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Standards of practice as indicator of forensic handwriting opinion value

Summary

The aim of the article is to provide a review of the standards regarding the work of experts performing examinations in order to elaborate opinions for the court, basing on an example of handwriting examiners. Our paper refers also to the admissibility of expert evidence in the light of rulings of US courts and the regulations on evidence. The article also makes references to the leading American and international organisations involved in the development of standards to improve the quality of handwriting comparative examinations. The question of attestation is related to this issue, as well, and certification of forensic laboratories, which is presented on the examples from American and Polish practice. In this respect, efforts are being made to harmonise and improve the quality of research to increase the value of expert evidence.

Key words: expert report, forensic handwriting opinion, evidential value, standards of practice, certification, attestation of a laboratory

The role of an expert in court proceedings is essentially a matter of clarifying circumstances that are of particular relevance to a given case by means of the specialist knowledge he/she is assumed to possess. This issue is closely related to the problem of adherence to the standards of expert practice, including appropriate training and education. In order for the opinion to be admitted as evidence in the case it has to meet certain formally determined criteria, and in addition, the surveys carried out as part of the opinion should be conducted in accordance with the requirements and standards in order to reliably and credibly provide facts.

American standards of practice

It is worth to investigate the issue of admissibility of evidence in form of handwriting opinion and assess it in terms of scientific value using as reference the standards used in the USA. First of all, one should mention the Frye test (1923), also known as the general acceptance standard, according to which a method is recognised as scientific by the majority of the specialists in a given field (Ingram, 2011). The subsequent important stage was the introduction by the US Congress of the Federal Rules of Evidence in 1975. In particular, rules 401, 402 and 403 relate to the relevance of the expert's opinion. According to the rule 401, an evidence is considered "relevant" (appropriate in the case) when it tends to make a given fact of the case (occurring as a consequence of a specific action) more or less likely than it would be without evidence (Ingram, 2011). Rule 402 concerns the admissibility of evidence; it implies that every evidence is in principle admissible if it is "relevant" (appropriate to the case), unless otherwise provided by the United States Constitution, Congress Act, Federal Rules of Evidence or other rules determined by the Supreme Court; evidence that is not "relevant" is not admissible (Ingram, 2011). Rule 403, on the other hand, refers to the circumstances, in which such evidence may be rejected: if its evidential value significantly exceeds the risk of unjustified prejudice, confusion, misleading or unreasonable delay, waste of time or unnecessary presentation of cumulative evidence (Craig, 2016).

However, the issue of the admissibility of evidence in form of expert opinion in judicial proceedings is more liberal than Frye standard rule 702, which stipulates that if scientific, technical or other expert opinion can help to understand the evidence or determine the disputed fact, then a witness qualified as an expert using his/her skills, experience, training or knowledge can testify in the case in the form of presenting a forensic report or in another manner (Craig, 2016). Therefore, this rule focuses on expert's knowledge rather than on the scientific assumptions

of his/her testimony. Another important event that brought with it significant changes in forensic science was the judgment of the US Supreme Court in the case of Daubert v. Merrell Dow Pharmaceuticals, Inc. from 1993 (Daubert v. Merrell Dow Pharmaceuticals 92–102, 509 US 579, 1993), in which the court stated, inter alia, that the Federal Rules of Evidence replace the Frye standard (federal law) in the federal courts (Robertson, Vignaux, Berger, 2016). It follows that the rule of general peer acceptance of a given examination method as a condition of admissibility of the so-called scientific evidence has replaced the principle of adjudicating court deciding whether or not to accept given evidence on the grounds of the correctness of scientific principles and examination methodology appropriate for a given expert opinion (Tomaszewski, 2008). The above-mentioned verdict also indicated some criteria for the assessment of evidence, which consist in checking whether the theory or method can be (or has been) tested, whether it has been published and reviewed in the professional literature, whether the potential or known level of error is known, if there are control standards of expert's performance and whether the method has been generally accepted by the scientific community (Blond, 2009). Two other rulings of American courts also had a significant impact on the change in the admissibility of the expert evidence. Those two cases and the previously mentioned one are jointly referred to as "Daubert Trilogy". The judgment in the case of General Electric v. Joiner (General Electric Co. v. Joiner, 522 US 136, 1997) concerned determining the role of the judge as a "gatekeeper" who is to verify whether there is a discrepancy between the information and the opinions presented, and should decide on the admission evidence in the case, as well as on the possibility of summoning a highly qualified and objective expert to clarify information on technical issues related to the evidence (Craig, 2016). In another case, Kumho Tire Company v. Patrick Carmichael (Kumho Tire Co. v. Carmichael, 526 US 137, 1999), it was found that carrying out all specialized evidence (whether scientific or not) should be extended by requirement to meet the criteria resulting from Daubert principles (Craig, 2016). The application of Daubert's standards is not limited to matters that take into account scientific evidence, and the courts are to appropriately apply these standard to decide on the admission of every specialist evidence, including technical or mechanical evidence (Blond, 2009).

