

Evaluation of identification signs of handwriting for different types of forensic report

Aleksandar Ivanović *^a, Serhii Naumenko **^b, Svitlana Briukhan ***^c

* Doctor of Law, Professor, Forensic Expert Center (Montenegro),

e-mail: aleksandar.ivanovic@policija.me

** PhD in Law, Sumy Branch of National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute» Sumy, Ukraine, ORCID: <https://orcid.org/0000-002-2167-4149>, e-mail: svhndise@meta.ua

*** Sumy Branch of National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute» Sumy, Ukraine, ORCID: <https://orcid.org/0000-0002-6966-2921>

^a Project administration, Supervision.

^b Methodology, Conceptualization.

^c Writing — original draft.

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When formulating positive and negative conclusions, probabilistic positive and negative conclusions, as well as a conclusion on the impossibility to solve the issue, different options for evaluating features and, as a result, alternative interpretation for the investigation summary section of the forensic report are possible.

To strengthen existing approaches, systematize theoretical knowledge, study and analyze forensic expert practice in providing a scientifically sound, objective, full forensic report for all types of expert conclusions, peculiarities of the methodology for identification and evaluation of the set of features are outlined.

Since the probative value of the forensic report depends on its type and scientific substantiation, this article discusses in detail and comprehensively considers reasons for justification of each of conclusion types.

Existing methods of signs analysis are investigated and, taking into account current forensic expert practice, presentation of a scientifically sound evaluation of signs for each expert situation is suggested.

Capacities of the forensic expert are considered depending on studied and comparative material, his experience and professional training. Reasons leading to erroneous expert conclusions on the

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example of more than 10 investigation summary sections of different forms of forensic report are analyzed. Ways to prevent such errors are proposed.

The algorithm of actions for identification and careful study of both coinciding signs and discrepancies is developed. Also, the terms for their occurrence and interdependence, the degree of influence of diagnostic signs on identification ones are provided. The suggested in the article options for solving expert tasks can be used in forensic expert practice to optimize expert research.

Keywords: *evaluation of signs; forensic report types; forensic expert practice; categorical positive and negative conclusions; probabilistic positive and negative conclusions.*

Formulation of Research Problem

Forensic handwriting analysis belongs to forensic species of examinations. According to Part 2 of Art. 84 of the Criminal Procedural Code of Ukraine ¹, procedural source of evidence is also experts' conclusions. According to judicial-procedural law, experts' conclusions are also considered to be one of significant pieces of evidence ².

In Paragraph 1, Part 5 of Article 69 of the Criminal Procedural Code of Ukraine ³, the main requirement for the forensic expert: *to conduct a careful study and provide a substantiated and objective written conclusion* has been formulated. Through forensic report court procedure obtains scientifically substantiated evidence. N. I. Klymenko believes that from the entire content of the forensic

report, not only research (answers to posed questions) results but also description of performed researches ⁴ have probative value. Provision of accurate in its essence and scientifically substantiated conclusion depends on correct identification and careful study of signs, their due evaluation. Z. S. Melenevska stresses that forensic expert errors while conducting forensic handwriting analyses are most often associated with inability to detect, study and evaluate signs of handwriting ⁵. The methodically sound elected way of expert research is steadily promoting the formulation of an accurate forensic report.

Analysis of Essential Researches and Publications

Characteristics of handwriting analysis objects are traced in signs, they are

- 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: 10.10.2021).
- 2 Експертизи у судовій практиці : наук.-практ. посіб. ; за заг. ред. В. Г. Гончаренка. 2-ге вид., перероб. і допов. Київ, 2010. 400 с.
- 3 Кримінальний процесуальний кодекс України URL: <https://zakon.rada.gov.ua/laws/show/4651-17#Text> (date accessed: 10.10.2021).
- 4 Клименко Н. И., Ципенюк С. А. Назначение и проведение экспертизы в гражданском процессе. *Экспертное обеспечение правосудия: проблемы теории и практики* : мат-лы междунар. науч.-практ. конф. (АР Крым, 07—08.09.2006). Симферополь, 2006. С. 35—39.
- 5 Меленевська З. С., Свобода Є. Ю., Антонюк П. Є. Причини експертних помилок під час вирішення ідентифікаційних завдань у межах судово-почеркознавчих досліджень. *Криміналістичний вісник*. 2016. Вип. 1 (25). С. 115—121.

studied according to qualitative and quantitative indicators. O. R. Shliakhov ⁶, A. I. Vinberh ⁷ and others dedicated their research papers to issues of studying objects provided for research, identification of their characteristics and analysis of detected signs. Scientists adhere to different opinions on the classification of handwriting signs, owing to various approaches to this issue.

