

Peculiarities of Forensic Examination During Pre-Trial Investigation of High Treason Cases

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In the context of hybrid warfare and encroachment on Ukraine's sovereignty, the issue of regulatory and procedural support for pre-trial investigation of crimes against the foundations of national security, including high treason, is of paramount importance. Accordingly, the effective use of specific expertise in criminal proceedings, primarily in the form of forensic examinations, gains significance. The Article Purpose is to comprehensively examine the specific peculiarities of appointing and conducting forensic examinations as one of the procedural forms of applying specific expertise in the investigation of criminal offenses that may be qualified as high treason. The methodological foundation of the study relies on general scientific and special scientific methods. The paper delves into the procedural forms of applying specific expertise and concludes that conducting forensic examinations with the help of a forensic expert is the most effective one. It further analyzes and substantiates the appropriateness of appointing forensic examinations that are essential in revealing the truth in criminal proceedings concerning high treason. In particular, the article outlines the most relevant and commonly applied types of forensic examinations, such as computer, video and sound recording, linguistic (semantic-textual), forensic examinations involving state secrets, and forensic portrait examinations, which are typically appointed and conducted at the stage of pre-trial investigation of criminal offenses qualified as high treason. It is emphasized that this list of the most in-demand forensic examinations conducted during

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investigations of criminal offenses, outlined in Art. 111 of the Criminal Code of Ukraine, is not exhaustive.

Keywords: *specific expertise; forensic examination; procedural forms of specific expertise application; forensic expert; high treason; crimes against national security; pre-trial investigation; expert's opinion.*

Research Problem Formulation

The Constitution of Ukraine establishes Ukraine as a sovereign and independent state ¹. However, since 2014, the Russian Federation has launched a direct and indirect armed aggression against Ukraine, encroaching on its sovereignty, territorial integrity, and political independence. Russia has violated international law by annexing the Autonomous Republic of Crimea and effectively establishing control over parts of the Donetsk and Luhansk regions through the use of pseudo-state entities and illegal armed groups.

The escalation of aggression reached its peak on February 24, 2022, when the Russian Federation armed forces, using aviation, artillery, missile armament, and armored vehicles, launched a full-scale invasion against Ukraine. This act was followed by an armed attack on strategic state infrastructure, state authorities, Ukrainian Armed Forces units, and civilians, which resulted in massive casualties, destruction, and a humanitarian crisis.

Beyond military intervention, the Russian Federation systematically employs political, economic, informational, and psychological means to destabilize Ukraine's

internal political situation. In particular, it is about the manipulation of public opinion, the exertion of economic pressure, and energy blackmail, etc. The Russian special services pose a particular danger due to their intelligence and subversive activities. They aim to recruit Ukrainian citizens, infiltrate state authorities and the defense sector, and provoke and support separatist movements in different regions of the country. Moreover, as part of the so-called "hybrid warfare", the aggressor country is actively recruiting organized criminal groups, marginalized segments of the population, and collaborators to engage in sabotage activities and information attacks that undermine Ukraine's state sovereignty.

Pt. 1 of Art. 111 of the Criminal Code of Ukraine (hereinafter referred to as the CC of Ukraine) defines high treason as "*an act willfully committed by a citizen of Ukraine to the detriment of sovereignty, territorial integrity and inviolability, defense capability, and state, economic or information security of Ukraine*"².

According to the statistical reports of the Prosecutor General's Office of Ukraine ³, there has been a steady increase in the number of criminal proceed-

1 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: 19.04.2025).

2 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: 19.04.2025).

3 Про зареєстровані кримінальні правопорушення та результати їх досудового розслідування / Офіс Генерального прокурора України : офіц. сайт. URL: <https://gp.gov.ua/ua/posts/prozareystrovani-kriminalni-pravoporushennya-ta-rezultati-yih-dosudovogo-rozsliduvannya-2> (date accessed: 21.04.2025).

ings initiated on grounds of high treason over the last five years. A notable rise in the number of such proceedings was recorded in 2022, following the Russian Federation’s full-scale armed aggression against Ukraine (see *Table*).

Table

**Statistics on criminal offenses registered under Article 111
of the Criminal Code of Ukraine along with the results
of their pre-trial investigations**

Indicators	2020	2021	2022	2023	2024
Criminal offenses recorded during the reporting period	145	208	1957	1169	1109
Criminal offenses for which individuals have received a notice of suspicion	45	64	609	469	588
Criminal offenses in proceedings where the pre-trial investigation has been suspended under Article 280 of the Criminal Procedure Code of Ukraine	6	16	227	70	52
Criminal offenses where proceedings have been referred to court	39	46	309	328	441
Criminal offenses where proceedings have been terminated	14	9	89	37	21
Criminal offenses for which no decision to close or suspend proceedings had been made by the end of the reporting period	100	146	1409	770	614

These indicators demonstrate an increasing number of proceedings, validate the need to strengthen the means of proof, particularly through the active application of specific expertise. The analysis of practices for investigating high treason has revealed that investigators and operatives of the Security Service of Ukraine (hereinafter referred to as the *SSU*) frequently require specific expertise, specifically through forensic examinations, to solve and investigate this category of criminal offenses.

Article Purpose

Comprehensively study the peculiarities of appointing and conducting forensic examinations as one of the forms of specific expertise application in the course of investigation of criminal offenses falling under the *high treason* definition.

Research Methods

To fulfill the goal, both general scientific (dialectical, analysis, synthesis, induction, deduction) and special scientific methods (in particular, formal-logical, logical-legal, and system-structural) have been employed. These have contributed to a thorough interpretation of the scientific results and conclusions presented in the article.

