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Dr. Melinda Hengl

lawyer, psychologist, expert in sign language for intercultural communication, graphologist and handwriting expert (University of Pécs, Faculty of Law,

Department of Criminal Procedure Law and Forensic Science, Hungary)

COMPARISON OF THE BRANCHES OF HANDWRITING ANALYSIS

1. Handwriting Analysis

The theoretical basis for handwriting analysis is the scientifically proven fact that everyone's handwriting is unique and has characteristics that are typical of the given individual. There are no two people who write in precisely the same way, no matter how similar their handwriting may be.¹

The scientific basis for this theory is the teaching of Pavlov about higher nerve functions, which is built upon the unconditioned and conditioned reflexes. The former (for both humans and animals) are innate, while conditioned reflexes can be acquired through learning. The regular sequencing through repetition and consolidation of nerve connections that are independent of one another creates a dynamic stereotyped system.² This dynamic stereotype is the neuropsychological basis for the ability to write. While learning to write, temporary links are created between the nerve centers (conditioned reflexes). These nervous system responses

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¹ Tremmel Flórián – Fenyvesi Csaba – Herke Csongor: Kriminalisztika tankönyv és atlasz. Dialóg – Campus Kiadó, Budapest – Pécs, 2005. pp. 138.

² Tremmel Flórián – Fenyvesi Csaba – Herke Csongor: Kriminalisztika tankönyv és atlasz. Dialóg – Campus Kiadó, Budapest – Pécs, 2005. pp. 138.

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are developed through stimuli to the nervous system through individual life experiences and become arranged into a dynamic stereotype.³

Taking this into consideration, it is possible to state that it is not the hand that writes but the mind. The brain's role in guiding the writing motion is clearly shown through the fact that the character of handwriting remains even if someone holds the writing utensil not with their hand but with their foot or mouth. Even a skywriting pilot is not able to fly their plane differently through the sky than how they normally write.⁴

Handwriting is perhaps one of the most complex human activities; it is a psychomotor phenomenon directed by the brain that only humans are able to create in a controlled manner. Its individual character remains throughout life, since it is a unique motion created together through biological, neurological, physiological and psychological determinants.⁵

The concept of writing is understood as the setting down and communication of thoughts through the creation of figures with a defined content and meaning.⁶

The concept of handwriting contains three aspects of meaning. First, it represents a particular method of human activity, the recording or depiction of something with the hand and some kind of writing utensil. Second, it represents the product of this activity, the handwritten text or document. Third, it represents someone's writing, together with its characteristic traits.⁷

Handwriting analysis has three major branches: graphology, handwriting expert and forensic linguistics. In the case that a handwritten document remained

³ Vargha László: Az összehasonlító kézírásvizsgálat fő kérdései. In: Gödöny József (szerk.): Kriminalisztikai tanulmányok 7. kötet. Közgazdasági és Jogi Könyvkiadó, Budapest, 1970. pp. 267.

⁴ Tremmel Flórián – Fenyvesi Csaba – Herke Csongor: Kriminalisztika tankönyv és atlasz. Dialóg – Campus Kiadó, Budapest – Pécs, 2005. pp. 138.

⁵ Tremmel Flórián – Fenyvesi Csaba – Herke Csongor: Kriminalisztika tankönyv és atlasz. Dialóg – Campus Kiadó, Budapest – Pécs, 2005. pp. 138.

Vass Kálmán: A kriminalisztikai kézírásvizsgálat alapterminológiájához. In: Gödöny József (szerk.): Kriminalisztikai tanulmányok 8. kötet. Közgazdasági és Jogi Könyvkiadó, Budapest, 1970. pp. 253.

Vass Kálmán: A kriminalisztikai kézírásvizsgálat és a modern grafológia. In: Gödöny József (szerk.): Kriminalisztikai tanulmányok VII. kötet. Közgazdasági és Jogi Könyvkiadó, Budapest, 1969. pp. 207.

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behind at the site of the crime, then the graphologist, the handwriting expert and the forensic linguist are brought in and all try to explore, analyze and evaluate the examined material using their different criteria.⁸

2. Graphology

The word graphology comes from the combination of the Greek words "grapho" (drawing, writing, handwriting) and "logos" (science), so its meaning is the science of writing. Graphology investigates human nature as well as personality behaviors that can be recognized through symbols, drawings and writing.⁹

With the aid of graphology one is able to uncover the character of other people, as well as one's own, so it can be employed to improve one's knowledge both of humankind and oneself.¹⁰

The observations of Klages serve as the basis for the analysis, according to which all psychological processes must be seen as movements or a series of motions that are external manifestations of basic tendencies. Therefore, psychological processes can be concluded from the profile expressed in writing.¹¹

During graphological investigations the differences of the written samples from standard writing (e.g. the formal appearance of writing features, their placement and changes in size) is examined by the expert, and on the basis of this the personality of the person providing the writing sample is deduced.¹²

The reliability of graphology is apparent through the fact that the measurable variables in handwriting are extraordinarily consistent. At the level of interpretation this can be determined by the fact that a graphologist will provide

⁸ Tremmel Flórián – Fenyvesi Csaba – Herke Csongor: Kriminalisztika tankönyv és atlasz. Dialóg – Campus Kiadó, Budapest – Pécs, 2005. pp. 147.

⁹ Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 7.

¹⁰ Giay Rudolf: A grafológia tankönyve. Szukits Könyvkiadó, Szeged, 1926. pp. 5.

