifically informed determination of whether a seized item is a weapon. It aids in identifying the type of weapon, assessing its technical specifications, understanding its method of manufacture or modification, and evaluating its suitability for use. In cases of this type, forensic examination of weapon traces, gunshot traces, and situational circumstances of shooting essentially acts as a structural core: it is impossible to reliably establish legally relevant features of the subject matter of an offence without obtaining results of such an expert examination. Given that smuggling cases fall under the investigative jurisdiction of the SSU, it is only logical that the relevant expert examinations are carried out by the SSU's departmental forensic institutions. This approach combines procedural expediency with the need to assess high-risk items within a security context.

However, efficiency of forensic analysis depends heavily on the rigor of preparatory work and proper organisation of inter-agency cooperation. Verifying the weapon's source data (markings, serial numbers, signs of modification) against relevant records remains a complex issue, as does exchange of information between expert and law enforcement agencies working across disconnected departmental structures, potentially resulting in the disruption of meaningful identification ties (e.g., in the event of a weapon being stolen and subsequently discovered during an attempt at smuggling). This highlights the practical necessity of: 1) ensuring that results of preliminary forensic examinations are provided to a forensic expert as guiding information for developing a fully-fledged investigative approach; 2) including a crime scene inspection record in expert examination files so as to provide context for situational reconstructions; 3) developing agreed mechanisms for cooperation and access to records, thereby ensuring the completeness of proof and enhancing the effectiveness of countermeasures against weapons smuggling.

Доказування контрабанди зброї: можливості застосування спеціальних знань у галузі зброєзнавства

Юрій Ковальов

Мета статті — визначити можливості застосування спеціальних знань у галузі зброєзнавства під час доказування контрабанди зброї та окреслити їх значення для встановлення ознак предмета злочину й забезпечення ефективності кримінального провадження. Реалізації поставленої мети сприяли загальнонаукові методи аналізу й синтезу, індукції й дедукції, а також філософські та спеціальні методи — діалектичний, системно-структурний, порівняльно-правовий і узагальнення. З'ясовано, що спеціальні знання в галузі криміналістичного зброєзнавства є важливим елементом техніко-криміналістичного забезпечення розслідування контрабанди зброї, а їх застосування виходить за межі консультативної допомоги, охоплюючи попередні криміналістичні *дослідження, участь спеціалістів у слідчих (розшукових) діях і проведення судових експертиз. На підставі узагальнення наукових підходів і судової практики з'ясовано, що основною формою реалізації спеціальних знань у справах цієї категорії є судова експертиза зброї, слідів та обставин користування нею, яка забезпечує науково обґрунтоване визначення виду зброї, її технічних характеристик, придатності до застосування та інших ознак, необхідних для кримінально-правової кваліфікації діяння. Наголошено, що в провадженнях щодо контрабанди зброї визначальну роль відіграють зброєзнавці, балісти, спеціалісти експертних установ Служби безпеки України й експертної служби Міністерства внутрішніх справ України, Міністерства юстиції України, а результати їх досліджень сприяють ідентифікації предметів, виявленню взаємозв'язків між епізодами злочинної діяльності, перевірці зброї за обліками та формуванню слідчих версій. Обґрунтовано, що підвищення ефективності доказування у справах про контрабанду зброї потребує належної взаємодії між правоохоронними органами й експертними установами, обов'язкового врахування результатів попередніх криміналістичних досліджень, а також надання експертові повного комплексу матеріалів, включно з протоколом огляду місця події.*

Ключові слова: *досудове розслідування; контрабанда; судова експертиза; тактичне забезпечення; призначення експертизи; шкода довкіллю.*

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Declaration of Competing Interest

The author declares no conflict of interest.

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Case Notes

Forensic Handwriting Analysis: Typical Mistakes at the Appointment Stage and Ways for Their Prevention

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The article is devoted to a comprehensive analysis of the issues associated with definition of expert tasks and preparing materials for forensic handwriting examination as one of the most popular types of forensic research in legal proceedings. Research relevance due to significance of written documents as evidence and prevalence of cases of improper preparation of materials, incorrect formulation of questions to be resolved that significantly limits possibilities of expert examination of handwriting material or makes impossible to provide categorical conclusions. The purpose of this article is to analyze typical errors that arise at the stage of assigning forensic handwriting examination, and to provide recommendations on ways to increase the effectiveness of the use of this type of expert examination in the process of proving. The methodological basis of the research includes

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general scientific and special research methods: analysis and synthesis, induction and deduction, formal-logical, system-structural and comparative-legal approaches, as well as a method of generalizing investigative and expert practice. Requirements for the materials provided to a forensic expert have been systematized, scope of competence of a handwriting expert has been clarified, the need to use original documents as objects of research has been substantiated, and the issue of selecting free, conditionally free and experimental samples of handwriting and signature has been considered in detail. The scientific novelty of the research lies in comprehensive presentation of the relationship between the quality of preparation of materials and the evidentiary value of forensic expert conclusion, as well as in the formulation of practically oriented recommendations for ensuring the sufficiency, representativeness and informativeness of comparative materials. Practical significance of the study lies in the application of its conclusions and recommendations by investigators, prosecutors, lawyers and judges in order to optimize establishment of factual circumstances in judicial proceedings and prevent errors at the stage of involving forensic handwriting expert.

Keywords: *forensic science; forensic handwriting analysis; samples for comparative research; preparation for appointment of forensic examination; formulation of questions to forensic expert; forensic expert conclusion; typical mistakes of forensic expert.*

Research Problem Formulation

Forensic handwriting analysis is one of the most common types of forensic science as in criminal proceedings as in civil, commercial and administrative cases carried out with the aim of identifying the author of the writing and/or signature of the document under research or establishing conditions of its creation. Important role of this forensic examination is due to the fact that even in current conditions of global digitalization of society, written documents do not lose their relevance and remain one of the important sources of evidence. At the same time, improper preparation for conducting this forensic examination, poor-quality design of materials, incorrect formulation of questions can significantly reduce possibilities of such an investigation and sometimes make impossible to provide answers to the questions to be clarified. Lack of quality preparation at the stage of making a procedural decision on the appointment of a forensic examination affects the effectiveness of using this type of forensic examination to ensure the fulfillment of justice tasks.

Analysis of Essential Researches and Publications

The following scientists and practitioners studied the topic of ordering and conducting forensic handwriting examination:

L. Svyrydova with co-authors [1], L. Arotsker with co-authors [2], V. Kostetskyi with co-authors [3], O. Boitsova with co-authors [4], O. Vorobei and Z. Melenevska [5], N. Vorobiova [6], M. Bondar with co-authors [7], S. Honhalo [8], T. Nikolaichuk with co-authors [9], E. Ivakin [10], S. Kachurin and M. Semenikhin [11], N. Karpenko and N. Klymenko [12],

1 Комплексне почеркознавче та авторознавче дослідження рукописних текстів : метод. рек. ; звіт про НДР (остат.) / кер. Л. В. Свиридова; викон.: Т. В. Сохранич, В. Г. Абросимова, Н. В. Сиротенко-Кацман. Реєстр. код 0196U013967. Харків, 2012. 27 с.

2 Ароцкер Л. Е., Бродская А. Б., Можар И. М., Рожкова Г. В. Теоретические проблемы оценки экспертом признаков почерка. Харьков, 1963 ; Ароцкер Л. Е., Вул С. М., Бродская А. Б., Гордеева Г. Н., Грузкова В. Г. Неидентификационные исследования в почерковедческой экспертизе. Киев, 1972. 96 с. URL: https://studfile.net/preview/13607022/ (date accessed: 05.02.2026).