As a result of the extensive debate triggered by the "Daubert Trilogy" rule 702 has been changed and now also includes criteria regarding the significance of credibility and reliability that form the basis for the science and methodology on experts base their research on. A witness who has been qualified as an expert due to his knowledge, skills, experience, training and education may testify in the form of issuing an expert report or another, if his/her scientific, technical or other specialist knowledge can help to understand the course of events or determine the disputed fact, his testimony based is on sufficient facts or data, and is the result of applying reliable rules and methods that the expert reliably used while investigating the facts in a given case (https://www.law.cornell.edu/rules/fre/rule_702, accessed on: 10.10.2018). At this point, the problem of handwriting expert opinion ought to be analysed in the context of the admissibility and significance standards. In the ruling of the District Court in New York in the case of United States of America v. Robert and Eileen Starzecpyzel (United States v. Starzecpyzel, 880 F. Supp. 1027 SDNY 1995) the question of credibility of forensic document examination was discussed (in this context – handwriting comparative examination), stating that such research is based mainly on technical or specialist knowledge (according to the rule 702 FRE), and the evidence based on them was considered as non-scientific (Craig, 2016). This view, however, does not exclude the possibility of using this type of evidence in the trial after appropriate application of other admissibility and evaluation criteria. The Court determined certain regularities regarding the admissibility of document examination evidence, as it stated that such expertise did not meet the criteria of reliability, because the method and the level of errors were undetermined due to the lack of documentation of reliable results, and the examinations carried out as part of expertise consisted in the use of specialised knowledge and professional skills. He also referred to the position of experts who, using inadequate and incorrect scientific terminology, may mislead the Court, as well as to using overly precise terms of probability (9-point scale). An important thing, however, emphasised in the judgment was that there are no two identical handwritings and it is not possible for one person to reproduce his/her own handwriting in an identical way (Craig, 2016). One should agree with these assumptions, and in fact there is no physical possibility that an identical handwriting is found in two different persons.

From the statistical calculations carried out by Rogers (1970, for: Feluś, 1985) it would appear that samples in the number of 30^{30} should be gathered to find a repetition of the same handwriting. Identification based on handwriting is based on the assumption of its heterogeneity in the population, which results from the principle that handwriting is unique for a given person – similarly as the uniqueness of phenomena in nature (Harralson, Miller, 2018).

The ruling in Starzecpyzel case has aroused much controversy in the expert community involved in handwriting examination. The discussion on admissibility of evidence from the opinion of the writer is not settled. Different approaches to this problem can be seen in the rulings of American courts. As it can be observed, the decisions of the courts have ranged from completely rejection to full admission of expert