As of today, specialists use the classification of handwriting identification signs suggested by V. F. Orlova and A. I. Mantsvietova ⁸. A. P. Rogozin advised to use such a criterion of handwriting signs as a reflection of peculiarities of writing-motor skills that possess relative invariability and are independent from the rest of handwriting ⁹ signs.

M. Ye. Bondar and O. V. Dovzhenko with co-authors introduced an advanced system of handwriting signs where distinguished such a concept as a handwriting ¹⁰ maturity. Z. S. Melenevska and Ye. Yu. Svoboda substantiated such criteria for signs of handwriting, as variability, selective changeability, dynamic invariability, sufficiency ¹¹.

Article Purpose

The Article Purpose is an in-depth focus on existing approaches, systematizing theoretical knowledge, studying and analyzing forensic expert practice in provision of scientifically substantiated, objective, complete forensic report and all its types. In the theory of forensic science and criminalistics, particular attention is drawn to the classification of forensic examinations; however, classification of forensic reports (depending on evaluation of identification signs) requires a more thorough consideration.

Forensic expert practice requires clear, efficient action algorithms in specific expert situations and options for analyzing and evaluating signs of handwriting to draw a categorical positive conclusion, probabilistic positive conclusion, categorical negative conclusion, probabilistic negative conclusion and a conclusion of the inability to answer questions posed.

For example, experts from the National Bureau Expertises of the Republic of Armenia highlight that forensic experts should analyze the entire conclusion in the methodological aspect, emphasizing results of separate and comparative researches and conclusion ¹² formulation.

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- 6 Шляхов А. Р. Структура экспертного исследования и гносеологическая характеристика выводов эксперта-криминалиста. *Труды ВНИИСЭ*. 1972. Вып. 4. С. 3–112.
 - 7 Винберг А. И. Криминалистическая экспертиза в советском уголовном процессе. Москва, 1956. 220 с.
 - 8 Ароцкер Л. Е., Богачкина Г. Р., Доброславская Е. Е., Кузина В. М. и др. Судебно-почерковедческая экспертиза : пособ. для эксперт.-почерковед. и следств. работн. ; редкол.: Е. Д. Добровольская, А. И. Манцветова, В. Ф. Орлова. Москва, 1971. С. 52–122.
 - 9 Rogozin A. P. О понятии признака почерка и его качественных и количественных характеристиках. *Криминалистика и судебная экспертиза*. 1975. Вып. 11. С. 213–219.
 - 10 Бойцова О. В., Бондар М. Е., Гриненко Л. Г., Довженко О. В. та ін. Удосконалена система загальних та окремих ознак почерку : метод. посіб. Київ, 2004. 92 с.
 - 11 Меленевська З. С., Свобода Є. Ю. Альбом загальних і окремих ознак підпису : навч.-метод. посіб. Київ, 2012. 82 с.
 - 12 Карапетян М. Ж. Основные методические положения и особенности производства повторных почерковедческих экспертиз в Республике Армения. *Теорія та практика судової експертизи і криміналістики* : зб. наук. пр. 2017. Вип. 17. С. 205–212. URL: http://nbuv.gov.ua/UJRN/Tpsek_2017_17_30 (date accessed: 10.10.2021).

We agree with the opinion of M. Zh. Karapetian according to which the methodology for detection and evaluation of identified set of signs has certain peculiarities.

Main Content Presentation

The expert conclusion is a result of research activity. Investigative section of forensic report is dedicated to description of the expert research process. It must contain, in particular, expert evaluation of research results. Generalization and evaluation of results of individual studies, being the basis for drawing conclusions, are set out in the investigation summary section of the investigative part of the forensic report¹³.

In the course of evaluation, the forensic expert seeks to determine the origin and identification value of each sign (both those that coincide and those that differ) and all its variations, as well as a set of signs.

Detected as a result of comparative research signs that vary or coincide depending on their origin, quality and quantities, can serve as the basis for different conclusions: negative or positive in content, categorical or probabilistic in type, and in some cases collectively they don't make up the set sufficient for some of mentioned conclusions, as a result the forensic expert draws a conclusion about impossibility of answering a posed question.