3 Термінологічний словник з судової почеркознавчої експертизи : звіт про НДР (остат.) / кер. В. С. Костецький; викон.: І. В. Білоус, І. П. Красюк, Я. Р. Полтавська, І. М. Тарасюк, І. Ю. Рябенко, М. П. Молибога, О. А. Гуменський, О. О. Довгань, Н. С. Олійник, Т. П. Кривак, Н. М. Баюрко. Реєстр. код 0119U0001896. Київ, 2020. 53 с.

4 Бойцова О. В., Бондар М. Є., Гриненко Л. Г., Довженко О. В. та ін. Удосконалена система загальних та окремих ознак почерку : метод. посіб. Київ, 2004. 92 с.

5 Воробей О. В., Меленевська З. С. Криміналістичне дослідження підписів : посібник. Київ, 2006. 84 с. URI: https://elar.navs.edu.ua/jspui/handle/123456789/1711 (date accessed: 05.02.2026).

6 Воробйова Н. В. Питання підготовки порівняльного матеріалу при призначенні судово-почеркознавчих експертиз. *Сучасні тенденції розвитку криміналістики та кримінального процесу :* мат-ли наук.-практ. конф. (Харків, 08.11.2017). Харків, 2017. С. 71—73. URL: https://univd.edu.ua/general/publishing/konf/08_11_2017/pdf/28.pdf (date accessed: 05.02.2026).

7 Бондар М. Є., Головченко Л. М., Лисенкова В. В. та ін. Встановлення характеру збиваючих факторів при дослідженні підписів, що виконані з порушенням координації рухів : метод. рек. Київ, 2001. 36 с. ; Створення експертної системи з діагностичного дослідження підписів з ознаками порушення координації рухів їх виконавців : звіт про НДР / викон.: М. Є. Бондар, Т. О. Сукманова, Ю. М. Беляк та ін. Київ, 2001. 73 с.

8 Гонгало С. Й. Графологія як перспективний метод вирішення окремих діагностичних завдань у судово-почеркознавчій експертизі. *Актуальні питання судової експертології, криміналістики та кримінального процесу :* мат-ли II міжнар. наук.-практ. конф. (Київ, 19.11.2020). Київ, 2020. С. 134—138. URL: http://eprints.oa.edu.ua/id/eprint/8444 (date accessed: 05.02.2026).

9 Удосконалення методики почеркознавчого дослідження підписів, виконаних особами похилого та старечого віку : звіт про НДР (остат.) / кер. Т. В. Ніколайчук; викон.: Ю. В. Соломаха, А. В. Забуга, В. М. Здор, Д. О. Ус., М. Ю. Будзієвский. Реєстр. код 0120U102647. Дніпро, 2022. 116 с.

10 Івакін Е. О. Теоретичні та методичні питання неідентифікаційних досліджень в судовому почеркознавстві : автореф. дис. … канд. юрид. наук. Київ, 2002. 18 с.

11 Качурін С. Г., Семеніхін М. В. Тактичний арсенал слідчого: системи тактичних прийомів одержання експериментальних зразків почерку та підписів. *Актуальні проблеми права: теорія і практика*. 2019. № 2 (38). С. 112—123. DOI: 10.33216/2218-5461-2019-38-2-112-123 (date accessed: 05.02.2026).

12 Карпенко Н. Б., Клименко Н. І. Щодо визначення предмета судово-почеркознавчої діагностики. *Сучасні тенденції розвитку криміналістики та кримінального процесу* : мат-ли наук.-практ. конф. (Харків, 08.11.2017). Харків, 2017. С. 95—97. URL: https://univd.edu.ua/general/publishing/konf/08_11_2017/pdf/40.pdf (date accessed: 05.02.2026).

N. Komissarova [13], T. Drozdova with co-authors [14], Z. Melenevska with co-authors[15], H. Denysiuk [16], O. Shvedova with co-authors [17], N. Shpakovych [18] et al. Despite the large number of scientific developments in this field and significant experience in conducting relevant research, issues associated with the preparation of materials for forensic handwriting examination remain relevant. It is due to improvement of methods and means of forging documents, the evolution of writing instruments, changing conditions of document circulation, lack of communication between forensic expert and the initiator of the forensic examination, etc.

Article Purpose

The purpose of this research is a comprehensive analysis of typical problems that arise during the preparation of materials for forensic handwriting examination, as well as development of practically oriented recommendations for improving this stage of the process in order to increase efficiency of using forensic expert conclusion in evidentiary system.

Research Methods

Methodological basis of the study is a combination of general scientific and special methods of cognition providing systematic approach to the analysis of the problem of preparing materials for forensic handwriting examination. Analysis and synthesis were used to isolate the main components of the process of preparing materials and integrate the results into a holistic picture of the problem situation; induction and deduction made possible to isolate general patterns from empirical observations and verify theoretical assumptions using the example of individual cases of expert and investigative practice; formal-logical method was useful for building arguments, forming statements and clarifying the boundaries of expert's competence; the system-structural approach made it

13 Коміссарова Н. О. Криміналістичне дослідження підписів, виконаних в умовах обмеженого зорового контролю : автореф. дис. ... канд. юрид. наук. Київ, 2003. 20 с. URL: http://www.irbis-nbuv.gov.ua/aref/20081124019217 (date accessed: 05.02.2026).

14 Методичні основи організації та проведення судово-почеркознавчої експертизи у СЕУ Мін'юсту України : звіт про НДР (остат.) / наук. кер. Т. О. Дроздова; викон.: Ю. Г. Логвіна, О. Д. Добриніна, А. О. Кошелюк, О. А. Полякова. Реєстр. код 0107U006371. Одеса, 2010. 202 с.

15 Меленевская З. С. Теория и практика повторных почерковедческих экспертиз. Киев, 1974. 80 с. ; Меленевська З. С., Свобода Є. Ю., Шаботенко А. І. Судово-почеркознавча експертиза : навч.-метод. посіб. / за заг. ред. І. П. Красюка. Київ, 2007. 280 с. ; Меленевська З. С., Шпакович Н. Г. Альбом загальних і окремих ознак почерку. Київ, 2011. 49 с. ; Їх же. Оціночна діяльність експерта-почеркознавця : навч.-метод. посіб. Київ, 2015. 107 с. ; Меленевська З. С., Свобода Є. Ю., Кафанов А. В. Судове почеркознавство : курс лекц. Київ, 2010. 134 с.

16 Російсько-український словник професійної лексики почеркознавця : звіт НДР (заключ.) / кер. Г. П. Денисюк; викон.: Т. В. Сохранич. Харків, 1996. 286 с.

17 Шведова О. В., Бєлова Л. М., Білоус І. В. Можливості діагностичних досліджень рукописів, виконаних у незвичних умовах. *Порівняльно-аналітичне право*. 2017. № 5. С. 354—357. URL: https://dspace.uzhnu.edu.ua/server/api/core/bitstreams/7180865f-1688-48d0-82bd-9a8c50610cce/content (date accessed: 05.02.2026).

18 Шпакович Н. Г. Оформлення висновків експертів при проведенні багатооб'єктних почеркознавчих експертиз : метод. рек. Київ, 2004. 8 с.

possible to consider the preparation of materials as a component of the comprehensive procedure of forensic examination interacting with other elements of criminal proceedings; the method of generalizing practice is based on the study of real cases from forensic and investigative practice, in particular, typical conclusions of experts, resolutions on appointment of forensic examination, research objects.