opinion, for example in the case of United States v. Prime (United States v. Prime, 220 F. Supp. 2d 1203 W.D. Wash. 2002), in which the court found handwriting examination compliant to Daubert criteria, though not without certain comments regarding the analysis of credibility of such evidence. The court in the judgment suggested greater flexibility in the analysis of the expert report reliability, adopting such an opinion despite the lack of a standardised method (if other criteria are met), as well as the application of Daubert standards in relation to a specific case. Another verdict presenting a slightly more favourable (but with some caution) position is the ruling in the case of United States v. Rutherford (United States v. Rutherford, 104 F. Supp. 2d 1190, D. Neb. 2000), in which the court recognised the testimony expert in the field of handwriting as meeting the requirements of FRE 702 to the extent that he limits his testimony to identification and explanation of the similarities and discrepancies between the analysed handwriting samples. This decision does not question the value of expert opinions in the area of handwriting and, above all, indicates the appropriate approach to an expert, treating him as auxiliary to the Jury and the Court, who is only expected to comment on the similarities and differences in the compared written entries. According to the Court, the expert should also determine the level of his conviction as to the authorship of the questioned handwritten text. However, a better wording is the use of the word "execution" of the questioned entry (Girdwoyń, 2008), because making statements the authorship of the examined handwriting would exceed expert's competence and mean taking over the role of the judge. First of all, using his/her expertise, the expert must explain the facts and try to determine how the incident occurred and the probability and credibility of the evidence is related to it. Additionally the phenomenon of "fetishisation" (Kalinowski, 1994) i.e. assigning excessive importance to expert opinions, unfavourably affects the quality of the procedural decisions made, causing uncritical acceptance of findings contained in the expert opinion as reliable and final.

National Academy of Science (NAS) Report

Indeed, attempts to introduce the Daubert standard as criteria for the admissibility of evidence gave rise to further discussion of scientific evidence and strengthening scientific grounds for forensic examinations. The Scientific Committee, commissioned by the United States Congress in 2009, prepared a report (Committee on Identifying the Needs of the Forensic Sciences Community, National Research Council, 2009) comprising many critical comments and recommendations on the application of forensic examination methods and development perspectives of the process of proving. Forensic examinations should be based on scientific methods and include a division into materials and methods, procedures, results, conclusions and determination of the uncertainty area (Harralson, Miller, 2018). The report stresses the importance of standards and quality assurance directives that are to be consistent, reliable and unfailing. These standards should reduce the diversity of individual expert tendencies, e.g. by defining the conditions under which compliance can be said in the context of identifying about "matching" (Harralson, Miller, 2018). In order to determine the area of uncertainty, i.e. to express confidence in the final conclusions of the expert, the ASTM (American Society of Testing and Materials) in the field of document testing created the standard E 1658-04 containing a 9-point probability scale[1], which was also used to standardize the terminology. Moreover, the referenced NAS report enlists weaknesses that were observed in forensic research methods, which concern, *inter alia*, the lack of control of practitioners in terms of their appropriate qualifications and competences, the lack of a unified expert licensing system and the lack of statutory regulations related to standardisation, certification and attestation of[1] forensic laboratories. The wide range of forensic sciences based on a variety of methodologies, techniques, potential level of errors, research, general admissibility and published material causes that some of the examinations are based on laboratory analyses (e.g. DNA identification) and some on expert interpretation, as it is the case with handwriting examination. The NAS report contains descriptions of individual areas of forensic examinations, including the part dedicated to the examination of questioned documents. It states that the scientific basis for comparative handwriting examinations needs to be strengthened, although the latest research works have improved knowledge about the individuality and stability of handwriting, and perhaps in the future it will be possible to argue that literary studies are based on scientific principles. It was also recognised that so far too few studies have been carried out to assess the credibility and repeatability of the practice used by qualified experts, but perhaps the analysis of the literature has some scientific value. In addition to that it was emphasised that the expertise in the field of handwriting does not include studies that refer to creation of a personality profile or other analyses consisting in assessing or judging the personality or character of the writer.