The probative value of the expert conclusion depends on a logically presented conclusion¹⁴: a categorical conclusion on the availability of a certain fact or

circumstance has greater probative weight than the conclusion on the possibility of their existence.

There can be two categorical conclusions in type: negative and positive. First, let's consider evaluation of signs constituting grounds for categorical negative conclusion about the executor of studied manuscript/signature.

An essential criterion for evaluation is invariability of signs which can be determined in a sufficient amount of handwriting material. However, the forensic expert may not always be able to check invariability of all signs that differ. In this case, we should not be limited to a few differences: to support a conclusion, more signs should be considered.

The next criterion for evaluating differences is significance of each individually identified sign. For example, if sign is often encountered in handwriting of different people, it has low significance and is not a substantial basis for drawing categorical negative conclusion. The forensic expert can be sure of the significance of identified features, given his own experience and using the table of signs significance in handwriting different in degree of maturity.

Sufficiency of identified features can be established separately in each expert situation: depending on the ability to ensure their invariability and determine the significance and importance of each individual sign.

Thus, discrepancies will always go beyond variability of features of a particular person's handwriting and, in the case of comparing it with handwriting of different

13 Інструкція про призначення та проведення судових експертиз та експертних досліджень : затв. наказом 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: 10.10.2021).

14 Клименко Н. И., Колонюк В. П. Структура і доказове значення висновку експерта як документа, що відображує його дослідження. *Теорія та практика судової експертизи і криміналістики* : зб. наук. пр. 2009. Вип. 9. С. 213—221.

persons, the group of discrepancies will be different for each comparison, individual and non-individual. The set of discrepancies does not individualize handwriting of a particular person: these signs in each individual comparison will have different number, a different actual reproducibility.

In addition, an important criterion for evaluating features is their unchangeability under the influence of such factors as: a significant gap in time of execution of studied document and samples that conditioned changes in handwriting signs; variability of handwriting that may take place while executing examined document and samples with different styles of handwriting, but with the existing consistent style used by the executor in his practice; intentional distortion of handwriting; unusual conditions of execution or uncommon condition of a person who wrote. If discrepancies cannot be interpreted under the influence of these factors, they can serve as the basis to support categorical negative conclusion.

For example, the investigation summery section of categorical negative conclusion can be worded as follows: *"Identified discrepancies are invariable, essential (significant) and sufficient for categorical negative conclusion on execution (of text/signature) not by... (Full name), but another person"*.

Along with detected discrepancies, there may also be coinciding signs. For example, writing the starting point of the letter "o" at the top to the left of the letter axis, etc. Such kinds of coinciding signs are due to natural similarity of handwriting of different people, they do not affect the categorical negative conclusion.

In addition, coinciding features may result from execution of handwritten text/signature with imitation of handwriting/

signature of another person. That should be indicated by the forensic expert in the forensic report.

Major shortcomings leading to inaccurate conclusions are: detection in the studied handwriting of only such signs that differ or only those that coincide, given the availability of both; improper evaluation of signs (as a result, features that differ are evaluated as the ones that coincide: especially typical in the case of identifying several versions of handwriting signs ignoring the occurrence frequency of versions of signs); failure to detect discrepancies in signs that are found in compared objects or not identifying them in full; disregard for the lack of information in coinciding features; disregard for the nature of identified coinciding features, that is their degree of similarity. Such signs are evaluated as versions that are not identified in handwriting of a person with whose samples compare (in fact, they are signs of handwriting of another person), while not paying attention to the fact that matches are only partial, i.e. are found in letters that vary significantly by other signs¹⁵.

The second categorical in its form is positive expert conclusion. Let's consider evaluation of signs which constitute grounds for categorical positive conclusion about the executor of studied text/signature.

First of all, even coincidence of all individual signs contained in studied manuscript/signature does not always stipulate a positive conclusion. An essential criterion of signs to support a positive conclusion is formation of the individual set with the help of such signs. Invariable and essential coinciding features that the forensic expert detected in studied handwriting/signature will always form an individual set. In case of comparison with

15 Меленевська З. С., Свобода Є. Ю., Антонюк П. Є. Оп. cit.

various versions of samples of a particular person, this individual set will characterize handwriting of this person.