**Analysis of Essential Researches
and Publications**

The issue of using specific expertise in the course of criminal proceedings holds an important place in the legal scientific literature; research papers by L. Arotsker, V. Honcharenko, A. Ishchenko, N. Klymenko, V. Lysychenko, I. Pyrih, M. Shcherbakovskyi, as well as by many

other renowned researchers, discuss this issue. Today, both the national scientific community and representatives from practical fields are actively exploring various areas of specific expertise application in criminal proceedings, specifically in the context of appointing and conducting forensic examinations during the investigation of crimes against national security.

The monograph by T. Budko addresses relevant issues of forensic-linguistic semantic-textual examination in terms of the actual conduct of this forensic examination, its methodological support, and categorical and conceptual apparatus. The study also covers the appointment, evaluation, and use of its findings in the course of criminal proceedings, particularly those outlined in Section One of the Special Part of the CC of Ukraine ⁴.

The textbook by I. Hora and V. Kolesnyk ⁵ covers the theoretical and practical aspects of forensic activities; among other details, it presents the classification of forensic examinations, information on research methods, and peculiarities of interaction between investigators and forensic experts. Moreover, these scholars con-

sider the challenges of providing forensic support for the pre-trial investigation of crimes against the state's information security ⁶.

Particular attention is paid to V. Khodanovych's research paper which discusses the feasibility of conducting certain types of forensic examinations when investigating crimes against Ukraine's national security ⁷.

O. Herasymiv and O. Riashko stress the need for forensic examinations in the course of investigating high treason ⁸. N. Luhina and S. Dem'ianenko provide a representative list of forensic examinations that are appointed during the investigation of criminal offenses under Art. 111 of the CC of Ukraine (forensic linguistic, phonoscopic, and computer examinations) ⁹.

The *Fundamentals of the Methodology for Investigating High Treason* dissertation by Yu. Kononenko analyzed the provisions on the current opportunities for conducting forensic examinations (specifically, computer, software examination, sound and video recording, telecommunications systems and means, semantic and textual examination) as a key procedural form of applying specific expertise in investigating

- 4 Будко Т. В. Проблемні питання судово-лінгвістичної семантико-текстуальної експертизи мовлення та рекомендації щодо їх вирішення (на матеріалах кримінальних проваджень) : монографія. Київ, 2017. 88 с.
- 5 Гора І. В., Колесник В. А. Криміналістичні експертизи та дослідження, що проводяться у системі правоохоронних органів України : наук.-практ. посіб. Київ, 1999. 80 с.
- 6 Їх же. Актуальні питання криміналістичного забезпечення досудового розслідування злочинів проти інформаційної безпеки держави. *Криміналістика і судова експертиза*. 2024. Вип. 69. С. 20–34. DOI: [10.33994/kndise.2024.69.02](https://doi.org/10.33994/kndise.2024.69.02) (date accessed: 21.04.2025).
- 7 Ходанович В. О. Роль судово-авторознавчої та психолінгвістичної експертизи в доказуванні у кримінальних провадженнях про злочини екстремістської спрямованості. *Актуальні проблеми доказування у кримінальному провадженні* : мат-ли Всеукр. наук.-практ. інт.-конф (Одеса, 27.11.2013). Одеса, 2013. С. 363–369.
- 8 Герасимів О., Ряшко О. Проблеми розслідування державної зради в умовах воєнного стану. *Omul, criminologia, știința* : conferința științifică internațională. Chișinău, 24.03.2023. Chișinău, 2023. Ed. Ediția a 2-a. Vol. 1. Pp. 382–384. URL: https://ibn.idsi.md/sites/default/files/imag_file/382-384_0.pdf (date accessed: 21.04.2025).
- 9 Лугіна Н. А., Дем'яненко С. В. Особливості тактики слідчих (розшукових) дій у провадженнях про державну зраду. *Ірпінський юридичний часопис*. 2023. Вип. 3 (12). С. 260–268. DOI: [10.33244/2617-4154-3\(12\)-2023-260-268](https://doi.org/10.33244/2617-4154-3(12)-2023-260-268) (date accessed: 21.04.2025).

criminal offenses set forth in Art. 111 of the CC of Ukraine¹⁰.

Yet, despite certain advancements, the issues surrounding expert support for pre-trial investigations in high treason cases remain understudied. The scientific discourse lacks an integrated analysis of the specifics of the appointment and conduct of forensic examinations during the investigation of criminal offenses outlined in Art. 111 of the CC of Ukraine. This makes the chosen research topic relevant and underscores the need for further in-depth study.

Main Content Presentation

High treason is one of the gravest crimes that directly threatens the state's national security, sovereignty, and territorial integrity. The legislation of Ukraine clearly defines high treason as a criminal act that carries serious consequences for the state and its people. The CC of Ukraine envisages several forms of committing this criminal offense, each of which has specific features.

The first form of high treason is switching sides to join the enemy during martial law or an armed conflict. It encompasses two main types of actions: 1) intellectual transition that assists the aggressor or other hostile party with which Ukraine is at war by providing important information or other support; 2) physical transition to the side of the enemy means a person who leaves Ukraine and supports the aggressor's actions has changed their loyalty.

The second form of high treason is espionage. This involves providing information on state secrets or collecting such information in order to provide it to a foreign state, a foreign organization, or their representatives. Such information is defined in the Law of Ukraine: *On State Secrets* and covers a wide range of data on defense, foreign policy, economic security, and other important aspects.