Main Content Presentation

During criminal and other types of legal proceedings, the need to order a forensic handwriting examination usually arises in the case of availability of documents in the case materials (proceedings) about which there are certain doubts. In particular, such typical situations include: availability of a text or signature, which authenticity raises doubts; denial by a certain person of his participation in writing the text or signing the document; the availability of several handwritings (signatures) in one document and the need to identify them; assumptions about signature execution or text on behalf of another person; the need to establish signs of execution of signature or text in unusual conditions or condition, etc. Specified circumstances must be properly drawn up and reflected in the procedural document on the appointment of the examination (investigator's decision, court ruling, application) as grounds for such appointment. It is worth noting that a formal statement of the grounds without reference to the essence of proceedings generates incomplete or inaccurate conclusions of experts due to the expert's insufficient understanding of the purpose of the study. For example, the purpose of obtaining a handwriting examination report can be: proving the fact of fraud by disproving the person's signing of a promissory note; recovering property from an illegal owner as a result of disproving person's participation in signing a contract and identifying the true signatory; determining the legality of receiving an inheritance and the rightful heirs by confirming or disproving signature in a will or gift agreement of a deceased person; proving the facts of official forgery by examining to determine differences in handwriting and signs of imitation of handwriting (signature) when filling out documents; invalidation of agreements concluded by a person while in an unusual state, under the influence of special circumstances, coercion after establishing signs of execution of a signature (text material) in changed or unusual conditions (for example, in a state of limited motor skills, with signs of tremor, impaired coordination as indirect evidence of a changed physiological state of a person at the time of signing), etc. Therefore, effective use of potential of handwriting research assumes not only availability of the object under research, issues raised for resolution, but clear understanding of what function forensic examination should perform in the general context of evidence.

During research, there are often situations when possibility of providing answers to questions posed to the forensic expert is limited or absent. This is usually due to inadequate organization of material preparation procedure and insufficient consideration of the requirements for the samples provided for research.

For conducting forensic examination, it is necessary to prepare all materials and draw them up in accordance with the requirements of procedural legislation. Such materials include: 1) document on the engagement of an expert; 2) objects, in particular samples for comparative research; 3) case files of proceedings. Document on engagement of forensic expert shall indicate the following data: place and date of the resolution (resolution); position, title and surname of the person who appointed the examination (engaged the expert); name of the court; name of the case and its number (data on proceedings); circumstances of the proceedings that are relevant for conducting the examination; grounds for appointing the examination; name of the expert or name of forensic science institution whose experts are entrusted with conducting examination; issues submitted for the expert's decision; list of objects to be examined; other data that are relevant for conducting forensic examination [19].

One of the decisive factors in the effectiveness of forensic handwriting examination is the correct formulation of questions to the forensic expert. According to the requirements of Art. 244 of the Criminal Procedure Code of Ukraine, the resolution (resolution) on the appointment of forensic examination must specify the issues that fall within the competence of the forensic expert during the conduct of forensic handwriting examination [20]. In particular, Law of Ukraine: *On Judicial Examination* and Instruction on Appointment and Conducting Forensic Examinations and Researches define certain restrictions, namely: forensic expert is prohibited from resolving issues of law, establishing the intentions of a person, drawing conclusions regarding the substantive component of a document (object of research), and resolving other issues that go beyond the qualifications of the forensic expert in the relevant forensic specialization [21]. Therefore, when formulating questions for a forensic handwriting expert, it is necessary to take into account that they should relate exclusively to graphic signs of writing, identification of the performer by relevant signs, as well as detection of signs of imitation of handwriting (signature), distortion of the object of research and the altered state of the performer.

According to Scientific and Methodological Recommendations on Preparation and Appointment of Forensic Examinations and Forensic Researches (hereinafter referred to as *Recommendations*), the indicative list of issues that a forensic handwriting expert can investigate includes:

"Is the handwritten text (handwritten *notes) in the document (name of the document and its details, column, line) executed by a certain person?*

Are handwritten texts (handwritten records) in the document (documents) (name of the document and its details, column, line) made by one person?

Is signature made on behalf of the person (surname, name, patronymic of the person on whose behalf the signature is indicated) in the document (name of the document and its details, column, line) by the person on whose behalf it is indicated, or by another person?

Is the handwritten text in the document (name of the document and its details, column, line) executed under the influence of confounding factors (natural, artificial)?

19 Шевчук В. М., Журавель В. А., Шепітько В. Ю. та ін. Криміналістика : підручник / за ред. В. М. Шевчука. Харків, 2024. С. 794—795.

20 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: 05.02.2026).

21 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: 05.02.2026) ; Інструкція про призначення та проведення судових експертиз та експертних досліджень : затв. наказ. Мін'юсту України від 08.10.1998 р. № 53/5 (зі змін. та допов.). URL: https://zakon.rada.gov.ua/laws/show/z0705-98#Text (date accessed: 05.02.2026).

Is the signature made on behalf of the person (surname, name, patronymic of the person on whose behalf the signature is indicated) in the document (name of the document and its details, column, line) under the influence of confounding factors (natural, artificial)?

What gender was the handwritten text written by?

What group by age does the performer of the handwritten text belong to?" [22].

It should be noted that the above indicative list of issues to be resolved allows the investigator and other entities who intend to initiate a forensic examination, taking into account the circumstances of a specific proceeding (case), to submit other issues for the resolution of the forensic expert, provided that they: 1) do not go beyond the competence of forensic expert; 2) do not involve a legal assessment; 3) do not violate the principles of forensic science. However, in practice, investigators who order a forensic handwriting examination are usually not always well-versed in the content of the Recommendations or interpret the indicative list given therein at their own discretion, in connection with which the forensic expert may be asked questions of a general nature (including: "Was the document forged?", "Was there a fact of falsification?") or those that go beyond the competence of the handwriting expert ("Did the person sign the contract voluntarily?", "Did the person realize the content of the document?", etc.). Such questions contain a legal or psychological assessment, therefore, they do not belong to the subject of handwriting research.

Generalizing expert practice allows to identify other typical examples of erroneous formulation of questions for handwriting examination which content goes beyond competence of handwriting expert:

- "Is the signature on behalf of (surname, name, patronymic of the person) made by the person on whose behalf it is indicated, namely (surname, name, patronymic of the person), or by another person, is the signature on behalf of (surname, name, patronymic of the person) on these documents, defined as the original, copy of the signature?";
- "Does the document contain signs of technical forgery of the signature (surname, first name, patronymic of person) in the form of imitation of handwriting of the person on whose behalf the signature was made, or the use of various technical devices in the signing procedure?";
- "Was the signature (surname, name, patronymic of person) copied from some other signature using technical means, if so, which ones?";
- "Is the signature on the document under study copied from some other signature submitted for comparison?";
- "Does the document contain signs of technical forgery of the signature (surname, first name, patronymic of the person) in the form of imitation of the handwriting of the person on whose behalf the signature was made?";
- "Does the document contain signs of the use of various technical devices during the execution of text of the document?";

22 Науково-методичні рекомендації з питань підготовки та призначення судових експертиз та експертних досліджень : затв. наказ. Мін'юсту України від 08.10.1998 р. № 53/5 (зі змін. та допов.). URL: https://zakon.rada.gov.ua/laws/show/z0705-98#Text (date accessed: 05.02.2026).