Secondly, in the course of recognizing signs belonging to the set, it is required to consider their dependence on a single cause or their interdependence, given that two or more similar interdependent or interrelated signs are in fact one sign of handwriting (e.g. direction of movements from top to bottom while writing first elements of the letters “l”, “m”).

We agree with the view of M. Zh. Karapetian that evaluation of signs is necessary to support a conclusion, since the forensic expert uses not all detected by him signs but only their part. Studied object contains significantly more identifying information than it is necessary for its identification¹⁶.

Therefore, coinciding features must meet the following criteria: invariant, essential, form an individual set, sufficient for categorical positive conclusion about execution of studied text/signature by a particular person.

Scientifically sound categorical positive conclusion of the forensic expert regarding identification of the executor of manuscript/signature must contain evaluation of discrepancies if such are identified while comparative research.

For example, such parts of the investigation summary section can be proposed in each specific case of discrepancies:

- 1) time gap: *“identified discrepancies of individual signs are inconsistent and due to a substantial time gap between the execution of studied manuscript (note, signature) and samples”;*
- 2) different writing implements: *“attributed to execution of compared objects by different writing implements (fountain pen and ballpoint pen)”;*

- 3) availability of versions not found in provided samples: *“identified differences in individual signs are inconsistent and due to variability of signs, which is not reflected in provided samples. Thus, they are not essential and do not affect the previously drawn categorical positive conclusion”.* Let's consider this example of discrepancies in more detail. In the Sumy branch of National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute» of the Ministry of Justice of Ukraine a forensic handwriting analysis was performed, where the task as to execution of signatures on behalf of citz. N by citz. N himself or another person was addressed. The forensic expert came to categorical positive conclusion, despite the availability of discrepancies (both common and individual) in signs. To assess discrepancies, differential explanation of their occurrence was used, namely:

“Along with established coinciding common and individual signs, the following differences in common signs were identified: in studied signatures after the letter “B” there are horizontal letterless strokes, in samples after the letter “B” there are letters “e” and “r” or vertical letterless stroke preceding horizontal letterless strokes. Detected discrepancies in signature transcription, given the significant variability of the signature by citz. N in samples, may be explained through the execution of simplified signature versions that have not been presented in the provided comparative material.

Also, discrepancies of individual features are determined, such as:

- *the length of vertical movements while executing the second element of the letter “B” according to rules of*

¹⁶ Карапетян М. Ж. Опр. cit.

cursive letter tracing worksheets (in studied signatures version is of shorter length, in samples — predominantly close to the rules of letter tracing worksheets, while maintaining the ratio of vertical length of this element to lowercase elements of signature, its shape and direction of movements, mutual placement in relation to the first element of this letter) — can be explained by change in the length of vertical movements in general during execution of studied versions of signature;

- type of merging the first and the second elements of the letter “B” (in studied signatures: examine together, in samples: mostly separately, while maintaining shape and direction of movements of the final part of the first element of this letter, mutual placement of movements during execution of the second element of the letter “B” in relation to the middle line of the first element of this letter below): can be attributed to the change in the degree of coherence of movements in general while executing studied versions of signature;
- mutual placement of movements while reflex movement at the beginning of the first element of the letter “B” (in studied signatures on the left of the mentioned element, in samples: mostly on the right in right-slanted signatures and on the left of the element in vertically tilted signatures): that can be attributed to the change in inclination of movements in general during execution of studied versions of signature. The indicated differences are unimportant and insignificant,

that’s why they do not affect the earlier drawn categorical positive conclusions”;

- 4) uncommon conditions for execution: “indicated discrepancies are insignificant, as they are the result of the influence of confounding factors on the executor (e.g. unusual holding of writing implements, etc.) and do not affect drawn categorical positive conclusion”.
- 5) uncommon condition of the executor: “the indicated differences are insignificant, as they are the result of the influence of misleading factors on the executor (e.g. unhealthy condition, chronic diseases, age-related changes, etc.) and do not affect categorical positive conclusion”.

Let’s dwell on the probabilistic (plausible) type of forensic report. Scientific literature has been discussing the possibility of using probabilistic, plausible expert conclusions for many years. O. R. Shliakhov highlights that such forensic report is grounded by research results since it is based not only on common signs but also on some individual signs, but according to the opinion of the forensic expert, they are not enough for providing positive answer¹⁷. It is important that the forensic expert does not rule out the possibility of a certain fact. The probabilistic conclusion of the forensic expert contains a certain subjective component reflecting the degree of inner conviction of the forensic expert in results of performed by him researches.