¹¹ Bendetz Móric: Grafológia a gyakorlatban. Szukits Könyvkiadó, Szeged, 1937. pp. 11.

¹² Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 65.

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in essence the same characterization of a writing sample, even if it is re-examined later.¹³ The limit of its validity is that the graphologist is only able to discover those facts and conditions that appear in handwriting.¹⁴

3. Handwriting Expert¹⁵

With the appearance of written records, documents that had legal significance spread (e.g. contracts and gift deeds), and due to human nature the first forgeries were also created. Because of this, there was a need to establish the authenticity or falsity of documents.

The handwriting expert also investigates the author – one of the main goals is identification – but does not focus on their character.

With the development of technology, the experts also needed to keep pace, so in time their investigations extended to the areas of typewritten documents, certificates, seals and banknotes. These days they need to deal with the challenges of identifying computer printers, fax machines and photocopiers.

Handwriting experts must have a high level of training, since the identification of handwritten documents is amongst the most difficult investigative techniques.¹⁶

The method of individual personal identification is a comparative handwriting analysis, the essence of which is the full exploration of the individual characteristics of the document being examined and the comparison of these with

¹³ Rákosné Ács Klára: Vallanak a betűk. Magyető Könyvkiadó, Budapest, 1985. pp. 25.

¹⁴ Müller, W. H. – Enskat, A.: Graphologische diagnostik. Ihre Grundlagen, Möglichkeiten und Grenzen. Verlag Hans Huber, Bern, 1961. pp. 246.

¹⁵ This is the place for citations on thoughts under this heading: Agárdi Tamás: Grafológiáról mindenkinek. Szikra Lapnyomda, Budapest, 1985. pp. 35-40.

Horoszowski, P.: Kryminalistyka. Warszawa, 1955. pp. 1093. Citations: Vass Kálmán: Kézírásszakértői vélemények értékelésének elvi és módszertani kérdései büntető ügyekben. In: Gödöny József (szerk.): Kriminalisztikai tanulmányok II. kötet. Közgazdasági és Jogi Könyvkiadó, Budapest, 1963. pp. 123-124.

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the known manifestations of these characteristics in other documents (comparative material).¹⁷

4. Forensic Linguistics¹⁸

Forensic linguistics is a science dealing with the native language that analyzes the style and examines the key words, sentence structure, phrasing and rarely used foreign expressions.

It employs the results of the works of criminalistic linguistics and linguistic science with special methods and for special objectives.

Criminalistic linguistics performs practical examinations of texts. Text linguistics (textology) analyzes the nature of the linguistic work created through the organization of series of sentences and paragraphs so as to understand the connection between the text and its author. It studies the common traits of texts, and what makes the text a text. It delves into stylistic considerations, and how systems outside the text (biographical connections and social circumstances) play an important role in the determination of the individual style. The examination of the text, extends to the analysis of its structure, since a text is comprised of a number of sentences and there are definite logical and linguistic links between the sentences. The sentence is the smallest unit of the text, created through a complex array of levels and rules of language, and thereby reflects to a certain extent the phonological, morphological, textological and syntactic characteristics of the author's style.

¹⁷ Kaszab Gyula – Soóky Andrea – Gulyás Jenő István: Hamis vagy valódi? Írásszakértés és jogismeret mindenkinek. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2003. pp. 215.

¹⁸ This is the place for citations on thoughts under this heading: Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 5-20.

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5. Comparison of Graphology, Handwriting Expert and Forensic Linguistics

5.1. From Their Beginnings to the Present Day

In the beginning, the development of the study of handwriting analysis proceeded along two paths, the analytical study of written characters (graphology) on the one hand, and the examination of the authorship of the handwritten document (handwriting expert) on the other.

The first written record in the history of *graphology*, which already indicates the ability to analyze handwriting, is from ancient Rome. The Roman imperial biographer Suetonius Tranquillus (ca. 70-140) described the lives of twelve emperors in his work entitled The Twelve Caesars, and the handwriting of the emperors did not escape his attention either. He noticed, for example, that the emperor Augustus wrote words without spaces and used an interesting method of dividing the words (he did not put the letters remaining from the end of the previous line to the beginning of the next line, but instead wrote them under the word and connected them with a hook).¹⁹

Interest in graphology began to rise starting in the 17th century. The first book of a graphological nature was Prosper's work entitled Ideographia. Following this, the doctor Camillo Baldi noted that there was a connection between people and their writing. His works include: Trattato Come Da Una Lettera Missiva Si Conoscano La Natura E Qualità Dello Scrittore (Treatise on How the Nature and Qualities of the Author of a Letter Can Be Recognized on the Basis of the Handwriting) (1622), and De Signi et Epitolis (1630).²⁰

Attention to graphology became ever stronger in the 18th and 19th centuries. In Lavater's work Phrenologia (1870) physiognomy and graphology are still

¹⁹ Fazekasné Visnyei Irma – Gulyás Jenő – Katona Ágnes – V. Vékony Györgyi: A grafológia alaptankönyve 1. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2000. pp. 21.

²⁰ Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 27-28.

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combined, but already numerous statements can be found that are current to the present day (e.g. the direction of lines and linkages). The true forerunner to graphology was the French publicist Hocquart, in whose theories imagination and energy played important roles. This was followed by the so-called coffee house period of graphology, whose famous representatives were Poe, Dumas and Goethe. It was given the name graphology by the French abbot Jean-Hyppolite Michon, who can also be considered the father of graphology. Working together with Abbé Flandrin, he made a more scientific and systematic summary about graphology than had been previously produced, outlined the anatomy of writing and listed and defined writing characteristics. He founded the journal entitled La Graphologie (1871), which still exists to this day. His most important works were: The System of Graphology (1875) and The Practical Method of Graphology (1878).