- "Is the signature on behalf of (surname, name, patronymic of the person) in the document executed by the same person who executed the signature on behalf of (surname, name, patronymic of another person) in the loan agreement dated (date) for the amount (amount), or by another person?";
- "Is the signature on behalf of (surname, name, patronymic of the person) made by the person on whose behalf it is indicated, namely (surname, name, patronymic of the person), or by another person, is the signature on behalf of (surname, name, patronymic of the person) on these documents, defined as the original, a copy of the signature?";
- "Was the person (surname, name, patronymic) aware of the true content and legal consequences of the document at the time of signing?";
- "Is the signature genuine, or is it a forgery made using computer programs, printer, scanner, facsimile, or other technical reproduction?";
- "Was the signature obtained through document substitution, deception, misrepresentation, or use of a copy?";
- "Did the signatory (surname, name, patronymic) intend to sign this document, or was the signature made in order to mislead someone?";
- "Did the person (surname, name, patronymic) sign the document in a state of insanity, incapacity or limited legal capacity?";
- "Does the signature correspond to signature of the person who had the authority to sign the document on behalf of the legal entity (position, details, power of attorney)?";
- "Is signature of the person (surname, name, patronymic) executed in a state of illness, old age, tremor or other physiological condition that affected the will of the person?";
- "Is signature of the person (surname, name, patronymic) valid, or is it forged in order to seize property / money?";
- "Was the signature not executed by another person in a preliminary conspiracy for the purpose of fraud?".

Due to insufficient understanding of the initiators of handwriting examination of its differences from other types of forensic examinations, the objects of research of which are documents, the proposal of many scientists and practitioners on advisability of involving specialists in the field of forensic handwriting at the stage of making a procedural decision to involve forensic expert (obtaining preliminary consultation) for correct formulation of questions is appropriate.

Taking into account the above, it can be concluded that the questions to the forensic expert should be specific (aimed at establishing the factual circumstances), do not go beyond the special knowledge of the forensic handwriting expert, do not contain legal and evaluation issues or issues of double interpretation. Only under such conditions will forensic expert conclusion have full evidentiary force and can be assessed by the court as a proper and admissible source of evidence in court proceedings.

While preparing for a forensic handwriting examination, the stage of collecting research objects is important. According to the Recommendations, the object of a handwriting examination is handwriting material that reflects the characteristics of a certain person's handwriting to the extent that they can be detected to perform the tasks set [23]. Traditionally, for a forensic handwriting examination, it is necessary to provide original documents. This requirement is specified in clause 1.1 of Chapter 1, Section I of the Recommendations, namely: *"Original documents shall be provided for handwriting examination of handwritten records and signatures"* [24]. In practice, it is sometimes impossible to provide the original of the relevant document (it has been destroyed or lost), and only a copy is available. In this regard, the question arises of the possibility of conducting a forensic handwriting examination using copies of documents. The scientific literature contains different approaches to this issue. For example, L. Zolota and I. Savchenko note that if it is physically impossible to provide the original document, then it makes sense to conduct an examination based on copies of documents, but the court should take this fact into account in this case, since a copy of a document contains less information than the original [25].V. Shkabaro, A. Bila and V. Voronin believe that the main difference between handwriting examination and other types of forensic examinations is that handwriting examination cannot be conducted based on photographs and other copies of the object of examination, its descriptions and other materials attached to the case file. Therefore, if the object cannot be provided to forensic expert, this makes impossible to conduct handwriting research [26]. It is worth noting that the need to provide original documents is due to the fact that during the study, the forensic expert analyzes them not only by external graphic features, but also by the physical characteristics of the strokes (pressure of the writing instrument, deformation of the paper, the presence of tremor or uneven pressure). In addition, the original document makes it possible to exclude falsification of the document under study by editing or reprinting its individual parts.

Therefore, provision of original documents is a mandatory prerequisite for a full and scientifically substantiated forensic handwriting examination, since only the original contains the full range of graphic and physical features necessary for identification research. Handwriting examination based on copies of documents is possible only as an exception if it is objectively impossible to submit the original (for example, due to the refusal of one party to the proceedings, in particular the investigator, to issue a document attached to the case files (proceedings) to the other party to ensure the possibility of conducting an examination in another expert institution), as well as with awareness of the significant limitations of such an examination and with the appropriate reflection of this fact in forensic expert conclusion. There are cases when one document becomes the object of research not only to identify the executor, but also to determine the time of its creation, which

23 Науково-методичні рекомендації … . URL: https://zakon.rada.gov.ua/laws/show/z0705-98#Text (date accessed: 05.02.2026).

24 Там само.

25 Золота Л. В., Савченко І. О. Проблематика призначення почеркознавчої експертизи в цивільному судочинстві. *Науковий вісник Ужгородського національного університету. Серія: Право*. 2022. Вип. 70. С. 175—180. DOI: 10.24144/2307-3322.2022.70.25 (date accessed: 05.02.2026).

26 Шкабаро В. М., Біла А. В., Воронін В. В. Правові аспекти проведення почеркознавчого дослідження. *Вісник Університету імені Альфреда Нобеля. Серія «Право»*. 2022. № 1(4). С. 53. DOI: 10.32342/2709-6408-2022-1-4-5 (date accessed: 05.02.2026).

requires technical examination of documents, during destructive methods can be used. In this case, it is important to correctly determine sequence of conducting various types of examinations, in particular, to take into account impossibility of conducting handwriting examination due to the effect of mechanical, chemical, and thermal methods on the document during its technical examination. At the same time, use of copies of documents significantly reduces informativeness of research object, limits the range of features under study, and can make impossible for forensic expert to formulate a categorical conclusion that the court must take into account when evaluating evidence.

In addition to the investigated document, in order to conduct a forensic handwriting examination, the forensic expert must provide samples of handwriting and signature of the investigated person or a probable executor. Such samples are divided into three groups: 1) free; 2) conditionally free; 3) experimental. Samples are not evidence in criminal proceedings, but they contain information that is of evidentiary value. Relevant information becomes available, it can be used in evidence in the case only as a result of the examination. That is why samples for a comparative study have a special procedural status: it is material for obtaining a new one or checking the existing evidence [27].

According to Paragraph 2, Clause 1.3, Chapter 1, Section I of the Recommendations, *"free samples are handwritten texts, handwritten records (letters and numbers), signatures, authentically executed by a certain person before the opening of criminal proceedings, proceedings in cases of administrative offenses, in civil, administrative or economic cases and not related to their circumstances; conditionally free samples are handwriting and/or signature samples executed by a certain person before the opening of proceedings in the case, but related to the circumstances of this case or executed after the opening of proceedings in the case, and are both related to the case and not related to its circumstances; experimental samples of handwriting and (or) signature, performed on the instructions of the body (person) that appointed the examination (involved the expert), in connection with appointment of such examination"* [28].

Free samples most often include those contained in both official and unofficial documents of various purposes, including: a passport of a citizen of Ukraine and a foreign passport or their copies of proper quality, applications for the issuance or replacement of a passport (form 1), a driver's license, a driver's examination card, official ID card, a receipt, acts, contracts, powers of attorney, receipts, applications for marriage/dissolution, membership cards, payment orders, invoices, cashier's checks, personal records, letters, information, postcards, which are authentically executed by the person being studied. When receiving free samples, it is necessary to take into account: 1) the time of creation of the relevant documents (they must be: a) written (signed) before entering data into the Unified Register of Pre-Trial Investigations or opening proceedings in cases of administrative offenses, in civil,

27 Юсупов В. В., Свобода Є. Ю., Шрамко О. М. та ін. Судово-почеркознавча експертиза у кримінальних провадженнях про корупційні правопорушення : метод. рек. Київ, 2023. 46 с. URL: https://elar.navs.edu.ua/server/api/core/bitstreams/0faad692-1b82-4e60-9fe3-62977fda4986/content (date accessed: 05.02.2026).