The third form of high treason is providing assistance to a foreign state, foreign organization, or their representatives in conducting subversive activities against Ukraine. This category is extensive and includes any assistance provided to these subjects in carrying out such activities. I. Sliusarchuk and N. Varenia¹¹ give particular attention to Yu. Aleksandrov's opinion. Aleksandrov notes that subversive activities should be viewed as an attempt to illegally change the system of higher state authorities; interfere with foreign or domestic policy; attempt to seize territory; or reduce Ukraine's defense capability, etc.¹².

These acts inflict significant damage to the internal order and international reputation of the state, emphasizing the need for a full and comprehensive investigation of such criminal offenses. An effective investigation of high treason requires investigative (search) and covert investigative (search) actions, as well as modern methods and approaches. In this process, specific expertise plays a crucial role.

Many researchers have studied the *specific expertise* concept. In the view of Y. Komar, specific expertise is “*professional*

10 Кононенко Ю. С. Основи методики розслідування державної зради : дис. ... канд. філол. наук в галузі права. Одеса, 2024. 212 с.

11 Слюсарчук І., Варення Н. Сутність підривної діяльності. *Підприємництво, господарство і право*. 2019. № 9. С. 221–226. URL: http://nbuv.gov.ua/UJRN/Pgip_2019_9_38 (date accessed: 21.04.2025).

12 Александров Ю. В. Кримінальне право України. Особлива частина : підручник. Київ, 2008. 894 с.

expertise, skills, and abilities in science, technology, art, craft, etc., that are necessary to resolve issues arising during the pre-trial investigation of criminal proceedings and the consideration of related materials in court¹³. In addition, the author emphasizes that specific expertise cannot be widespread and generally known, and emphasizes that this knowledge can be acquired as a result of professional training and practical experience.

V. Kuzmichov and I. Pyrih point out that “specific expertise is a set of theoretical knowledge and practical skills in science, technology, art or craft, gained through special theoretical training or professional experience and used for the purpose of detection, investigation, and prevention of crimes”¹⁴.

M. Shcherbakovskyi has provided an in-depth formulation for the specific expertise concept, emphasizing the following: “Specific expertise is systematic information from various fields of theoretical and practical activity, excluding law. It is acquired through professional or independent learning and experience in a particular specialty. It is employed through skills and abilities manifested in procedural or non-procedural forms to collect, form, research, and verify evidence. It establishes the grounds for authorized persons to make procedural, organizational, and tactical decisions in court proceedings”¹⁵. To support the above, we must highlight that specific expertise is knowledge and

skills gained in a particular field based on a combination of theory and practice. Such knowledge is not widely known. It requires professional training and an in-depth understanding of a specific field of science.

Attempts to somehow structure the immensity of specific expertise that can be used in the investigation of criminal offenses take various forms.

V. Kuzmichov and I. Pyrih support the position of grouping specific expertise forms into procedural and non-procedural ones. The concept proposed by the authors stipulates that “the main procedural forms of specific expertise application should include: direct use by the investigator, prosecutor, court; participation of a specialist in conducting investigative actions; and conducting forensic examinations”. According to the researchers, “Non-procedural forms of employing specific expertise are as follows: audits, consultations with specialists on matters requiring the use of specific expertise, reference assistance, departmental investigations carried out by employees of various agencies and inspectorates (e.g., technical condition inspections), preliminary research of objects before the criminal case, providing qualified assistance in preparing technical means, performing labor-intensive work, and using well-versed persons’ assistance in conducting operative-search actions”¹⁶.

- 13 Комар Ю. М. Визначення поняття “спеціальні знання” та їх використання у кримінальному провадженні. *Теорія та практика судово-експертної діяльності* : мат-ли VIII міжвідомч. наук.-практ. конф. (Київ, 27.11.2019 р.). Київ, 2019. С. 213–216. URI: <https://elar.navs.edu.ua/server/api/core/bitstreams/7d622e08-974f-42ed-8139-c273dbd99567/content> (date accessed: 21.04.2025).
- 14 Кузьмічов В. С., Пиріг І. В. Використання спеціальних знань при розслідуванні розкрадань вантажів на залізничному транспорті: монографія. Дніпропетровськ, 2008. 168 с. URI: <https://er.dduvs.edu.ua/handle/123456789/2359> (date accessed: 21.04.2025).
- 15 Щербаківський М. Г. Сутність, структура та цілі використання спеціальних знань у судочинстві. *Теорія та практика судової експертизи і криміналістики*. 2018. Вип. 18. С. 184–193. DOI: [10.32353/khrife.2018.20](https://doi.org/10.32353/khrife.2018.20) (date accessed: 21.04.2025).
- 16 Кузьмічов В. С., Пиріг І. В. Зазнач. твір. С. 27–28. URI: <https://er.dduvs.edu.ua/handle/123456789/2359> (date accessed: 21.04.2025).

M. Kryvonos and V. Bondar identify procedural and auxiliary forms of specific expertise. The procedural ones encompass: “1) *The use of specific expertise of a person who is involved as a forensic expert to conduct a forensic examination <...>*; 2) *The use of specific expertise of a person who is involved to provide advice and direct technical assistance as a specialist <...>*”¹⁷. Researchers classify the following types of expertise as auxiliary forms: “1) *participation of an interpreter (sign language interpreter) in investigative (search), covert investigative (search), and judicial actions <...>*; 2) *participation of a teacher in investigative (search) and judicial actions <...>*; 3) *participation of a psychologist in investigative (search) and judicial actions <...>*; 4) *participation of a doctor in investigative (search) and judicial actions <...>*”¹⁸.