The founder of German graphology was the German doctor and psychologist Wilhelm Preyer. His main work was The Psychology of Writing (1895), in which he dubbed graphology the psychology of writing. He took part in the foundation of the German Graphological Society (1897).²¹

The Science of graphology began to flourish in the 19th and 20th centuries. The Frenchman Jules Crépieux-Jamin provided a graphological opinion in connection with the Dreyfus affair, as well as examining his own handwriting in special life circumstances. His main works were: Handwriting and Expression (1889), The ABCs of Graphology (1929) and The Practice of Graphology (1933). Ludwig Klages, who was also knowledgeable in the fields of chemistry, physics, psychology and philosophy, had great significance in the field of graphology. His most important theories were: the bipolar aspect (the opposition of the spirit and the mind), the doctrine about "expression" (the connection between cause and

²¹ Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 28-32.

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effect being the scientific basis for graphology), the application of the theory of gestalt in graphology (the significance of synthesis and the whole determining the character of the parts), the theory of the leading image (the role of unconscious expectations) and the theory of standard form (power arising from the abundance of the spirit manifesting in writing as a saturation of vitality). His main works were: The Basics of the Science of Expression (1910), Handwriting and Character (1917), The Principles of Characterology (1924) and The Expression of Character in Handwriting (1927). It is important to mention the Swiss Max Pulver, who as a doctor, psychologist and a student of Jung turned to graphology with the outlook of deep psychology and a synthetic and holistic approach. His major works were: The Symbology of Handwriting (1931) and Instinct and Crime on the Basis of Handwriting (1934). Rudolf Pophal was a neurologist and psychiatrist, and a main representative of the field of physiology. He developed the degrees of writing tension as a critique of Klages's standard form. His main work was Handwriting as Mindwriting (1949).²²

The field of Hungarian graphology began in the 20th century. Rudolf Giay ushered in the start of this new age with his first Hungarian language book, the Textbook of Graphology.²³ The scientific character of graphology was established by the work of Klára Románné Goldzieher.²⁴ The renowned figures in the field of Hungarian graphology have included: Móric Bendetz, József Bíró (Modern Graphology, 1930), Dezső Balázs and Richárd Hajnal (Man, Character, Writing, 1944), Csaba Csötörtök (Graphology: The Handbook of Handwriting Analysis, 1986), Klára Rákosné Ács (The Letters Confess, 1985), and Tamás Agárdi (On Graphology for Everyone, 1985).²⁵

²² Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 30-36.

²³ Fazekasné Visnyei Irma – Gulyás Jenő – Katona Ágnes – V. Vékony Györgyi: A grafológia alaptankönyve 1. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2000. pp. 27.

²⁴ Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 37.

²⁵ Fazekasné Visnyei Irma – Gulyás Jenő – Katona Ágnes – V. Vékony Györgyi: A grafológia alaptankönyve 1. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2000. pp. 28-30.

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In his so-called UBI Law Codex (4th century), the emperor Constantine the Great first mentioned procedures of the nature of *handwriting experts*; he ordered strict investigations in the case of forged documents and punished forgers. The emperor Justinian also dealt with the problems of handwriting identification in a few statutes (534).²⁶

In Hungary, forgery of writing and seals was already strictly punished by the Árpád Period kings, as well as in laws from King Sigismund and King Matthias. The Tripartitium listed the counterfeiting of money and the forgery of documents and seals amongst the crimes against the public trust, and also punished those who utilized forged documents or seals in the knowledge that they were forgeries. Investigations were ordered to uncover the circumstances of the cases, although there is no information about who did this and how. Up until the publication of the first works on examinations by handwriting experts (in the 1600s) there are no authenticated data.²⁷

In the 19th century the French criminalist Bertillon first performed handwriting expert activities. The basis of his method was the examination of those written characters that appear relatively rarely, providing a good foundation for identification.

A significant figure at the turn of the century was Locard, the founder of the school of graphometry. His name is associated with making quantitative indicators exclusive, and statistics were given an important role in his methods.²⁸

The origin of the science of handwriting experts in Hungary can be placed in the 20th century. In 1959 László Vargha²⁹ published the results of his research.³⁰

²⁶ Fazekasné Visnyei Irma – Gulyás Jenő – Katona Ágnes – V. Vékony Györgyi: A grafológia alaptankönyve 1. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2000. pp. 21-22.

²⁷ Kaszab Gyula – Soóky Andrea – Gulyás Jenő István: Hamis vagy valódi? Írásszakértés és jogismeret mindenkinek. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2003. pp. 176-177.

²⁸ Agárdi Tamás: Grafológiáról mindenkinek. Szikra Lapnyomda, Budapest, 1985. pp. 35-36.

²⁹ See more: Vargha László: Kézírásvizsgálat. Kandidátusi disszertáció a kriminalisztika köréből. (szerk.: Hengl Melinda) Pécs, 2013.

³⁰ Agárdi Tamás: Grafológiáról mindenkinek. Szikra Lapnyomda, Budapest, 1985. pp. 36.