28 Науково-методичні рекомендації ... . URL: https://zakon.rada.gov.ua/laws/show/z0705-98#Text (date accessed: 05.02.2026).

administrative or economic cases; b) close to the date of execution of the documents under investigation); 2) authenticity of the executor (free samples are exclusively handwritten texts, record, signatures, authentically executed by a specific person); 3) lack of connection with the circumstances of the proceedings (case) – such samples should not relate to the relevant criminal proceedings (case), that is, those facts that are established or verified. However, in practice, sometimes the requirements for the authenticity of the executor of the relevant signature or handwriting are violated, and free samples are also provided, the execution of which is significantly distant from the date of execution of the document under investigation, which negatively affects the possibility of resolving the issues raised and the significance of the conclusion of such a forensic examination. In particular, violation of the requirement for the authenticity of the executor creates the risk of the presence of extraneous handwritten objects in the comparative material, which may lead to the formation of false conclusions by experts. As an example, let us cite the situation set out in the complaint of a party in the case, which was submitted to the Disciplinary Chamber of Central Expert Qualification Commission under the Ministry of Justice of Ukraine, when the expert provided a categorical conclusion regarding the executor of the signatures, while at the same time, in order to conduct a handwriting study with the aim of proving the fact of signing the contract for the transfer of a land share for rent by a specific person, the defendant provided similar contracts concluded in previous years as free samples. In addition, the plaintiff in the case (the owner of the land share) claimed that he did not sign any of these contracts, and that an unknown person signed on his behalf [29]. Providing the expert with free samples made in a period significantly distant from the document under study significantly reduces the representativeness of the comparative material and complicates the possibility of establishing individually stable handwriting features, and also does not allow for proper consideration of natural and situational changes in handwriting caused by age, psychophysiological and other factors. In this regard, it is important to ensure proper preparation of the relevant comparative material taking into account the above requirements in order to ensure the formation of a reliable and procedurally significant expert conclusion based on the results of forensic handwriting examination.

Conditional samples can be executed both before and after opening of proceedings (cases), id est in fact, they belong to two types: 1) executed before the opening of proceedings and related to the circumstances of this case; 2) executed after the opening of proceedings and both related to the case and not related to its circumstances. Conditional samples can be contained in the following documents: suspect explanation of his/her commission of certain actions, written at the request of the investigator, which may not even be related to the proceedings; interrogation protocols, written (or signed) in person; a petition to the investigator, prosecutor, judge; a signature in the journal on receipt of a court summons; correspondence from the place of temporary detention

29 From the practice of considering issues of disciplinary liability of forensic experts by the Disciplinary Chamber of the Central Expert Qualification Commission operating under the Ministry of Justice of Ukraine.

with relatives; complaints about the actions of police officers, etc. [30] Specificity of conditionally free handwriting samples (signatures) is that they could have been made in a deliberately altered handwriting, since their maker could have foreseen that these manuscripts (signatures) could be used as samples for comparative research in the event that the prosecution decides to order an identification handwriting examination [31]. It is important that such samples, although created in the conditions of the investigation, are considered to retain the individual characteristics of the written language of the person under research.

Unlike free and conditionally free samples, experimental samples for comparative research are obtained specifically for conducting a forensic handwriting examination during a procedural action. In order to perform experimental samples, it is necessary to create conditions that are as close as possible to those in which the disputed manuscript was performed (standing or sitting or placing the manuscript on your lap, etc.). It is recommended to select experimental samples repeatedly, in two stages, with an interval from several minutes to several hours or days, depending on the circumstances of the case. Selection of experimental handwriting samples is carried out under dictation or they are given the opportunity to write any text independently. Copying from document being examined is unacceptable [32].

Samples for comparative research should be not only qualitative in their informative content, but sufficient in quantity. Sufficient number of samples means such a volume that would ensure the possibility of a complete and comprehensive comparison of all signs contained in the manuscript (signatures) [33]. In practice, optimal number for conducting research is considered to be 10-15 free samples of the signature of the person being studied, 5-7 pages of a sample text (preferably executed in the conditions in which the manuscript under study was created). One of the most common issues that arise during the preparation of materials for research is providing the forensic expert with insufficient comparative material that necessitates forensic expert to send a request for the provision of additional comparative material, which suspends forensic examination for the request duration (limited to 45 calendar days) and, accordingly, postpones the time of receiving forensic

30 Полякова С. В., Пиріг І. В. Проблемні питання підготовки матеріалів для почеркознавчої експертизи. *Актуальні проблеми кримінально-правового, кримінального процесуального та криміналістичного забезпечення протидії злочинності в сучасних умовах* : мат-ли Міжнар. наук.-практ. конф. (Дніпро, 20.12.2024). Дніпро, 2024. С. 224. URI: https://er.dduvs.edu.ua/handle/123456789/15814 (date accessed: 05.02.2026).

31 Коваленко В. В. Особливості підготовки матеріалів та призначення судової почеркознавчої експертизи під час розслідування корисливих кримінальних правопорушень. *Вісник Луганського навчально-наукового інституту імені Е. О. Дідоренка*. 2025. Вип. 2 (110). С. 63. DOI: 10.32782/2786-9156.110.2.61-71 (date accessed: 05.02.2026).

32 Косигіна Н. А. Проблемні питання підготовки та оформлення експериментальних зразків почерку (цифрових записів, підпису) для проведення судово-почеркознавчих експертиз. *Вісник Одеського науково-дослідного інституту судових експертиз.* 2022. Вип. 12. С. 52. URL: https://ondise.minjust.gov.ua/wp-content/uploads/2023/04/vipusk-122022.pdf (date accessed: 05.02.2026).

33 Воробйова Н. В. Зазнач. твір. URL: https://univd.edu.ua/general/publishing/konf/08_11_2017/pdf/28.pdf (date accessed: 05.02.2026).

expert conclusion. Insufficiency of comparative material provided can not only delay the conduct of the relevant study, but also make it impossible to conduct it fully. In particular, the provision by the initiator of forensic examination of only a few comparative samples of a signature or several samples of a fragment of text does not allow the forensic expert to identify stable individual features of handwriting or signature of the person under investigation and conduct a full-fledged comparative research. At the same time, further procedural actions aimed at obtaining samples of a person's signature (searches, temporary access to documents, sampling) can be ineffective due to concealment or destruction of documents by interested parties; concealment of the person; illness that affects the person's motor or mental activity; his or her death, i.e. events that make impossible to obtain experimental samples of the person's handwriting (signature). In such a case, in practice, forensic experts are forced to state the lack of possibility of conducting a full-fledged research and obtaining categorical answers to asked questions.

In addition, while obtaining samples, one should take into account high informativeness of free samples containing the largest number of general and individual signs of handwriting of the person being examined. This is a consequence of the fact that at the time of their execution, performer did not assume further use of his handwriting samples as comparative material during forensic examination. However, it happens that initiator of forensic examination cannot select a larger number of handwriting (signature) samples from a person, or there is only a certain number of free, conditionally free samples. In this case, forensic expert takes into account complexity of handwriting (signature): the more complex (in design) handwriting (signature), the more it contains individual signs of the person being examined and the examination becomes possible. Thereby at the stage of preparing case files for research, it is advisable to obtain advice from a forensic expert: it will allow you to determine sufficiency and quality of the available comparative material, clarify possibility of conducting full-fledged handwriting study under actual conditions, and, if necessary to take timely measures to select additional samples. This optimizes timing of forensic examination, prevents unjustified suspension of the expert study and ensures proper implementation of the tasks of forensic examination in legal proceedings.