A. Kh. Tryhulova and some other scientists argue that the provision of probabilistic conclusions while forensic examination is inadmissible, and they do not possess probative value in the case¹⁸. At the same time, The Plenum of the Supreme Court of Ukraine pays attention to not

17 Шляхов А. Р. Опр. cit.

18 Тригулова А. Х. Оценка результатов исследования и формулирование выводов как стадия экспертизы. Теоретические проблемы и практика экспертных исследований : сб. ст. ; под ред. Б. И. Пинхасова. Ташкент, 1983. С. 29—34.

“overemphasize probative value” of so-called “probabilistic conclusions”¹⁹ in the Resolution No. 8: *On Forensic Examination in Criminal and Civil Cases*. This view was pursued by V. H. Honcharenko²⁰, L. P. Bulyha and other scholars, considering that such conclusions have search, hypothetical value.

As stated by B. I. Pinkhasov and Ye. H. Arkhanhelska²¹, in order to ensure relevance of probabilistic forensic report for investigative and judicial practice, such a conclusion must meet requirements for the development of categorical conclusions²² stipulated by procedural law. Requirements for probabilistic conclusions have been developed in the scientific literature: 1) its provision requires specific expertise; 2) it should be based on a sufficient amount of clearly established interim data; 3) it is stemmed from facts of the necessary degree of probability²³ determined by the forensic expert.

Let's focus on evaluation of features which may be grounds for probabilistic negative conclusion. Most often, the forensic expert is faced with two factors limiting detection of handwriting/signature features.

A small amount of researched graphic material may contain invariable and essential features that differ, but its quantity will not be sufficient for categorical conclusion on execution of a handwritten note/signature by a particular person.

In addition, discrepancies are not due to the influence of any confounding factors, although enough comparative material of good quality (samples of handwriting/signature of a particular person) is provided for research.

It is possible to suggest the following statement of the section of the investigation summary regarding description of the above features and their evaluation: *“Detected discrepancies are invariable, essential, but their quantities are sufficient only for probabilistic conclusion on executing a handwritten note/signature not by citz. L., but another person. Identification of discrepancies in the amount sufficient for categorical conclusion cannot be possible due to a small amount of studied graphic material”*.

In this situation, the forensic expert may also identify insufficient number of coinciding handwriting/signature signs, due to the natural similarity of different people's handwriting, handwriting/signature imitation of another person's handwriting/signature, therefore they are insignificant and do not affect probabilistic negative conclusion.

There is another factor leading to probabilistic negative conclusions of forensic experts: insufficient number of handwriting/signature samples received for comparative research. It is clear that it is impossible to detect a sufficient number of invariable essential discrepancies in

19 Про судову експертизу в кримінальних та цивільних справах : Постанова Пленуму ВС України від 30.05.1997 р. № 8 (зі змін. та допов.). URL: <https://zakon.rada.gov.ua/laws/show/v0008700-97#Text> (date accessed: 10.10.2021).

20 Гончаренко В. Г., Бергер В. Є., Булига Л. П. та ін. Експертизи в судовій практиці : навч. посіб. Київ, 1993. 197 с.

21 Пинхасов Б. И., Архангельская Е. Г. Вероятные заключения эксперта-криминалиста и некоторые вопросы их оценки и использования. *Вопросы судебной экспертизы* : сб. науч. тр. ТГУ ; редкол.: Б. И. Пинхасов. Ташкент, 1983. С. 11—16.

22 Юрчишин В. Д. Аналіз та класифікація висновків експерта у кримінальному провадженні: теоретичний та практичний аспекти. *Прикарпатський юридичний вісник*. 2013. Вип. 1 (3). С. 440—452. URL: http://www.pjv.nuoua.od.ua/v1_2013/42.pdf (date accessed: 10.10.2021).

23 Паныко Н. А. Доказовое значения вывода эксперта. *Форум права*. 2009. № 1. С. 409—414.

limited graphic material. However, in our opinion, the forensic expert has the right to refuse to carry out research if comparative materials provided for research are scarce or of unsatisfactory quality.