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Following this, Hungarian scientific attention to this subject began to pick up (Gyula Molnár, Imre Kertész, Lajos Kiss, Kálmán Vass, etc.).³¹

Forensic linguistics as an applied linguistic science in the narrow sense – which does not include the efforts to standardize language that look back on a long history – is very recent, and only began to come to the forefront from the 1960s-70s.³²

The outstanding representatives of forensic linguistics include J. M. Lotman and Ferenc Nagy. Significant Hungarian researchers of text grammar are László Deme and Imre Békési. The names of Judit Dezséry and Tamás Terestyéni must be mentioned from the field of text pragmatics.³³

5.2. The Nature of Identification with Handwriting Analysis

Graphology primarily takes into account the general characteristics and traits of the writing, the characteristics of written speech and the composition of the writing. The conclusions are also of a relatively general nature, not adequately individual. For the most part this means a double limited expert examination, because it only allows an inference about the perpetrator, or only provides a determination and classification of a group. This is why it is called graphoprofiling, that is the compiling of a profile related to writing.³⁴

The role of *handwriting experts* comes to the fore if there is an adequate amount of sample material (writing specimens), and the expert is able to reveal a sufficient number of writing traits from the individual letters, which then provide a significant identification complex. So an amount is needed that cannot come about through chance, and cannot indicate an identical combination from another. In this way an expert opinion pronouncing a unique identification is prepared,

³¹ Kaszab Gyula – Soóky Andrea – Gulyás Jenő István: Hamis vagy valódi? Írásszakértés és jogismeret mindenkinek. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2003. pp. 181.

³² Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 5.

³³ Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 14-18.

³⁴ Tremmel Flórián – Fenyvesi Csaba – Herke Csongor: Kriminalisztika tankönyv és atlasz. Dialóg – Campus Kiadó, Budapest – Pécs, 2005. pp. 151.

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which is indirect evidence. For example even if it is able to determine the author of a threatening letter, it does not necessarily follow that the author performed the action that was the subject of the threat; that is a separate question. The handwriting expert relatively rarely provides evidence of the action in question (in rem), in general just the identity of the perpetrator (in personam).³⁵

In this sense criminalistic *forensic linguistics* is similar to graphology, and therefore can be referred to as graphoprofiling.³⁶ Indirect identifications are typical of the examinations of a linguistics expert, because they are aimed at the establishment of conformities or differences with the authors of the text.³⁷

5.3. The Subject of Handwriting Analysis

The subjects of all handwriting analyses are the same, in that they deal with something created by a person. ³⁸ The subjects of judicial handwriting analyses are documents and materials that have a supposed significance that delves into information on the content, identity and materials related to the investigated matter. These are documents made during the preparations for the crime (e.g. correspondences, anonymous letters and forms), forgeries used as an instrument of the crime (e.g. accounting documents, receipts, personal documents, checks, bills, deposit books and extortion letters), documents used to cover up the crime or mislead the investigation (e.g. forged suicide notes, documents that have been burned and made illegible and false messages) and other documents that may explain the case under investigation or aid in personal identification (e.g. graffiti, engravings and tattoos).³⁹

³⁵ Tremmel Flórián: Bizonyítékok a büntetőeljárásban. Dialóg – Campus Kiadó, Budapest – Pécs, 2006. pp. 134.

³⁶ Tremmel Flórián – Fenyvesi Csaba – Herke Csongor: Kriminalisztika tankönyv és atlasz. Dialóg – Campus Kiadó, Budapest – Pécs, 2005. pp. 151.

³⁷ Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 86.

³⁸ Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 13.

³⁹ Tremmel Flórián – Fenyvesi Csaba – Herke Csongor: Kriminalisztika tankönyv és atlasz. Dialóg – Campus Kiadó, Budapest – Pécs, 2005. pp. 139-140.

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In addition to the analysis of handwriting and signatures, *graphology* deals with doodles, pictures and other graphic signs (e.g. numbers).⁴⁰

The subject of *handwriting expert* can be handwriting, signatures, typewritten documents or signature stamps.⁴¹

The subject of *forensic linguistics* is the text. During the analysis of texts, the documents can be classified according to genre: anonymous letters, résumés, suicide notes, writings of the mentally ill and other types of texts (wills, poems, etc.).⁴²

5.4. The Examination of Signatures

By examining a signature a *graphologist* is able to establish what image the author would like to form of himself/herself, and can determine whether the image is natural or affected.⁴³ It is the nature of a signature that it only consists of a couple of words, so the "text" available to the expert is meager. According to Wittlich, the analysis for the most part can be performed on the basis of the examination of the relative sizes of the letters, their links, the appearance of simplifications or ornamentation, changes in pressure and special marks that may appear in the letters.⁴⁴

An important part of *handwriting experts* is to investigate the authenticity of signatures. During the establishment of the identity of the signatory it deals with distortion of the writing, which is the intentional alteration of a person's natural handwriting to hide its origin. Three types can be differentiated: imitation of writing, alteration of writing (or skewing of writing) and autoforgery. Imitation of writing means the free-hand reproduction of another's handwriting. In the alteration of writing (skewing of writing) the distortion of the writing occurs

⁴⁰ Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 13.

⁴¹ Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 13.

⁴² Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 89.

⁴³ Lang, A. – Lüke, A.: Az aláírás grafológiája. Grafológia – Emberismeret. Animus Kiadó, Budapest, 2002. pp. 6-7.

⁴⁴ Wittlich, B.: Angewandte Graphologie. Walter de Gruyter & Co., Berlin, 1951. pp. 218.