Conclusions

Use effectiveness of expert handwriting expert conclusion in legal proceedings largely depends not only on quality of performed research, but on the level of preparation of materials for the research by examination initiator and formulation accuracy of issues to be resolved. In this regard, it is necessary to systematically improve the skills of investigators, prosecutors, lawyers and other stakeholders in this area. This approach will contribute to improving the quality of pre-trial investigation, optimizing the timing of expert research and ensuring the proper evidential strength of forensic expert conclusion.

Судова почеркознавча експертиза: типові помилки на етапі призначення та шляхи запобігання

Вікторія Алексейчук, Євгенія Демидова, Леонід Бараш, Раса Тамошюнайте

Статтю присвячено комплексному аналізу проблем, пов'язаних з постановкою *експертних завдань і підготовкою матеріалів для проведення судової почеркознавчої експертизи як одного з найбільш затребуваних видів криміналістичних досліджень у судочинстві. Актуальність дослідження зумовлена значимістю письмових документів як доказів і поширеністю випадків неналежної підготовки матеріалів, некоректного формулювання запитань, які підлягають вирішенню, що суттєво обмежує можливості експертного дослідження почеркового матеріалу або унеможливлює надання категоричних висновків. Мета статті — проаналізувати типові помилки, що виникають на етапі призначення судової почеркознавчої експертизи, та надати рекомендації щодо шляхів підвищення ефективності застосування цього виду експертного дослідження у процесі доказування. Методологічна основа дослідження містить загальнонаукові та спеціальні методи дослідження: аналіз і синтез, індукцію і дедукцію, формально-логічний, системно-структурний та порівняльно-правовий підходи, а також метод узагальнення слідчої та експертної практики. Систематизовано вимоги до матеріалів, які надають судовому експертові, уточнено обсяг компетенції експерта-почеркознавця, обґрунтовано необхідність використання оригіналів документів як об'єктів дослідження, а також докладно розглянуто питання відбору вільних, умовно вільних та експериментальних зразків почерку й підпису. Наукова новизна дослідження полягає в комплексному викладенні взаємозв'язку між якістю підготовки матеріалів і доказовою цінністю висновку експерта, а також у формулюванні практично орієнтованих рекомендацій щодо забезпечення достатності, репрезентативності й інформативності порівняльних матеріалів. Практичне значення дослідження полягає в застосуванні його висновків і рекомендацій слідчими, прокурорами, адвокатами та суддями з метою оптимізації встановлення фактичних обставин у судовому провадженні й запобігання помилкам на етапі залучення судового експерта-почеркознавця.*

Ключові слова: *судова експертиза; судова почеркознавча експертиза; зразки для порівняльного дослідження; підготовка до призначення судової експертизи; формулювання запитань до судового експерта; висновок експерта; типові помилки судового експерта.*

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Round table: *Documentation, investigation and forensic examination in criminal proceedings regarding crimes related to the use of chemical weapons by the aggressor country*

On January 20, 2026, Institute of the Security Service of Ukraine of the Yaroslav Mudryi National Law University held a round table: *Documentation, Investigation and Expertise in Criminal Proceedings on Crimes Related to the Use of Chemical Weapons by the Aggressor Country* in Kharkiv with participation of representatives of security and defense sector of Ukraine, forensic experts, scientists, representatives of higher education institutions, etc.

To the work of the round table from National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute» (hereinafter referred to as NSC «Hon. Prof. M. S. Bokarius FSI») was joined by Director ***Anastasiia Kupriianova***, Deputy Director for Expert Work ***Andrii Lubentsov*** and Head of the Laboratory of Forensic and Military Examinations ***Kateryna Rudnieva***.

Event participants worked in the following areas:

- modern practice of detecting and documenting crimes related to the use of chemical weapons: problematic issues and ways their solving;
- investigation of crimes related to the use of chemical weapons (provision *of Chain of Custody*, involvement of national and foreign forensic science institutions);
- capabilities of Ukrainian forensic science institutions in conducting research within the framework of documenting and investigating crimes related to the use of chemical weapons;
- improving the interaction of investigative, operational and forensic science units in the documentation and investigation of crimes related to the use of chemical weapons;
- actual needs of employees involved in documenting, investigating and conducting examinations in criminal proceedings for crimes related to the use of chemical weapons: logistics, advanced training, etc.

Participation of representatives of the NSC «Hon. Prof. M. S. Bokarius FSI» in the event was another step in interaction development of cooperation with the Security Service of Ukraine and other bodies on the investigation of crimes of the aggressor country. *"We are improving the interaction of investigative, operational and expert units within the framework of criminal proceedings, and also updating the needs of specialists involved in documentation, investigation and conducting examinations,"* Anastasiia Kupriianova, Director of NSC «Hon. Prof. M. S. Bokarius FSI».

Information prepared by the Head of Laboratory
of Forensic and Military Examinations
Kateryna Rudnieva

International Scientific and Practical Conference: *Actual Issues of Expert Provision of Justice in Administrative Jurisdiction: Current State and Prospects for Development*

With the assistance of the Ministry of Justice of Ukraine, the National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute» (hereinafter referred to as NSC «Hon. Prof. M. S. Bokarius FSI»), the Scientific and Practical Hub "Rule of Law", and the Dnipropetrovsk District Administrative Court held an online and offline International Scientific and Practical Conference: *Current Issues of Expert Support for Justice in Administrative Jurisdiction Cases: Current Status and Development Prospect*s on February 25, 2026. The participants discussed ways to increase the effectiveness of expert research, in particular the formation of a joint roadmap for expert support for administrative justice.

More than 300 representatives of public authorities, scientists, experts and foreign partners took part in the event.

The main purpose of the conference is to create a professional platform for discussing topical issues of expert support of justice in cases of administrative jurisdiction, analyzing the current state of forensic expert activity, exchanging scientific developments and practical experience, as well as determining the prospects for the development and improvement of methodological, organizational and regulatory support of forensic expert activity in Ukraine.

Thematic areas of the conference:

- modern approaches to expert support of administrative proceedings in Ukraine;
- appointment and timing of the examination: procedural filters, reasonableness and limits of judicial discretion;
- judicial practice of appointing examinations by administrative courts;
- forensic science support to justice e in cases of administrative jurisdiction;

- current state of forensic expert activity in Ukraine;
- forensic examination in administrative cases;
- methodological approaches, typical mistakes, the limits of the expert's competence and the practice of application under martial law;
- scientific and methodical support of forensic expert activity;
- evaluation of forensic expert conclusion in administrative proceedings;
- interaction between courts, law enforcement agencies, and forensic science institutions;
- impact of martial law on forensic science activities;
- prospects for the development of forensic science support to justice.

The work of the conferences was opened by the Deputy Minister of Justice of Ukraine for the Executive Service, Doctor of Philosophy in Law ***Andrii Haichenko***. He noted: *"We continue the dialog with the judicial system, scientists and experts, support initiatives aimed at joint development of effective solutions and raising the standards of expert activity. Combining efforts of the Ministry of Justice, the Scientific Research Institute of Forensic Examinations and administrative courts currently contributes to improving the quality and objectivity of examinations and ensuring justice in Ukraine".*

In an address to the participants of the scientific event, Director of the NSC «Hon. Prof. M. S. Bokarius FSI», Candidate of legal sciences ***Anastasiia Kupriianova*** emphasized: *"Participation of NSC «Hon. Prof. M. S. Bokarius FSI» experts in administrative proceedings is a high responsibility for formation of a high-quality and objective evidence base. The expert provides the court with the tools without which the truth in technically complex cases would remain unattainable".*

After welcoming remarks, the conference participants moved on to presentations and discussions.