Certain researchers attempted to directly classify procedural forms of applying specific expertise based on the criterion of “subjects authorized for their application”. They identify three groups: 1) forms used by investigators; 2) forms used by a specialist; 3) forms used by forensic experts¹⁹.

We share the opinion of L. Medynska²⁰. She singles out only two procedural forms of applying specific expertise:

forensic examination and participation of a specialist in investigative (judicial) actions. We believe that involving a forensic expert in forensic examinations is the most common and efficient form to apply specific expertise, compared to other forms used in high treason investigations.

That is why SSU investigators who, within the jurisdiction established by Article 216 of the Criminal Procedure Code of Ukraine²¹ (hereinafter referred to as the *CPC of Ukraine*), are authorized to conduct pre-trial investigations of criminal offenses set forth in Art. 111 of the CC of Ukraine²², apply to forensic institutions to conduct forensic examinations. After all, only a forensic expert—a person possessing the corresponding education and qualifications—can disclose information important to the investigation in disputed materials.

Interaction between the investigator and the forensic expert during forensic examinations may be either procedural or organizational (non-procedural). The procedural form of such interaction is consolidated within the regulatory framework of criminal procedural legislation and is implemented through an official order for forensic examination (by issuing a resolution). Non-procedural interaction typically

17 Кривонос М. В., Бондар В. С. Теорія та практика використання спеціальних знань в розслідуванні злочинів у сфері обігу наркотичних засобів, психотропних речовин, їх аналогів та прекурсорів: монографія. Северодонецьк, 2017. С. 44–46. URL: <https://rep.dnuvs.ukr.education/server/api/core/bitstreams/5e9497a0-fbdf-4d12-95a9-72d3d1259735/content> (date accessed: 21.04.2025).

18 Там само.

19 Гончаренко В., Курдюков В., Легких К. Спеціальні знання: генезис, предмет, рівні, форми використання в доказуванні. *Вісник академії адвокатури України*. 2007. Вип. 9. С. 22–34. URL: http://nbuv.gov.ua/UJRN/vaau_2007_2_5 (date accessed: 21.04.2025).

20 Медінська Л. В. Використання спеціальних знань у кримінальному провадженні України. *Прикарпатський юридичний вісник*. 2014. № 2 (5). С. 278–286. URL: http://www.pjv.nu-oua.od.ua/v2_2014/27.pdf (date accessed: 21.04.2025).

21 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: 20.04.2025).

22 Кримінальний кодекс URL: <https://zakon.rada.gov.ua/laws/show/2341-14#Text> (date accessed: 19.04.2025).

occurs within the context of administrative or interdepartmental regulations and, sometimes, based on law enforcement practices established by the relevant authorities. In fact, the appointment and conduct of a forensic examination is a common form of an expert's procedural involvement in criminal proceedings.

In scientific literature, forensic examination is defined as *“a procedural action that consists of physical evidence and other materials being studied by a forensic expert, upon instruction from an investigator or a judge, in order for factual data and circumstances relevant to the correct resolution of a case to be established”*²³.

The legislative definition of forensic examination is envisaged in Art. 1 of the Law of Ukraine: *On Forensic Examination: “Research stemming from a particular expertise in science, technology, art, crafts, etc., on objects, phenomena, and processes for the purpose of providing a conclusion on issues that are or will be the subject of trial”*²⁴.

Analyzing investigative and judicial practices for investigating criminal offenses involving high treason helps identify the most common types of forensic examinations appointed in criminal proceedings initiated under Art. 111 of the CC of Ukraine.

Forensic computer examination

Computer forensics is an essential instrument for collecting evidence during the investigation of high treason, as modern means of communication and electronic devices are often employed to transmit

and store information that may be of use to the investigation. Forensic computer examination assists in establishing facts important for the pre-trial investigation and in identifying digital evidence (computer data) that confirms the unlawful acts revealed in the case of high treason.

B. Stetsyk and S. Marko pinpoint that forensic computer examination is *“a separate, strictly regulated procedural action carried out in the course of investigating criminal offenses. It is the main procedural form of using specific expertise in computer technology, and its results may constitute the most important part of evidentiary basis in a particular criminal proceeding”*²⁵.

The objects of forensic computer examination encompass computer equipment, peripheral devices, network hardware, various storage media, software, as well as data stored on media or in the device memory. The objects also include organizers, pagers, mobile phones, and other devices that use personal computer technology, software, their components, as well as analytical reports, technical documentation, etc.

In the case of criminal proceedings involving high treason, forensic computer examination is frequently appointed to search and examine user information on computer devices. As observed by I. Hora, in this case, *“the forensic expert is asked to make a decision regarding the following: the presence of files (graphic, text, video, or audio) on the user's computer device, including deleted files; the possibility of restoring them and*

23 Шепітько В. Ю., Коновалова В. О., Журавель В. А. та ін. Криміналістика : підручник. Вид. 4-е, перероб. і допов. / за ред. проф. В. Ю. Шепітька. Харків, 2008. 464 с. URL: <https://law.sspu.edu.ua/files/documents/books/library/17/shepitko.pdf> (date accessed: 20.04.2025).

24 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> (date accessed: 20.04.2025).