Organisations dealing with regulating the standards of practice

Undoubtedly, the issue of enhancing the value of the evidence presented in the opinion is related to the influence of various standards regarding the operation of forensic laboratories, and as a result – with the quality of research conducted there. Such standards

[1] Original probability scale: *identification, strong probability, probable, indications did, no conclusion, indications did not, probably did not, strong probability did not, elimination.*

for document examination are issued by leading organisations: ASTM, SWGDOC (Scientific Working Group for Forensic Document Examination) and ABFDE (American Board of Forensic Document Examiners). The activities of the last two in the United States are strictly aimed at the need to improve the standards of qualifications for practitioners in the field of document testing, taking into account advances in science and technology. ABFDE has developed a full certification programme: Qualifications and Requirements for Certification in Forensic Document Examination, which includes the requirements and qualifications necessary to obtain the certificate. At the same time, ASTM as the oldest international organisation dealing with the development of standards in various fields, has published many criteria relating to conducting research, description of methods of analysis of handwriting and documents, scope of activities and training requirements for experts, as well as terminology regarding the formulation of conclusions. SWGDOC, since 2012, has also published its own standards for broadly understood document research, including analysis of graphic characters (http://swgdoc.org/, accessed on: 20/10/2018).

These standards include ASTM's standard on terminology related to forensic science (E1732 Terminology Relating to Forensic Science).

The European Network of Forensic Science Institutes (ENFSI) is the most important body for the harmonisation of forensic examinations carried out by laboratories and the creation of standards of practice for the Old Continent. This organisation has issued a set of standards for handwriting examination: Best Practice Manual for the Forensic Examination of Handwriting (http://enfsi.eu/wp-content/uploads/2017/06/Best-Practice-Manual-for-the-Forensic-Examination-of-Handwriting-Version-02.pdf, accessed on 25/10/2018). The Manual describes, among others, the laboratory procedure of dealing with handwriting exhibits from the submission of samples to presentation of evidence in court. It also defines the requirements and procedures for the training and qualification of personnel, the equipment necessary to carry out forensic handwriting examination, clarifies the concepts and definitions related to the examinations, as well as the methods and principles for justifying and estimating the level of uncertainty. It also indicates the areas in which an expert may make a mistake, while enlisting, among others, the topics of training, competence and testing procedures. The manual also specifies the methods to lower the risk of making a mistake, such as repeated execution of the same tests by another expert, and in a situation of disagreement or difficulty in obtaining unambiguous results – transfer of material to a third expert. In addition to that experts are subject to annual verification of competences, so-called CE/PT (Collaborative Exercises/Proficiency Testing), during which their skills are tested using team exercises and proficiency tests. One should keep in mind that all these standards issued by individual organisations are not a valid procedure incorporated in the Law, they only meet the court requirements in terms of general principles. However, failure to comply with the standards in performing examinations may seriously undermine the credibility of expert evidence. Polish ENFSI members include the Central Forensic Laboratory of the Police, the Office of Forensic Research of the Internal Security Agency and Jan Sehn Institute of Forensic Expertise in Cracow.

In the context of granting expert licences and taking care of the quality of performed examinations, one should also raise the problem of accreditation of forensic laboratories. In the United States, the accreditation is granted by the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB) and Forensic Quality Services International (FQS-1) (Harralson, 2012).

Polish standards of practice

The issue of Polish regulation of admissibility of evidence from expert opinions is slightly different from US standards. The case law lacks clear criteria and procedural rules, such as the principle of free assessment of evidence, material truth or directness also turn out to be insufficient. There are no clearly defined rules for the production of evidence based on purely technical knowledge. The ordinance of the Minister of Justice of January 24, 2005 on court experts, due to its rank in the hierarchy of normative acts, does not regulate issues in the statutory matter, but is only of an executive nature. There are no organisations dealing with standards of expert practice in the field of document or hand-writing examinations, and only so-called, institutional experts, i.e. those employed in police laboratories or other services, as well as experts employed in specialist institutes, undergo periodical verification of qualifications ensuring reliability and accuracy of their findings. Experts from police laboratories are obliged to meet the requirements set out in Regulation No. 3 of the Police Commander-in-Chief of January 17, 2014 on the power to issue opinions and perform activities in police forensic laboratories[2]. This regulation lays down the principles, among others, to grant and verify the powers to give opinions that are granted to an expert for an indefinite period. Permissions expire in the event of a four-year break in issuing forensic opinions. An