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without the intention to imitate the handwriting of another.⁴⁵ Autoforgery is the faking (with minor changes) of one's own handwriting (typically a signature) in the interest of later denying it, so it is a particular type of alteration of writing.⁴⁶

Due to the nature of *forensic linguistic* investigations, signatures are not a subject of its examinations.

5.5. The Criteria for the Material to Be Examined

To prepare a *graphological* analysis, original or photocopied materials to be examined are needed that fulfill the criteria of quantity and quality, and the existence of a signature is important.⁴⁷

During *handwriting expert* the experts work with original materials, which again must fulfill the criteria of quantity and quality, and the time factor plays an important role.⁴⁸

For a *forensic linguistic* analysis a copy of the material to be examined is sufficient, which again must fulfill the criteria of quantity and quality. In general 25-30 lines of text contain the features of an individual's characteristic style, but in some cases the analysis of even 50-100 lines of text may not bring the expert closer to the identification of the individual.⁴⁹

5.6. The Methods of Handwriting Analysis

A *graphologist* works with analytic, synthetic (comparative) and evaluative methods on the basis of mathematical statistical calculations.⁵⁰ During the analysis the expert examines variations from the norm.⁵¹ The interpretation of the

⁴⁵ Tremmel Flórián – Fenyvesi Csaba – Herke Csongor: Kriminalisztika tankönyv és atlasz. Dialóg – Campus Kiadó, Budapest – Pécs, 2005. pp. 145-146.

⁴⁶ Vargha László: Az összehasonlító kézírásvizsgálat fő kérdései. In: Gödöny József (szerk.): Kriminalisztikai tanulmányok VII. kötet. Közgazdasági és Jogi Könyvkiadó, Budapest, 1970. pp. 285.

⁴⁷ Agárdi Tamás – Szidnai László: A grafológia kézikönyve. Grafológia Intézet, Budapest, 1998. pp. 746.

⁴⁸ Agárdi Tamás – Szidnai László: A grafológia kézikönyve. Grafológia Intézet, Budapest, 1998. pp. 746.

⁴⁹ Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 62.

⁵⁰ Fazekasné Visnyei Irma – Gulyás Jenő – Katona Ágnes – V. Vékony Györgyi: A grafológia alaptankönyve 2. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2001. pp. 270.

⁵¹ Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 65.

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symbolism of space plays an important role.⁵² The static and dynamic elements of the writing are also examined. The static (structural) elements can be divided into four major parts: the macrostructure (the block of writing and margins), the mesostructure (the block of text, layout, form of address, signature, line, spaces between lines and words), the basic structure (letters, proportions of zones, cohesion, method of linking and slant) and the microstructure (ovals, loops, initial line, final line, diacritical marks and the crossing of the T).⁵³ Dynamic elements include pace, rhythm, pressure and regularity.⁵⁴

The essence of the method of the *handwriting expert* is that after uncovering the individual character of the examined writings, the methodical comparison of the expression of these characteristics from different documents makes it possible to make a unique personal identification.⁵⁵ The methods of identifying the writing are analysis, comparison and evaluation. Observation plays an important role in analysis, since characteristics must be discovered from handwritten documents of differing quality.⁵⁶

During a practical investigation of a text, *forensic linguistics* examines the textology from four aspects: text grammar, semantics, text style and text pragmatics. At the heart of investigations of text grammar lie the grammatical and logical relationships in the text structure, or in other words its cohesion. Included in this is the description of the expression of the psychological subject and the psychological predicate through the demonstration of the textual function of pronouns and pronominal adverbs. Semantics examines the relationships of meaning and content of the pieces of the text. The semantics of the text in effect

⁵² Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 68.

⁵³ Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 73-161.

⁵⁴ Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 162-170.

⁵⁵ Kaszab Gyula – Soóky Andrea – Gulyás Jenő István: Hamis vagy valódi? Írásszakértés és jogismeret mindenkinek. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2003. pp. 215.

⁵⁶ Fazekasné Visnyei Irma – Gulyás Jenő – Katona Ágnes – V. Vékony Györgyi: A grafológia alaptankönyve 2. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2001. pp. 269.

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reflects the truth. Text style means the analysis and comparison of stylistic tools, features and textual units even in non-literary works. Text pragmatics examines how "honest" the text is, whether there is unstated, latent or hidden content in the text or whether something is influencing the author of the text.⁵⁷

Criminalistic forensic linguistics employs the procedures of the traditional and modern study of semantics. The discovery of qualitative criteria and uncovering of quantitative relationships (quantitative textual examination) play an important role. Quantitative textual examination deals with the study of the quantitative relationships of textual phenomena and their qualities. Its methodological requirements are based on the general principles of statistics and it employs mathematical procedures that can be interpreted linguistically, such as the calculation of dispersion and correlation. Precision is a methodological requirement. The quantitative rules of language have a statistical nature within certain limits (from, until) and under certain circumstances, allowing the tendencies that can be discovered to manifest themselves and ascribing meaning to them. The quantitative analysis of each work means the measurement of the incidence ratio of identical criteria, and during the examination deals with relative numbers, relative frequency, mean values and indices. For example the richness of vocabulary is expressed by the repetition of words and the specificity index shows the particulars of the vocabulary. The investigation begins with the intuition of the researcher, with the suspicion of relevant frequencies.⁵⁸

Methodologically, during analysis it is crucial which words, parts of speech and types of sentences the author readily uses. In the analysis of anonymous documents the employment of a complex method is the most effective. In this case the aspects of the analysis are the following (from a qualitative and quantitative approach): the quality of the composition, the style of the work, the

⁵⁷ Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 14-19.