25 Стецик Б. В., Марко С. І. Методика проведення комп'ютерно-технічної експертизи. *Юридичний науковий електронний журнал*. 2022. № 1. С. 296–299. DOI: [10.32782/2524-0374/2022-1/74](https://doi.org/10.32782/2524-0374/2022-1/74) (date accessed: 20.04.2025).

clarifying any modifications; installing files that contain certain keywords on the object under study; fulfillment of requests for Internet access or network activity; clarification of the sites accessed from a particular device and the IP addresses used; analyzing browser history; resolving the issue related to downloading or transferring files. Investigators might additionally address the following questions: whether the object submitted for a forensic examination is operational; whether the object has certain software, such as remote access programs; whether the object can be used for a specific purpose (to access the Internet, use certain information systems or databases); what user data is contained on the object (accounts, logs, passwords, etc.)”²⁶.

Within the scope of the investigation into high treason, forensic computer examination is significant because it enables a forensic expert to identify the facts of information dissemination regarding the deployment of Ukrainian Armed Forces units, build connections with foreign (particularly Russian ones) special services, and provide foreign states with assistance in conducting subversive activities against Ukraine (including through Internet messengers and other communication platforms), etc.

Forensic examination of video and sound recording

Conducting a forensic examination of video and sound recordings is an essential step in the investigation of high treason. This forensic examination delves into acoustic and linguistic analysis of oral

speech. The linguistic analysis is aimed at studying oral speech as a reflection of the individual's personal characteristics, while the acoustic analysis evaluates the person's characteristics shaped by anatomical, physiological, and psychophysiological aspects. The purpose of video and sound recording examination is to identify a person by spoken language, as well as to verify the authenticity of audio or video. A technical study of storage media and recording equipment is not the sole purpose of this forensic examination. Rather, it is a means of assessing the accuracy of the recording and identifying possible signs of installation, third-party intervention, or distortion of acoustic information.

When examining video and sound recordings, we study research objects such as signal-flow graphs: “*phonograms (recording of sound signals), videograms (recording of image signals), videophonograms recorded on physical media, as well as physical media themselves, means of recording and reproducing audio and video information*”²⁷.

The central focus of this forensic examination is to determine whether a voice recorded on a conversation phonogram belongs to a particular person by comparing voices, identifying possible attempts to edit, trim, or assemble a recording, decoding possible hidden meanings, ciphers, or special expressions, and estimating the number of people who participated in the conversation recorded on the phonogram.

26 Гора І. В. Використання спеціальних знань в галузі судової комп'ютерно-технічної експертизи в досудовому розслідуванні злочинів проти основ національної безпеки України. *Інформаційна безпека людини, суспільства, держави*. 2022. № 1–3 (31–33). С. 111–124. URL: <https://journals.uran.ua/ispss/article/view/260272> (date accessed: 20.04.2025).

27 Гора І. В., Колесник В. А., Попович І. І. Використання спеціальних знань при дослідженні відеозаписів дорожньо-транспортних подій, які отримані за допомогою пристроїв цифрової фіксації. *Науковий вісник Міжнародного гуманітарного університету. Серія: Юриспруденція*. 2024. № 67. С. 62–66. DOI: [10.32782/2307-1745.2024.67.12](https://doi.org/10.32782/2307-1745.2024.67.12) (date accessed: 20.04.2025).

Forensic linguistic (semantic-textual) examination

Forensic linguistic (semantic and textual) examination plays a pivotal role in investigating criminal offenses against national security, including high treason. This is because establishing whether materials under investigation contain signs of a national security violation in the information field requires understanding the meaning of a statement and the context in which it was used. This can be challenging for someone without specific linguistic expertise.

T. Budko points out that forensic semantic-textual examination studies the semantic diversity of speech acts in the context of issues arising in the course of criminal proceedings. The author emphasizes that, at its current stage of development, semantic-textual examination encompasses knowledge of the elements of a crime, including its objective and subjective aspects and qualifying features. However, it does not provide a legal qualification for the objective content of the information contained in a statement²⁸.

The objects of speech linguistic (semantic and textual) examination, which aims to identify linguistic signs of violations of national security in the information field, are products of speech activity (ranging from single words to entire texts), recorded in written and oral forms. In the context of investigating

criminal offenses involving high treason, materials such as interviews from magazines, newspapers, and electronic publications, articles, and oral statements with their textual reproductions are most often submitted for a forensic examination alongside the decision to appoint a forensic linguistic (semantic-textual) examination.

The main capabilities of a forensic linguistic examination (both semantic and textual) in the investigation of high treason are to identify the speaker's (speakers') communicative intentions, which provided information reveals through a set of features: bias and prejudice; discrediting nature (creating a negative image and its impact on the object); signs of inciting national (or other) hatred; the presence of linguistic signs of propaganda and/or communication acts of a call to action that may pose a threat to national security in the information field, etc. Let us point out that this list of a forensic linguist's capabilities is not exhaustive, as there are cases involving other linguistic signs of national security violations in the information field.

As set forth in Annex 3 of the Instructions on the Appointment and Conduct of Forensic Examinations and Expert Research in the Security Service of Ukraine²⁹, the range of issues to be resolved by forensic linguists is indicative, and other related issues may be addressed during this type of forensic examination.

28 Будко Т. В. Судово-лінгвістична експертиза: об'єктивна необхідність та суб'єктивні фактори гальмування її розвитку. *Судово-експертна діяльність: сучасний стан та перспективи розвитку*: мат-ли круглого столу (Київ, 23.04.2015 р.). Київ, 2015. URL: <https://elar.naiu.kiev.ua/server/api/core/bitstreams/bf952a6c-674c-449a-9224-7ed3cabd83c3/content> (date accessed: 20.04.2025) ; Її ж. Загальна методика судово-лінгвістичної семантико-текстуальної експертизи. Київ, 2020. 55 с.