[2] Also amending regulations: Regulation no. 4 by Chief Commander of the Polish Police of 4 May, 2016 amending the regulation on authorisation for issuing opinions and performing activities in police forensic laboratories, as well as Regulation no. 58 by the Chief Commander of the Polish Policeof 25 October, 2018 amending the regulation on authorisation to issue opinions and perform activities activities in police forensic laboratories.

expert employed in the police forensic laboratory is evaluated by the CFPL at least once every four years. In case of justified doubts as to the expert's competence, the appointed committee verifies his / her skills in terms of his/her expert status. An expert work book is kept, where the candidate's training process is documented on an ongoing basis, and then, after obtaining the qualifications, the course of work as an expert. The problem in both Poland and the United States are private laboratories, for which no qualification or verification procedure has been developed.

It is worth mentioning the certification of experts and attestations of a given laboratory – these are two aspects that are important for ensuring high quality and reliability of research. The International Organization for Standardization (ISO) has issued a standard for the competence of testing and calibration laboratories (ISO 17025). In Poland, the accreditation authority is the Polish Centre for Accreditation (PCA). The accreditation certificate confirms the compliance of the quality management system and laboratory competence according to the requirements of ISO/IEC 17025. Such certificates are held by research laboratories, including the Central Forensic Laboratory of the Police, the Internal Security Agency (ABW) Forensic Research Bureau and police forensic laboratories at Voivodship Police Headquarters. Examinations of graphical handwriting features by graphic-comparative method are carried out according to the BJ-Z1-Pb-1 procedure ed. III of October 31, 2017 (Scope of Accreditation of the Research Laboratory No. AB 596 issued by the Polish Centre for Accreditation, Issue No. 17, date of issue: 13 April 2018, http://clkp.policja.pl/clk/system-jakosci/akredytowane-metody-ba/24841,Procedury-badawcze.html, accessed on: 01.11.2018).

Conclusion

Adjusting the forensic handwriting expert opinion to standards is so difficult because the subjectivism of this area is so high that it makes it difficult to obtain reliable and accurate results due to the methodology. The mere fact of using the graphic-comparative method indicates a rather technical approach, which mainly consists in determining the identification characteristics in the questioned material and comparing them with counterpart characteristics found in the comparative material. In the United States, this method is called signaletic-descriptive (Leśniak, 2012) and does not present high diagnostic value. Despite these difficulties, expert report in the field of handwriting elaborated with accordance to scientific standards may be valuable evidence in the case. The examinations should be carried out in accordance with certain standards ensuring their reliability and infallibility, which is primarily guaranteed by certified and accredited laboratories. In addition to that, ensuring proper training of experts performing the examinations is the key aspect of increasing the accuracy of their findings. Nowadays, the aim is to increase the impartiality of handwriting analyses by improving the graphic-comparative method with the help of more precise measurement tools by means of new computer techniques – for example computer scangraphy (see Goc, 2015; Łuszczuk, Goc, Łuszczuk, 2018), which is an advantageous and positive development, giving hope for strengthening the quality of literary studies.

Undoubtedly, the court assessing the evidential value of an expert opinion must firstly assess its quality and usefulness in the context of clarifying facts of material importance to the case. By making a free assessment of the evidence, the court has to act in accordance with the principles of correct reasoning and indications of knowledge and life experience (Article 7 of the Code of Criminal Proceedings). In the United States, the evidence must meet certain admissibility requirements set by the rules of evidence so that it can be used to clarify the circumstances of an offense. This condition, on the other hand, is connected with the reliability and infallibility of the performed examinations, which is connected with the quality standards of examinations carried out in forensic laboratories and appropriate training of experts working there. In Poland, thanks to the activities of certified and accredited forensic laboratories, the expertise in the field of handwriting examination can be an evidence based on reliable specialist knowledge. However, the lack of legal provisions regarding standards, methodologies and procedures for performing research, as well as the lack of uniform criteria for the assessment and admissibility of evidence from a forensic expert (for example in the field of handwriting examination based mainly on the interpretation of results) may contribute to the discussion on improving the quality of forensic process of proving.

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