⁵⁸ Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 20-29.

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work's system of signs (individual vocabulary), the grammatical rules of the work (regularity and differences) and the orthography of the work.⁵⁹

5.7. The Tools of Handwriting Analysis

The tools of the *graphologist*: magnifying glass, microscope (30x handheld microscope and stereo microscope),⁶⁰ ruler, protractor, camera, graphometric measuring foil, photocopier and computer programs (e.g. GrafoSystem⁶¹), ⁶² as well as a graphodine and a graphometer⁶³.

Tools used by a *handwriting expert*: magnifying glass, microscope (25-50x magnification stereo microscope),⁶⁴ ruler, protractor, camera, photocopier, computer programs and special lights (e.g. ultraviolet).⁶⁵

Due to its nature the tools of *forensic linguistic* analysis are: calculator, paper and pencil.

5.8. The Focus of Writing Features⁶⁶

Writing features can be classified in four major groups. The first group is the criteria of written speech (rhetorical characteristics: the general level of cultivation of the writing, the vocabulary of the text, the style of the text, the general structure of the expressed message and the method of articulating and categorizing the expressed thoughts). The second group is the criteria of text placement (topographical characteristics: margins, series of paragraphs, distance between lines and words, as well as their direction and form, and the placement of individual parts of the text). The third group is the general handwriting features

⁵⁹ Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 62-63.

⁶⁰ Fazekasné Visnyei Irma – Gulyás Jenő – Katona Ágnes – V. Vékony Györgyi: A grafológia alaptankönyve 2. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2001. pp. 270.

⁶¹ Fazekasné Visnyei Irma – Gulyás Jenő – Katona Ágnes – V. Vékony Györgyi: A grafológia alaptankönyve 1. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2000. pp. 95.

⁶² Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 13.

⁶³ Agárdi Tamás – Szidnai László: A grafológia kézikönyve. Grafológia Intézet, Budapest, 1998. pp. 746.

⁶⁴ Fazekasné Visnyei Irma – Gulyás Jenő – Katona Ágnes – V. Vékony Györgyi: A grafológia alaptankönyve 2. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2001. pp. 268.

⁶⁵ Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 13.

⁶⁶ This is the place for citations on thoughts under this heading: Tremmel Fórián: A komplex kézírásvizsgálatok lehetőségei és korlátai. In: Ligeti Katalin (szerk.): Wiener A. Imre 70. születésnapjára. KJKKERSZÖV, Budapest, 2005. pp. 307-309.

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(overall writing criteria: the elaboration of the handwriting, the general structure of the handwriting, the size of the letters, the slant of the letters, the cohesiveness of the writing, the width of letters and the writing pressure). The fourth group is special handwriting features (minute writing criteria and graphominutia: the starting and ending point of the movement, the degree to which ovals are closed, the method of linking, diacritical marks, the relative sizes of elements of characters, the changes in pressure and slant that can be observed within individual characters, etc.).

In graphological analysis the general handwriting criteria are emphasized.

For the *handwriting expert* the general criteria only allow for group identification, so the particular handwriting features are instead focused upon.

In examinations by *forensic linguists* the features of written speech play a key role.

5.9. The Role of Intuition

What is intuition? According to Móric Bendetz it is necessary to differentiate between the spark of true, inborn insight, a kind of internal inspiration that cannot be retraced to anything, and the ability to perceive that has been developed on the basis of existing abilities through a great deal of practice.⁶⁷

According to Bendetz's opinion, in *graphology* it is the latter that is under discussion, which can be developed in anyone to a greater or lesser degree.⁶⁸ In the opinion of Müller and Enskat the graphologist has no need for intuition, it is enough if the expert has thorough knowledge of graphology, expressive psychology and characterology, and has a logical mind. According to them the graphological method can be learned from beginning to end, while intuition is an ability that cannot be taught. However, they do accept that intuition, as the ability

⁶⁷ Bendetz Móric: Grafológia a gyakorlatban. Szukits Könyvkiadó, Szeged, 1937. pp. 12.

⁶⁸ Bendetz Móric: Grafológia a gyakorlatban. Szukits Könyvkiadó, Szeged, 1937. pp. 12.

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to recognize, can have a place in the course of analysis.⁶⁹ According to Péter Bodroghy's position, instinctive intuition – such as a good feel for something – and learned knowledge together are necessary for a graphologist to be good at the profession.⁷⁰

Due to its nature, intuition plays a lesser role in handwriting expert.

Forensic linguistic examinations begin with the intuition of the researcher and the arising of the suspicion of relevant frequency, so it plays an important role in the analysis.⁷¹

5.10. The Tasks of Handwriting Analysis

The task of the *graphologist* is to uncover individual personality traits and actual psychological and physical conditions, to determine the individual's abilities and to perform certain special tests (e.g. lie detection test).⁷²

The task of the *handwriting expert* is to determine the authorship, to identify signatures, individuals and typewriters and to determine the authenticity of stamps.⁷³ The examination of official certificates and banknotes must also be mentioned.⁷⁴

The tasks of the *forensic linguist* are the following: the quantitative analysis of the written work, the quantitative comparison of several texts, the quantitative proportions of choices and alternatives and the recognition of the quantitative relationships between the personal attributes and stylistic features of the author.⁷⁵

⁶⁹ Müller, W. H. – Enskat, A.: Graphologische diagnostik. Ihre Grundlagen, Möglichkeiten und Grenzen. Verlag Hans Huber, Bern, 1961. pp. 245-246.