29 Інструкція про призначення та проведення судових експертиз та експертних досліджень в системі Служби безпеки України : затв. наказ. Центрального управління СБУ від 29.05.2015 р. № 371 (зі змін. та допов.). URL: <https://zakon.rada.gov.ua/laws/show/z0738-15#Text> (date accessed: 28.04.2025).

Forensic examination of state secrets

As part of the pre-trial investigation into criminal offenses related to high treason through espionage, a forensic examination of state secrets must be conducted to determine if information transmitted to a third party constitutes a state secret. This type of forensic examination was initiated due to the availability of data indicating the possible disclosure of information constituting a state secret, as well as to prove this fact procedurally as part of the incriminated act.

The principal tasks of this forensic examination are:

- assessing whether certain information is a state secret following the current legislation;
- determining the level of confidentiality for particular information or documents;
- establishing the scope and possible consequences of disclosure of information containing state secrets;
- estimating possible damages to national security if the information was disclosed to third parties or organizations.

Forensic examination of state secrets is conducted by specialized forensic experts who have access to state secrets and relevant powers. The conclusions of this examination are an essential source of evidence in criminal proceedings, particularly those initiated on the grounds of committing a criminal offense provided for in Art. 111 of the CC of Ukraine.

Forensic portrait examination

During the investigation of high treason, a forensic portrait examination is appointed and conducted in order to identify

a person from photographs, video recordings, or other materials.

“Forensic portrait examination is a separate type of identification research, which consists in a separate and comparative analysis of a person’s external features reflected in photographic images, using special methods of comparison, combination, graphic modeling, and calculations of the relative position of facial features” ³⁰.

The objects of forensic portrait examination in criminal proceedings concerning acts stipulated in Art. 111 of the CC of Ukraine are most often video recordings from hostile internet sources involving individuals recording their unlawful activities. Less frequently, they are photographs posted on the Internet and Telegram channels.

The primary purpose of forensic portrait analysis is to identify individuals depicted in photographs or video recordings, as well as to recreate their appearances. This type of expert analysis involves a detailed and comparative study of an individual’s external features, using specialized methods such as comparison, overlay, graphic reconstruction, and calculation of the spatial location of facial features. These materials may include official identification photographs (such as passport photos or ID photos) and amateur or professional images provided by eyewitnesses or seized during investigative (search) actions. Images obtained from video surveillance systems, technical security equipment, and monitoring cameras installed in public or office spaces are also being used more frequently.

Conclusions

High treason investigation is a complex and multifaceted process requiring the appointment of different types of forensic

30 Експертизи у судочинстві України: наук.-практ. посіб. / за заг. ред. В. Г. Гончаренка та І. В. Гори. Київ, 2015. 504 с.

examinations that help to identify and prove criminal acts. In the course of pre-trial investigation of criminal proceedings on high treason, the most relevant and widespread forensic examinations are: computer, video and sound recording, linguistic (semantic-textual), examination of state secrets, and portrait. This list of examinations is not exhaustive. The type of forensic examination chosen in each case is determined by the nature of the information received, the manner in which the criminal offence was committed, the trace pattern, suspect's identity, and the location where unlawful actions were committed.

Furthermore, given that the aforementioned criminal offense results in an increased level of public danger, emphasis should be placed on the promptness of forensic examinations and compliance with the procedural order of their appointment. It is also crucial to prevent the leakage of information that may constitute a state secret or pose a threat to national security.

Особливості проведення судових експертиз під час досудового розслідування державної зради

Інна Босак

В умовах гібридної війни й посягання на суверенітет України особливо актуально постає питання нормативного та процесуального забезпечення досудового розслідування злочинів проти основ національної безпеки, зокрема державної зради. У зв'язку із цим особливого значення набуває ефективне застосування спеціальних знань у кримінальному провадженні, насамперед — у формі судових експертиз. Мета статті — комплексно дослідити особливості призначення та проведення судових експертиз як однієї з форм застосування спеціальних знань під час розслідування кримінальних правопорушень, які можна кваліфікувати як державну зраду.

Методологічним підґрунтям дослідження є загальнонаукові та спеціальні наукові методи. Схарактеризовано процесуальні форми застосування спеціальних знань і визначено, що залучення експерта до проведення судових експертиз є найефективнішою процесуальною формою. Розглянуто й обґрунтовано доцільність призначення та проведення судових експертиз, які мають провідне значення для з'ясування істини у кримінальних провадженнях про державну зраду. Зокрема, наведено перелік найбільш актуальних і поширених судових експертиз (комп'ютерно-технічна; відео-, звукозапису; лінгвістична (семантико-текстуальна); з питань державної таємниці; портретна), які призначають і проводять на стадії досудового розслідування кримінальних правопорушень, кваліфікованих як державна зрада. Акцентовано, що наведений перелік найбільш затребуваних видів судових експертиз під час розслідування кримінальних правопорушень, передбачених ст. 111 Кримінального кодексу України, не є вичерпним.

Ключові слова: спеціальні знання; судова експертиза; процесуальні форми застосування спеціальних знань; експерт; державна зрада; злочини проти основ національної безпеки; досудове розслідування; висновок експерта.

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Declaration of Competing Interest

The author declares no conflict of interest.