Panel discussion: *Forensic Science as a Tool for Ensuring Effective Administrative Justice* was opened by the First Deputy Director of the National Center for the Study of Administrative Justice, Doctor of Philosophy in Law ***Iryna Hubanova*** with a report: *Role of Forensic Expert Institutions in Ensuring Effective Administrative Justice.*

"Forensic science institutions are an integral element of the mechanism for ensuring effective administrative justice. Their activities ensure the implementation of constitutional guarantees for the protection of human rights and freedoms, contribute to the comprehensive and objective establishment of the truth and the formation of scientifically sound judicial decisions. Further development of administrative justice in Ukraine is impossible without systematic improvement of the institute of forensic expertise and strengthening the role of forensic expertise institutions in the implementation of administrative justice", the speaker noted.

Head of the Dnipropetrovsk District Administrative Court, Doctor of Law ***Volodymyr Horbalinskyi*** presented his scientific conclusions on the application of artificial intelligence (hereinafter referred to as AI) in administrative proceedings and verification of the authenticity of electronic evidence. He noted that it is advisable to use the AI algorithm as an auxiliary tool for collecting evidence, but AI cannot become its main basis; the implementation of AI technologies requires clear regulatory and legal support at the national level; it is advisable to integrate AI into the internal electronic document management systems of courts to optimize workflows.

In the panel discussion: *Procedural, legal and scientific and methodological problems of the appointment, conduct and evaluation of forensic examinations by the court*, Professor ***Aleksandar Ivanović*** of University of the Mediterranean (Montenegro) noted that the chain of preservation of evidence in forensic examinations is a fundamental component of judicial proceedings, which guarantees the integrity and legal force of materials from the moment of their discovery to the verdict, and compliance with this procedure prevents the nullification of the results of the investigation, becoming a reliable tool for protecting human rights and strengthening public trust in justice.

International conference became a platform for combining the efforts of the Ministry of Justice, forensic institutions and judicial authorities to overcome common challenges. The results will become the foundation for increasing the objectivity of court decisions, strengthening guarantees for the protection of citizens' rights, and further development of the forensic industry of Ukraine on the basis of the rule of law.

*Information was prepared by **Viktoriia Hrokhovska**,*
Researcher at NSC «Hon. Prof. M. S. Bokarius FSI»

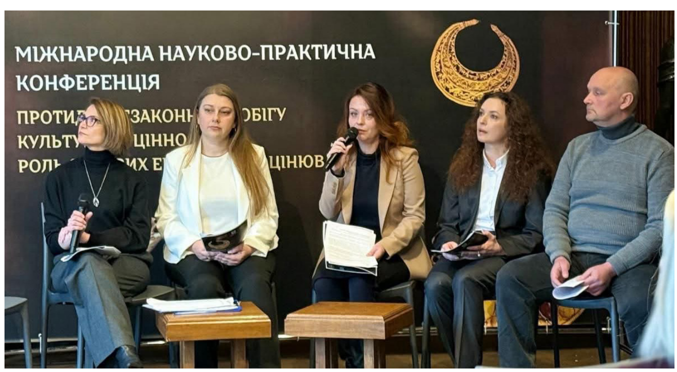
International Scientific and Practical Conference: *Combating Illicit Trafficking of Cultural Values: Role of Forensic Experts and Appraisers*

Employees of National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute» (hereinafter referred to as NSC «Hon. Prof. M. S. Bokarius FSI») on February 26, 2026 took part in the work of the International Scientific and Practical Conference: *Combating Illicit Trafficking of Cultural Values: the Role of Forensic Experts and Appraisers*, organized by the Kyiv Scientific Research Institute of Forensic Expertise, Bohdan and Varvara Khanenko National Museum of Arts with the assistance of the Ministry of Justice of Ukraine.

While opening conference, the participants noted the leading task of forensic expert, creation of an impeccable evidence base. Every fact of the theft of artifacts, destroyed museums must be documented so that these materials become indisputable evidence in international courts, since the evaluation of cultural values in times of war is critical.

Thematic units:

- examination and evaluation of cultural values: national and international experience;
- relocation of cultural values;
- documenting cultural losses and abductions: evidence base;
- return of cultural property: restitution and reparation.



The report: *New Aspects of Forensic Art Examination in Conditions of Military Aggression* was delivered by the Head of the Department of Art, Psychological and Other Research of Kyiv Branch of the NSC «Hon. Prof. M. S. Bokarius

FSI» ***Olha Puklich***. The speaker noted that the experts of the NSC «Hon. Prof. M. S. Bokarius FSI» pay special attention to cultural valuesobtained as a result of illegal archaeological excavations in temporarily occupied territories and moved to the territory of the Russian Federation. In addition, the objects of expert research are museum items stolen during the occupation, as well as damaged or destroyed as a result of the destruction of museum institutions during the Russian-Ukrainian war. Ms. Olga also presented the results of art historical research conducted by experts of the NSC ISE (using the examples of the National Literary and Memorial Museum of G. S. Skovoroda, the Kherson Regional Art Museum named after O. O. Shovkunenko, and the Mariupol Art Museum named after Kuindzhi). The speaker paid special attention to the protection of cultural values of Ukraine in the territory annexed by Russia: according to the results of the judicial historical and archaeological examination conducted by experts of the NSC «Hon. Prof. M. S. Bokarius FSI», losses in the amount of more than 200 million UAH were determined due to the actions of the Russian aggressor, which caused the partial destruction of the archaeological heritage of Ukraine. Summing up, the expert noted: the conclusions of the judicial art historical examination of cultural heritage objects damaged by military aggression of the Russian Federation are the first step towards their restoration.

According to the results of the scientific event, a collection of conference materials was published, which included reports by the staff of the NSC «Hon. Prof. M. S. Bokarius FSI», devoted to illegal export and movement of cultural values, documenting their loss, as well as the main tasks of art research.

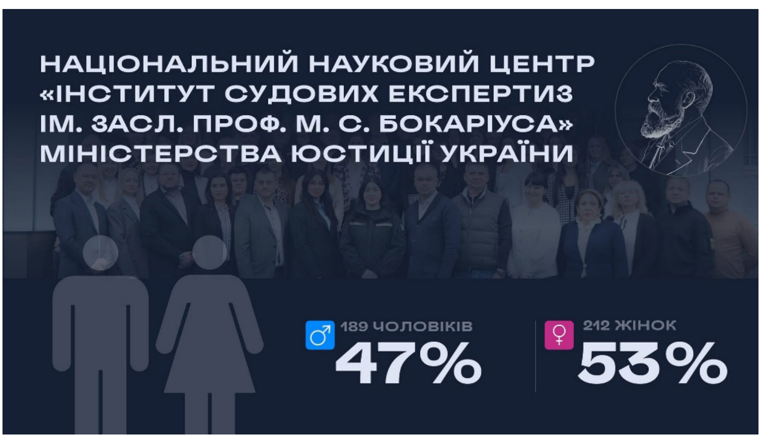
Information was prepared by ***Olha Puklich,***
Head of the Department of Art History,
Psychological and Other studies of Kyiv Branch
NSC «Hon. Prof. M. S. Bokarius FSI»

Round table: *Women in Forensic Science*

On the initiative of Kyiv Scientific Research Institute of Forensic Expertise of the Ministry of Justice of Ukraine, on March 4, 2026, a round table: *Women in Forensic Science* was held, which brought together leading experts, scientists and experts to discuss the role of women in the development of the modern expert field and the challenges currently faced by experts.