⁷⁰ Bodroghy Péter: Oknyomozó grafológia. Metodika Kft. Kiadó, Budapest, 1992. pp. 16-18.

⁷¹ Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 29.

⁷² Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 13.

⁷³ Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 13.

⁷⁴ Agárdi Tamás: Grafológiáról mindenkinek, Szikra Lapnyomda, Budapest, 1985. pp. 39-40.

⁷⁵ Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 24.

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5.11. The Main Fields of Application for Handwriting Analysis

Graphologists are readily employed in the fields of education, personnel matters, mental hygiene, public life, history and clinics.⁷⁶ Accroding to Wittlich's opinion the most important field of application for graphology is in the compilation of personality profiles. Every other field can be derived from this: career suitability tests, selection, marriage counseling, analysis of children's writing and witness hearings.⁷⁷ These days the personality profile worked out by a graphologist can be of great assistance in developing a strategy for use in hearings.⁷⁸

The main field of application for *handwriting experts* is in criminalistic. In the course of their work they often deal with determining the authenticity of documents (contracts and wills), examining forgeries and in uncovering various writing circumstances.⁷⁹ The activities of a handwriting expert in theory can be associated with any crime that involves written documents. On the basis of practical experience this range can be narrowed. The most common crimes where handwriting experts are employed are for example: kidnapping (Criminal Code section 190), libel (Criminal Code section 226), defamation (Criminal Code section 227), false accusation (Criminal Code section 268), false witness (Criminal Code sections 272), forgery of public documents (Criminal Code section 342), and violation of the rules for accounting (Criminal Code section 403).⁸⁰

In general a *forensic linguist* is sought out when other examinations using other criminalistical techniques have not led to any results.⁸¹ Results provided by

⁷⁶ Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 13.

⁷⁷ Wittlich, B.: Angewandte Graphologie. Walter de Gruyter & Co., Berlin, 1951. pp. 30-32.

⁷⁸ Fazekasné Visnyei Irma – Gulyás Jenő – Katona Ágnes – V. Vékony Györgyi: A grafológia alaptankönyve 2. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2001. pp. 274.

⁷⁹ Fazekasné Visnyei Irma: Pedagógiai grafológia 1. Regiografo Kiadó, Komló, 2005. pp. 13.

⁸⁰ Kaszab Gyula – Soóky Andrea – Gulyás Jenő István: Hamis vagy valódi? Írásszakértés és jogismeret mindenkinek. Grafodidakt Grafológusképző és Személyiségfejlesztő Központ, Budapest, 2003. pp. 51-96.

⁸¹ Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 85.

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criminalistical forensic linguists can narrow the range of possible suspects.⁸² According to experience, the linguist can be an effective tool in analyzing the defense of the suspect and in breaking down their denials.⁸³ In addition, textual comparison is invaluable in establishing the authorship of a literary work.⁸⁴

6. Summary Organized in a Table outline with key terms for the comparison of graphology, handwriting expert and forensic linguistics.

	Graphology	Handwriting	Forensic
		Expert	Linguistics
	• Tranquillus (ca.	• Constantine the	• Starts to come to
Beginnings	70-140) in his	Great (4 th cent.)	the forefront in the
	work The Twelve	UBI law codex	1960s-1970s
	Caesars		
	• Prosper, Baldi,	Bertillon,	• Lotman, etc.
Prominent	Lavater, Hocquart,	Locard, etc.	
figures	Michon, Preyer,		
	Crépieux-Jamin,		
	Klages, Pulver,		
	Pophal, etc.		
	• R. Giay, K.	• L. Vargha, Gy.	• F. Nagy, L. Deme,
Prominent	Románné	Molnár, I.	I. Békési, J.
Hungarian	Goldzieher, M.	Kertész, L. Kiss,	Dezséry, T.
figures	Bendetz, J. Bíró,	K. Vass, etc.	Terestyéni, etc.
	D. Balázs, R.		
	Hajnal, Cs.		
	Csötörtök, K.		
	Rákosné Ács, T.		
	Agárdi, L. Szidnai,		
	etc.		
Nature of	• Determination of	 Individual 	 Determination of
identification	groups	identification	groups
through			
handwriting			
analysis			

⁸² Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 77.

⁸³ Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 8.

⁸⁴ Nagy Ferenc: Kriminalisztikai szövegnyelvészet. Akadémia Kiadó, Budapest, 1980. pp. 12.

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	• Handwriting				
Subject of	• Handwriting				
Subject of	• Signature		- Text		
handwriting	D 11		• Text		
analysis	• Doodles	• Typewriting			
	• Pictures	Signature stamps			
	• `	• Does not examine			
Examination	 Determination 	• Determination of	f		
of signatures	of the image the	authenticity			
	author has				
	developed of				
	himself/herself				
	Fulfillment of the criteria for quantity and quality				
Criteria for	 Original 	• Original	 Photocopy 		
the material	Photocopy				
to be					
examined					
	 Analysis 		• Complex		
Methods of	 Comparison 		(quantitative and		
handwriting	 Evaluation 		qualitative)		
analysis	• Comparison	• Comparison	examination of the text		
	with the norm	with other			
		documents			
	 Magnifying 	glass	 Calculator 		
Tools of	 Microscope 		• Paper		
handwriting	• Ruler		• Pencil		
analysis	 Protractor 				
	• Camera				
	 Photocopier 				
	• Computer pr	ograms			
	• Graphometric	• Special lights			
	measuring foil				
	• Graphometer				
	 Graphodine 				
	• Plays an	• Plays a lesser	• Plays an important		
Role of	important role in	role	role at the beginning of		
intuition	perception and		the examination		
	recognition		(suspicion of relevant		
			frequency)		
			irequeriey)		