Exercising the right stipulated by Art. 69 of the Criminal Procedural of Ukraine²⁴ and paragraph 2.1 of the Instructions on appointment and conduct of forensic examinations and expert researches²⁵, the forensic expert submits a request for provision of additional materials and samples for forensic examination. If within 45 calendar days from the date of submission the expert's request is denied, the forensic expert may refuse to conduct a forensic examination if materials provided to him are insufficient to fulfill his duties and requested additional materials are not received, and compile a reasoned report on the impossibility of expert conclusion provision.

The second type of probabilistic conclusion is probabilistic positive conclusion. Let's consider evaluation of signs that may be the basis for it.

When simple in structure graphical studied material (handwritten note, signature) is provided for research, the forensic expert will not always be able to detect sufficient number of significant invariable coinciding signs that form an individual set typical for handwriting of a particular person. Furthermore, identified signs must have high identification significance, rarely be observed in handwriting of different persons. Accordingly, detected coinciding signs are invariable, essential and

form an individual set enough only for a probabilistic (plausible) conclusion on execution of a handwriting note/signature by a certain person.

There is a widespread belief that grounds for probabilistic positive conclusion may be a set of a significant number of coinciding signs characteristic of handwriting of many people. We believe that such an approach can result in erroneous conclusion if there are similar handwritings of different people in studied and comparative materials. Therefore, it is vital to analyze and rightly distinguish coinciding signs and discrepancies by criteria.

Concerning discrepancies in probabilistic positive conclusion, they should be interpreted based on the model of evaluating discrepancies for categorical positive conclusion.

By reaching probabilistic positive conclusion in the course of research, the forensic expert must clarify reasons that prevented from drawing categorical conclusion (for example, the simplicity of the structure of studied material; limited amount of graphic material; the impact of uncommon conditions on executors of the handwritten record/signature which resulted in distorted presentation of handwriting signs.

In the legal literature, the issue on conclusions where not the existence itself but possibility of fact availability are formulated is considered to be relevant and debatable. Probability and improbability are categories of the same quality, the difference between them is in quantitative terms²⁶. Unambiguous conclusion, given

24 Кримінальний процесуальний кодекс України URL: <https://zakon.rada.gov.ua/laws/show/4651-17#Text> (date accessed: 10.10.2021).

25 Інструкція про призначення та проведення судових експертиз URL: <https://zakon.rada.gov.ua/laws/show/z0705-98#Text> (date accessed: 10.10.2021).

26 Надгорный Г. М. Некоторые логические и доказательственные аспекты выводов эксперта. *Криминалистика и судебная экспертиза* : республ. межведом. сб. науч. и науч.-метод. раб. 1970. Вып. 7. С. 109–113.

the understanding of the *unambiguous* term, includes only one answer, whereas alternative conclusion is developed when the forensic expert has not come to a single solution of issue while expert research. The result of such conclusion is two or more alternatives for solving a single issue using the so-called disjunctive judgment ("either/or"). Conditional conclusion will be considered if its accuracy depends on reliability of a particular source fact. This conclusion implies the dependence of issue solution on a particular condition. Unconditional conclusion does not include any conditions on which its truth depends. As can be noted, conditional and alternative conclusions do not have a common criterion for classification. In this case, we can agree with the view of S. S. Bychkova that both alternative and conditional conclusions must be differentiated. When there are several alternatives for solution of an issue depending on determined conditions, the conclusion will be both conditional and alternative (given various grounds of classification)²⁷.

Most frequently, it can take place while developing conclusions of diagnostic handwriting analyses to determine the cause and nature of factors that influenced the manuscript (signature) executor.

The forensic expert may come to the conclusion on impossibility of issue solution (hereinafter referred to as IIS) regarding the written note/signature executor through research and detection, analysis of handwriting signs. These are research stages that differentiate the expert conclusion on IIS concerning the executor from preparation of a report on the impossibility of providing the forensic report.

Capacities of the forensic expert depend on both research material and samples

provided for comparative research. In an insufficient and simple research material, when samples of improper quality and in small quantities are provided, it is not always possible to identify and highlight a sufficient number of invariable, essential features to justify any type of positive or negative conclusion. The reason for IIS conclusion may be ambiguous evaluation of discrepancies, which can be explained by the forensic expert through mutually exclusive reasons (for example, or these are variations of handwriting signs of this person not reflected in received samples, or handwriting signs of the other person). Most often, the forensic expert illustrates identified coinciding features and discrepancies by using tables to ensure objectivity and thoroughness of research.

We believe it is appropriate to provide some examples of the development of the investigation summary of the conclusion on IIS concerning the executor.