The round table was devoted to two strategic directions: 1) gender equality in the field of forensic examination; 2) personalities: women in forensic science.

The event was attended by the Director of National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute» (hereinafter referred to as NSC «Hon. Prof. M. S. Bokarius FSI»), Candidate of Legal Sciences ***Anastasiia Kupriianova***. In her speech, she noted that today 53% of women work in the team of NSC «Hon. Prof. M. S. Bokarius FSI», they occupy 51% of senior positions: from heads of sectors and laboratories to the institution Head. According to her, equal representation of women and men in all spheres of activity is modern management standard.



The participants paid attention to the presentation of the gender map of the NSC «Hon. Prof. M. S. Bokarius FSI», which clearly demonstrated the implementation of the principle of equal opportunities at all levels of the organizational structure, from top management to scientific, expert and administrative staff. *"For a forensic institution, people are the main asset. An expert, scientist or head of a unit is, first of all, competence, responsibility and integrity,"* Ms. Anastasiia emphasized.

In NSC «Hon. Prof. M. S. Bokarius FSI», equal access to professional growth; equal conditions of remuneration for the same work; non-discrimination or hidden barriers; safe and respectful attitude in the working environment are observed in principle. That is why, according to the director, gender equality is a component of personnel quality management, and not a separate social initiative. Adherence to these principles is also an important element of institutional trust in forensic science institution.

The internal policy of NSC «Hon. Prof. M. S. Bokarius FSI» is fully consistent with European approaches to human rights and equal opportunities and is implemented in daily practice.

Specialists of Kyiv branch of the NSC «Hon. Prof. M. S. Bokarius FSI» ***Oleksandr Svyrydenko***, ***Olha Puklich***, and ***Viktoria Alexeychuk*** presented reports and analytical work on the above topics.

In their speeches, the experts analyzed the opportunities for career growth and overcoming stereotypes in "traditionally male" types of expertise, highlighted the success stories of prominent women of the institution and their contribution to the formation of forensic science in Ukraine, and noted that proportion of women among forensic experts is constantly growing, especially in such complex areas as genetics, economics and computer and technical research etc.

Participants discussed how work-life balance affects quality of expert opinions, what conditions need to be created for the further realization of women's potential in science and the support of young specialists and the exchange of experience between women experts from different departments.

*Information was prepared by **Oleksandr Svyrydenko**,*
Deputy Head of the Department of the Kyiv Branch
of NSC «Hon. Prof. M. S. Bokarius FSI»

Congratulations to jubilee!

The editorial board of the research paper collection: *Theory and Practice of Forensic Science and Criminalistics* congratulates the Editor-in-Chief of the edition, Doctor of Law, Professor, Honored Worker of Science and Technology of Ukraine ***Ella Simakova-Yefremian*** on her anniversary!

Ella Borysivna is a person of the era, whose professional path is the embodiment of dedication to the chosen cause, scientific wisdom and inexhaustible energy. In the galaxy of prominent scientists and practitioners of forensic science of Ukraine, her name occupies a worthy place.

Ms. Ella's story at National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute» (hereinafter referred to as NSC «Hon. Prof. M. S. Bokarius FSI») is an example of phenomenal professional growth. Beginning work at the institution in November 1979, she climbed the professional ladder from a printer and laboratory assistant to the deputy director for scientific work that she had held for more than a quarter of a century since 1998.

Ella Borysivna scientific achievements are impressive in depth and scale. Her dissertation research from the theoretical foundations of complex soil science and tracing expertise (1994) to theoretical, legal, methodological foundations of complex forensic research (2017) became a significant contribution to development of national forensic science.

More than 200 of her research papers have been published in professional scientific publications, materials of scientific and practical conferences on the problems of forensic examination and criminalistics. Among the personal and business qualities, we will highlight the unique ability of the jubilee to combine scientific research with practical skill: Ella Borysivna is a top-class expert with vast experience. Her professional achievements include more than 2,000 personally performed examinations in the most complex areas: from ballistics and forensic handwriting analysis to research on narcotic drugs.

For many years of conscientious work and significant contribution to the development of the rule of law, by the decision of the Academic Council of NSC «Hon. Prof. M. S. Bokarius

FSI» dated on January 30, 2026, Ella Borysivna was awarded the title of Honorary Professor of NSC «Hon. Prof. M. S. Bokarius FSI» as an outstanding figure in the field of law and forensic science. This title is a symbol of deep respect for the professionalism and scientific authority of Ms. Ella. The high level of the award is evidenced by the fact that previously title of Honorary Professor of the National Center of Legal Sciences of Ukraine was awarded to Doctor of Law, Professor, Honored Worker of Science and Technology of Ukraine Ruslan Stefanchuk; Doctor of Law, Professor, Academician of the National Academy of Legal Sciences of Ukraine, Honored Worker of Science and Technology of Ukraine Violetta Konovalova; Doctor of Law, Professor Hryhorii Hranovskyi; Doctor of Law, Professor, Honored Worker of Science and Technology of Ukraine, Full Member (Academician) of the National Academy of Legal Sciences of Ukraine Valery Shepitko; Doctor of Law, Professor, Full Member (Academician) of the National Academy of Legal Sciences of Ukraine, Honored Lawyer of Ukraine Oleksandr Bandurka; Doctor of Law, Professor, Academician, President of the National Academy of Legal Sciences of Ukraine, Honored Worker of Education of Ukraine Volodymyr Zhuravel.


International Non-Governmental Organization
"Criminalists Congress"
presents the
Herbert Manns Silver Medal
to
Prof. Dr Hab. Ella Simakova-Yefremian
for Outstanding Public Service
in Criminalistics development and popularization
February 12, 2026
President

On the occasion of the anniversary, the International Public Organization: *Congress of Criminalist*s awarded Ella Simakova-Yefremian a silver medal named after Herbert Manns. This award is presented to scientists and practitioners for their contribution to the development of criminology and achievements in scientific research.

Congratulations to Ella Borysivna on her anniversary! We wish her good health, inexhaustible inspiration for new discoveries and long years of fruitful work under the peaceful sky of Ukraine! May each new day bring her joy from scientific achievements and warmth from communicating with relatives and colleagues! Thank you for many years of wisdom, professionalism and significant contribution to strengthening the rule of law in our country!

Staff of NSC «Hon. Prof. M. S. Bokarius FSI»
and editorial board of research paper collection:
Theory and Practice of Forensic Science and Criminalistics

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According to the Edition subject matter, content regarding coverage of criminalistic current issues, relevant issues of performing various types of forensic examinations and specific expertise application in legal proceedings is published on the pages of the Scientific Edition.

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- Analysis of essential researches and publications on the selected article topic, outlining the problematic field of the research that article is devoted; with obligatory reference to authors and their scientific papers;
- Main content presentation with obtained results (to reveal important theoretical positions and research results, analyze scientific facts, ideas, thoughts, regularities, concepts, as well as trends of further topic development, emphasizing personal contribution of the research author(s));
- Conclusions (main research results in a clear, consistent, logically presented form in compliance with set goal)*;*
- References (the list of used sources transliterated according to the Roman alphabet, for example, on the site of Vernadsky National Library of Ukraine: *http://nbuv.gov.ua/node/929*);
- Abstract in English, indicating the author(s) surname, article title and keywords.

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