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	T		
	 Uncovering 	 Determination 	• Quantitative analysis
Tasks of	personality	of authorship	of written works
handwriting	characteristics	• Identification:	 Quantitative
analysis	 Uncovering 	 Signature 	comparison of several
	current	 Individual 	texts
	psychological and	• Typewriter	 Recognition of the
	physical	 Determination 	personal attributes of
	conditions	of the	the author
	 Determination 	authenticity of	 Recognition of the
	of abilities	stamps	quantitative
	 Performance of 	• Examination of	relationships of the
	certain special	certificates	stylistic features
	tests (lie detection	• Examination of	
	test)	banknotes	
	Criminalistic		
Main fields	Mental hygiene		• Determination of
of	• Education		authorship
application	 Personnel 		_
of	matters		
handwriting	• Public life		
analysis	• History		
-	• Clinics		

7. Summary and Conclusion

I have compared the branches of one of the special fields of forensic expertise, handwriting analysis, and have pointed out their corresponding and differing features. To make reviewing my conclusions easier, I have summarized them in a table with the key terms. It can be clearly seen that graphology and handwriting expert have ancient roots, while all three branches can take pride in renowned foreign and Hungarian representatives. I have examined the nature of expert opinions on personal identification related to handwriting (graphology and forensic linguistics provide an identification of groups while handwriting expert is capable of individual identification). I have introduced their methods (graphology and handwriting expert have the trio of analysis, comparison and evaluation in common), their tools (for the most part the same in the case of

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graphology and handwriting expert), their main tasks (personality profiling for graphology, identification for handwriting expert and conclusions deduced from stylistic features in forensic linguistics) and the main areas of application (all three can be used in criminalistics). I have also touched upon the role of intuition for all three.

Our thoughts follow very intricate and complicated patterns. This is why the examination of one of their characteristic manifestations, when we "put them down on paper", is also naturally intricate and complicated.

We must understand the fact that we always leave traces behind us in the world. By collecting, selecting and evaluating the minutia and the microscopic signs we can uncover the truth with the help of experts. We must take advantage of this opportunity!

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Хенгль М.

Порівняльний аналіз дослідження почерку

Порівнюються суміжні області криміналістичної експертизи у сфері аналізу почерку, вказуються їх подібні та відмінні риси. Узагальнення відображене в таблиці за основними критеріями. Чітко вказується, що графологія і почеркознавство мають давнє коріння. Розглянуто правову природу експертних висновків з ідентифікації особи, пов'язаних з почерком (графологія і лінгвістична експертиза забезпечують групову ідентифікацію в той час як експертиза почерку здатна здійснити індивідуальну ідентифікацію). Висвітлені методи (графологія і експертиза почерку мають три методи: аналізу, порівняння та загальної оцінки), інструменти (здебільшого одні й ті ж у графології і дослідженні рукописів), основні завдання (профіль особи у графології, ідентифікація у дослідженні рукописів та висновки, виведені зі стилістичних особливостей у судовій

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лінгвістиці) та основні сфери застосування (всі можуть бути використані в криміналістиці).

Ключові слова: криміналістична експертиза, почерк, графологія, лінгвістична експертиза.

Хенгль М.

Сравнительный анализ исследований почерка

Сравниваются смежные области криминалистической экспертизы в области анализа почерка, указываются их подобные и отличительные черты. Обобщение отражено в таблице по основным критериям. Четко указывается, что графология и почерковедение имеют давние корни. Рассмотрена правовая природа экспертных заключений по идентификации лица, связанных с почерком (графология и лингвистическая экспертиза обеспечивают групповую идентификацию в то время как экспертиза почерка способна осуществить индивидуальную идентификацию). Освещены методы (графология и экспертиза почерка имеют три метода: анализа, сравнения и общей оценки), инструменты (в основном одни и те же в графологии и исследовании рукописей), основные задачи (профиль лица в графологии, идентификация в исследовании рукописей и выводы, выведенные из стилистических особенностей в судебной лингвистике) и области применения (BCE ΜΟΓΥΤ быть использованы криминалистике).

Ключевые слова: криминалистическая экспертиза, почерк, графология, лингвистическая экспертиза.

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Hengl M.

Comparison of the Branches of Handwriting Analysis

It was compared the branches of one of the special fields of forensic expertise, handwriting analysis, and have pointed out their corresponding and differing features. It was summarized in a table with the key terms. It can be clearly seen that graphology and handwriting expert have ancient roots. It was examined the nature of expert opinions on personal identification related to handwriting (graphology and forensic linguistics provide an identification of groups while handwriting expert is capable of individual identification). It was introduced the methods (graphology and handwriting expert have the trio of analysis, comparison and evaluation in common), the tools (for the most part the same in the case of graphology and handwriting expert), the main tasks (personality profiling for graphology, identification for handwriting expert and conclusions deduced from stylistic features in forensic linguistics) and the main areas of application (all three can be used in criminalistics).

Key words: forensic expertise, handwriting, graphology, forensic linguistics.

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