References

- Aleksandrov, Yu. V., Dudorov, O. O., Klymenko, V. A., Melnyk, M. I. ta in. (2009). *Kryminalne pravo Ukrainy. Osoblyva chastyna* [Criminal Law of Ukraine: Special Part] : pidruchnyk / za red. M. I. Melnyka, V. A. Klymenka. 3-tie vyd., pererob. ta dopov. Kyiv. URL: <https://surl.li/ypzlkf> [in Ukrainian].
- Boichenko, S. B., Boiarov, V. I., Budko, T. V., Varfolomeieva, T. V. ta in. (2015). *Ekspertyzy u sudochynstvi Ukrainy* [Expert Examinations in the Judiciary of Ukraine] : nauk.-prakt. posib. / za zah. red. V. H. Honcharenka ta I. V. Hory. Kyiv [in Ukrainian].
- Budko, T. V. (2015). Sudovo-linhvistychna ekspertyza: obiektyvna neobkhdnist ta subiektyvni faktory halmuvannia yii rozvytku [Forensic Linguistic Examination: Objective Necessity and Subjective Factors Impeding Its Development]. *Sudovo-ekspertna diialnist: suchasnyi stan ta perspektyvy rozvytku* : mat-ly kruhl. stolu. (Kyiv, 23.04.2015). Kyiv. URL: <https://elar.naiu.kiev.ua/server/api/core/bitstreams/bf952a6c-674c-449a-9224-7ed-3cabd83c3/content> [in Ukrainian].
- Budko, T. V. (2017). *Problemni pytannia sudovo-linhvistychnoi semantyko-tekstualnoi ekspertyzy movlennia ta rekomendatsii shchodo yikh vyrishennia (na materialakh kryminalnykh provadzhen)* [Problematic issues of forensic-linguistic semantic-textual examination of speech and recommendations for their solution (on content of criminal proceedings)] : monohrafiia. Kyiv [in Ukrainian].
- Budko, T. V. (2020). *Zahalna metodyka sudovo-linhvistychnoi semantyko-tekstualnoi ekspertyzy* [General Methodology of Forensic Linguistic Semantic and Textual Analysis]. Kyiv [in Ukrainian].
- Herasymiv, O., Riashko, O. (2023). Problemy rozsliduvannia derzhavnoi zrady v umovakh voiennoho stanu [Challenges in Investigating High Treason under Martial Law Conditions]. *Omul, kriminologia, stiinta* : konferinta stiintifica intonatinala (Chişinău, 24 martie 2023). Chişinău, 2023. Ed. Ediția a II. Vol. 1. URL: https://ibn.idsi.md/sites/default/files/image_file/382-384_0.pdf [in Ukrainian].
- Honcharenko, V. H., Kurdiukov, V. V., Lehykh, K. V. (2007). Spetsialni znannia: henezys, predmet, rivni, formy vykorystannia v dokazuvanni [Special Knowledge: Genesis, Subject Matter, Levels, and Forms of Use in Evidence]. *Visnyk Akademii advokatury Ukrainy*. Vyp. 9. URL: http://nbuv.gov.ua/UJRN/vaau_2007_2_5 [in Ukrainian].
- Hora, I. V. (2021). Vykorystannia spetsialnykh znan v haluzi sudovoi kompiuterno-tekhnicnoi ekspertyzy v dosudovomu rozsliduvanni zlochyniv proty osnov natsionalnoi bezpeky Ukrainy [Use of Special Knowledge in the Field of Forensic Computer and Technical Examination in the Pre-Trial Investigation of Crimes Against the Foundations of Ukraine's National Security]. *Informatsiina bezpeka liudyny, suspilstva, derzhavy*. № 1–3 (31–33). URL: <https://journals.urau.ua/ispss/article/view/260272> [in Ukrainian].
- Hora, I. V., Kolesnyk, V. A. (1999). *Kryminalistychni ekspertyzy ta doslidzhennia, shcho provodiatsia u systemi pravoohoronnykh orhaniv Ukrainy* [Forensic examinations and researches conducted in the system of law enforcement agencies of Ukraine] : nauk.- prakt. posib. Kyiv [in Ukrainian].
- Hora, I. V., Kolesnyk, V. A. (2024). Aktualni pytannia kryminalistychnoho zabezpechennia dosudovoho rozsliduvannia zlochyniv proty informatsiinoi bezpeky derzhavy [Current Issues of Criminalistic Support for the Pre-Trial Investigation of Crimes Against the State's Information Security]. *Kryminalistyka i sudova ekspertyza*. Vyp. 69. DOI: 10.33994/kndise.2024.69.02 [in Ukrainian].