"Detected common and individual features of comparative signatures are insignificant, as they belong to those that are often found in handwriting of different persons, are of insufficient number and do not make up an individual set. It is impossible to establish an individual set of invariable, essential coinciding features enough for any (categorical or probabilistic) specific conclusion due to a limited amount of graphic information in studied signature, availability of "symptom cluster" of signs characteristic of executing signatures under the influence of confounding factors of natural origin on the executor (such as age-related changes in the body and various diseases affecting writing motor skills of a man).

Determination of invariability and nature of detected common and individual discrepancies in compared signatures, as well

27 Бичкова С. С. Експертиза в цивільному процесі України : дис. ... канд. юрид. наук. Київ, 2003. 176 с.

as whether they are versions of signature signs of ctz. B. which are not encountered in received samples, or whether they are conditioned by the influence of confounding factors on writing process, or whether these signs are signs of handwriting of another person is impossible due to insufficient amount of graphic material of the researched signature, simplicity and lack of signature and handwriting samples of ctz. B. that did not allow to detect signs to a greater extent and determine their invariability.

When evaluating results of comparative study, it was established that neither coinciding signs nor discrepancies are the grounds for any specific (categorical or probabilistic) negative or positive conclusion as to whether the studied signature of ctz. B. in the column "Signature" in the will was executed by ctz. B dated [date] registered [number] by ctz. B himself or another person".

Or another option without indicating identified signs: "When comparing studied signature with handwriting samples and the signature of ctz. B, certain coinciding signs and discrepancies have been detected, however their number and significance are insufficient for drawing any specific (positive or negative) conclusion. It is impossible to identify a large number of identification signs due to insufficient amount of graphic material and simplicity of its execution. Based on the above, answer the question: who – ctz. B. or another person – executed the signature, <...> impossible".

Also, in case of insufficiency of matched (compared) samples, the investigation summary section can be summed up as follows:

- "It is impossible to detect signs in large numbers and evaluate their invariability and variability due to the lack of comparative material and/or the lack of compared (by execution time, conditions of execution, writing instruments, etc.) handwriting/ signature samples.

Therefore, the question of whether the signature was executed by ctz. B. cannot be answered";

- "detected coinciding signs are few, their identification significance is scarce due to simplicity of written signature under study. Therefore, they cannot serve as a basis for positive (categorical or probabilistic) conclusion. Discrepancies, despite their significant number, cannot serve as grounds for negative conclusion, since because of insufficient number of signature samples it is impossible to evaluate their invariability: whether they are versions of handwriting signs by ctz. B that were not detected in submitted comparative material, or are signs of another person's handwriting. In view of the above, it is impossible to answer the question of whether the signature was executed by ctz. B."

Reasons for providing IIS forensic report: execution of studied signature in unusual conditions which could result in transformation of signs of ordinary handwriting of the executor; similarity of movements when writing certain letters characteristic of handwriting of different people; execution of the studied signature with imitation of the real signature of a particular person, as a result signs of executor handwriting were not detected in the number required for identification, etc.

Conclusions

Handwriting analysis is deemed to be the most complex among forensic types of examinations, as several factors of both internal and external origin can influence the writing process. The forensic expert develops his conclusion, making sure that this conclusion is accurate and compares it with real circumstances and scientific

data ²⁸. Handwriting experts should solve such tasks as: distinguish between conditions for signs occurrence, take into account their transformation under the influence of various causes, determine the nature of all detected identification and diagnostic signs.

M. H. Shcherbakovskyi includes the following components in the overall evaluation of the “special” section of forensic report: “Determining sufficient number of objects submitted for forensic examination to resolve addressed issues, assessing the quality of received objects, accuracy of source data; evaluation of purposefulness, legitimacy and scientific validity of the research methodology (method) applied by the forensic expert; evaluation of thoroughness of performed research; evaluation of correctness of description and interpretation concerning detected signs of objects; evaluation of scientific validity of interim and final conclusions; determining forensic expert competence” ²⁹. In our opinion, it is a high professionalism of the forensic expert that will allow conducting a full study with proper evaluation of description and interpretation of certain signs and scientific validity of interim and final conclusions.

The indicated algorithms for evaluation of handwriting/signature signs for the development of different in content and type forensic reports are stemmed from the analysis of research papers of scholars and criminalists taking into account modern forensic expert practice.