- Hora, I. V., Kolesnyk, V. A., Popovych, I. I. (2024). Vykorystannia spetsialnykh znan pry doslidzhenni videozapisiv dorozhno-transportnykh podii, yaki otrymani za dopomohoiu prystroiv tsyfrovoi fiktsii [The use of special knowledge in the study of video recordings of road traffic events obtained with the help of digital recording devices]. *Naukovyi visnyk Mizhnarodnoho humanitarnoho universytetu. Serii: Yurysprudentsiia*. № 67. DOI: [10.32782/2307-1745.2024.67.12](https://doi.org/10.32782/2307-1745.2024.67.12) [in Ukrainian].
- Khodanovych, V. O. (2013). Rol sudovo-avtoroznavchoi ta psykholinhvistychnoi ekspertyzy v dokazuvanni u kryminalnykh provadzhenniakh pro zlochyny ekstremistskoi spriamovanosti [The Role of Forensic Authorship and Psycholinguistic Examination in Proving Criminal Offenses of an Extremist Nature]. *Aktualni problemy dokazuvannia u kryminalnomu provadzhenni* : mat-ly Vseukr. nauk.-prakt. internet-konf. Odesa [in Ukrainian].
- Komar, Yu. M. (2019). Vyznachennia poniatia "spetsialni znannia" ta yikh vykorystannia u kryminalnomu provadzhenni [Definition of the Term "Special Knowledge" and Its Application in Criminal Proceedings]. *Teoriia ta praktyka sudovo-ekspertnoi diialnosti* : mat-ly VIII mizhvidom. nauk.-prakt. konf. Kyiv. URI: <https://elar.navs.edu.ua/server/api/core/bitstreams/7d622e08-974f-42ed-8139-c273dbd99567/content> [in Ukrainian].
- Kononenko, Yu. S. (2024). *Osnovy metodyky rozsliduvannia derzhavnoi zrady* [Fundamentals of the methodology of investigation of state treason] : dys. ... d-ra filos. v haluzi prava. Odesa. URL: https://odu-vs.edu.ua/uploads/Kononenko_disertacziya_281fe3077c.pdf [in Ukrainian].
- Kryvonos, M. V., Bondar, V. S. (2017). *Teoriia ta praktyka vykorystannia spetsialnykh znan v rozsliduvanni zlochyniv u sferi obihu narkotychnykh zasobiv, psykhotropnykh rehovyn, yikh analohiv abo prekursoriv* [Theory and Practice of Using Special Knowledge in the Investigation of Crimes Involving Narcotic Drugs, Psychotropic Substances, Their Analogues or Precursors] : monohrafiia. Sievierodonetsk. URL: <https://rep.dnuvs.ukr.education/server/api/core/bitstreams/5e9497a0-fbdf-4d12-95a9-72d3d1259735/content> [in Ukrainian].
- Kuzmichov, V. S., Pyrih, I. V. (2008). *Vykorystannia spetsialnykh znan pry rozsliduvanni rozkradan vantazhiv na zaliznychnomu transporti* [Application of Special Knowledge in the Investigation of Cargo Thefts in Railway Transport] : monohrafiia. Dnipropetrovsk. URI: <https://er.dduvs.edu.ua/handle/123456789/2359> [in Ukrainian].
- Luhina, N. A., Demianenko, S. V. (2023). Osoblyvosti taktyky slidchykh (rozshukovykh) dii u provadzhenniakh pro derzhavnu zradu [Peculiarities of the Tactics of Investigative (Search) Actions in High Treason Proceedings]. *Irpynskyi yurydychnyi chasopys*. Vyp. 3 (12). DOI: [10.33244/2617-4154-3\(12\)-2023-260-268](https://doi.org/10.33244/2617-4154-3(12)-2023-260-268) [in Ukrainian].
- Medynska, L. V. (2014). Vykorystannia spetsialnykh znan u kryminalnomu provadzhenni Ukrainy [Application of special knowledge in criminal process of Ukraine]. *Prykarpatskyi yurydychnyi visnyk*. Vyp. 2 (5). URL: http://www.pjv-nu-oua.od.ua/v2_2014/27.pdf [in Ukrainian].
- Pro zareiestrovani kryminalni pravoporushennia ta rezultaty yikh dosudovoho rozsliduvannia 2013–2025 [On registered criminal offenses and the results of their pre-trial investigation 2013–2025] (2025) / Ofis Heneralnoho prokurora Ukrainy : vebсайт. URL: <https://gp.gov.ua/ua/posts/pro-zareiestrovanikryminalni-pravoporushennia-ta-rezultaty-yikh-dosudovogo-rozsliduvannia-2> [in Ukrainian].
- Scherbakovsky, M. G. (2018). Essence, Structure, and Objectives of Special Knowledge Use for Legal Proceedings. *Theory and Practice of Forensic Science and Criminalistics*. Vol. 18. DOI: [10.32353/khrife.2018.20](https://doi.org/10.32353/khrife.2018.20).

- Shepitko, V. Iu., Konovalova, V. O., Zhuravel, V. A. ta in. (2008). *Kryminalistyka* [Criminalistics] : pidruchnyk / za red. prof. V. Iu. Shepitka. 4-te vyd, pererob. i dopov. Kharkiv. URL: <https://law.sspu.edu.ua/files/documents/books/library/17/shepitko.pdf> [in Ukrainian].
- Sliusarchuk, I., Varenia, N. (2019). *Sutnist pidryvnoi diialnosti* [The Essence of Subversive Activities]. *Pidpriemnytstvo, hospodarstvo i pravo*. № 9. DOI: [10.32849/2663-5313/2019.9.37](https://doi.org/10.32849/2663-5313/2019.9.37) [in Ukrainian].
- Stetsyk, B. V., Marko, S. I. (2022). *Metodyka provedennia sudovoi kompiuternotekhnichnoi ekspertyzy* [Methods of Forensic Computer and Technical Examinations]. *Yurydychnyi naukovi elektronnyi zhurnal*. № 1. DOI: [10.32782/2524-0374/2022-1/74](https://doi.org/10.32782/2524-0374/2022-1/74) [in Ukrainian].
- Bosak, I. (2025). Peculiarities of Forensic Examination During Pre-Trial Investigation of High Treason Cases. *Theory and Practice of Forensic Science and Criminalistics*. Issue 2 (39). Pp. 133–147. DOI: [10.32353/khrife.2.2025.10](https://doi.org/10.32353/khrife.2.2025.10).