The suggested options for evaluating signs and provided examples of formulating expert conclusions can be used in forensic expert practice to improve expert research.

Оцінювання ідентифікаційних ознак почерку за різних форм висновку експерта

Александр Иванович, Сергій Науменко,
Світлана Брюхань

У формулюванні категоричних позитивного та негативного висновків, вірогідних позитивного та негативного висновків, а також висновку про неможливість дати відповідь на запитання можливі різні варіанти оцінювання ознак і, як результат,— різний виклад синтезуючих частин висновку експерта.

Із метою поглиблення наявних підходів, систематизування теоретичних знань, вивчення й аналізу експертної практики з надання науково обґрунтованого, об’єктивного, повного висновку експерта за всіма формами експертних висновків, розглянуто особливості методики виявлення й оцінювання сукупності ознак.

Оскільки доказове значення висновку експерта залежить від його форми та наукового обґрунтування, у цій статті докладно й усебічно розглянуто причини, які зумовлюють підстави кожної з форм висновку.

Досліджено наявні способи аналізу ознак і, з урахуванням сучасної експертної практики, запропоновано викладення науково обґрунтованого оцінювання ознак для кожної експертної ситуації.

Розглянуто можливість експерта залежно від досліджуваного та порівняльного матеріалів, досвіду та професійності самого експерта. Проаналізовано причини помилок у висновках експертів на прикладі понад 10 синтезуючих частин різних форм висновку експерта. Запропоновано шляхи запобігання таким помилкам.

28 Осипенко І. П., Пророченко В. В. Висновок експерта в досудовому розслідуванні. *Юридичний науковий електронний журнал*. 2020. № 2. С. 399—402. DOI: 10.32782/2524-0374/2020-2/104 (date accessed: 10.10.2021).

29 Щербаковский М. Г. Судебные экспертизы: назначение, производство, использование : учеб.-практ. пособ. Харьков, 2005. 544 с.

Сформульовано алгоритм дій із виявлення й ретельного вивчення ознак — як збіжних, так і розбіжних. Також визначено умови їх виникнення та взаємозалежності, ступінь впливу діагностичних ознак на ідентифікаційні.

Запропоновані нами варіанти розв'язання експертних завдань можна застосовувати в експертній практиці з метою оптимізувати експертне дослідження.

Ключові слова: оцінювання ознак; форми висновку експерта; експертна практика; категоричні позитивний і негативний висновки; вірогідні позитивний і негативний висновки.

Оценка идентификационных признаков почерка при разных формах заключения эксперта

Александр Иванович, Сергей Наumenko, Светлана Брюхань

В формулировке категорических положительных и отрицательного выводов, вероятных положительного и отрицательного выводов, а также вывода о невозможности ответить на вопрос возможны разные варианты оценки признаков и, как результат, — разное изложение синтезирующих частей заключения эксперта.

В целях углубления существующих подходов, систематизации теоретических знаний, изучения и анализа экспертной практики по даче научно обоснованного, объективного, полного заключения эксперта по всем формам экспертных выводов рассмотрены особенности методики выявления и оценки совокупности признаков.

Поскольку доказательственное значение заключения эксперта зависит от его формы и научного обоснования, в этой статье подробно и всесторонне рассмотрены причины, обуславливающие обоснование каждой из форм заключения.

Исследованы существующие способы анализа признаков и, с учётом современ-

ной экспертной практики, предложено изложение научно обоснованной оценки признаков для каждой экспертной ситуации.

Рассмотрены возможности эксперта в зависимости от исследуемого и сравнительного материалов, опыта и профессионализма самого эксперта. Проанализированы причины ошибок в заключениях экспертов на примере более 10 синтезирующих частей разных форм заключения эксперта. Предложены пути предупреждения таких ошибок.

Сформулирован алгоритм действий по выявлению и тщательному изучению признаков — как совпадающих, так и различающихся. Также определены условия их возникновения и взаимозависимости, степень влияния диагностических признаков на идентификационные. Предложенные варианты решения экспертных задач могут быть использованы в экспертной практике в целях оптимизации экспертного исследования.

Ключевые слова: оценка признаков; формы заключения эксперта; экспертная практика; категорические положительный и отрицательный выводы; вероятные положительный и отрицательный выводы.

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The authors state that there is no conflict of interest on this topic, although Aleksandar Ivanović is a member of the journal Editorial Board; he did not take part in decision regarding publication and this article is subject to a full peer review process.

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