Obtaining Samples in Serbian Criminal Procedure Code

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Abstract

The author discusses the obtaining of samples as evidence according to the Criminal Procedure Code of Serbia. The issue explained in the paper has not been the subject of regulation of the mentioned legal text for the most part so far, until the latest comprehensive legislative reforms. With the reform, the legislator introduced three types of sampling into the criminal procedure legislation. These are: obtaining biometric samples, obtaining samples of biological origin and obtaining samples for forensic-genetic analysis. Their regulation represents a step forward in this issue, so the author, in addition to explaining the solution in Serbia, provided the views of the European Court of Human Rights, which took a position on the legitimacy of sampling and storage, as well as the privilege against self-incrimination. In addition to introductory and concluding remarks in which he made proposals de lege ferenda, the author clarified each type of sampling, and finally provided a model from practice.

Keywords: obtaining biometric samples, obtaining samples of biological origin and obtaining samples for forensic-genetic analysis, evidence, European Court of Human Rights

I. Introduction

Crime dates back to the first human communities, and society is trying to counter this phenomenon in various ways. The response to crime must, of course, be timely, layered and synchronized¹. Proving that a certain person has committed a crime, however, is often not easy. Therefore, proving is one of the most important activities undertaken by authorized subjects in criminal proceedings. Evidence can take many forms, ranging from, for example, a DNA fragment to a defendant's confession that he committed a crime². Since this is an extremely wide area, at the beginning we will only draw attention to the necessity of making a distinction between the notion of evidence, the basis of evidence and the means of proof. Evidence means a fact on the basis of which the competent body determines the existence or non-existence of facts whose establishment in criminal proceedings is necessary, while the means of evidence are certain forms of law in which evidence appears. Finally, the evidence consists in

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¹ G. P. Ilić, B. Banović, Oštećeni kao supsidijarni tužilac u krivičnom postupku [Damaged person as a subsidiary prosecutor in criminal proceedings], in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014, p. 99.

² C. Evans, *Criminal Justice: Evidence*, New York, Infobase Publishing, 2010, p. 7.

the facts that have already been established and from which a conclusion is drawn as to the truth of the fact to be proved³. The new Criminal Procedure Code provides for a number of novelties⁴, and the process of reforming and simplifying criminal procedure in

³ S. Bejatović, *Krivično procesno pravo [Criminal Procedure Law]*, Belgrade, Službeni glasnik, 2014a, p. 274.

⁴ S. Bejatović, *Kaznena politika zakonodavca i reforma krivičnog procesnog zakonodavstva Srbije* [Criminal policy and reform of the criminal procedural legislation of Serbia], in *Kaznena politika* (zakon i praksa) [Criminal policy (law and practice)] by S. Bejatović et. al., Belgrade, Serbian Association for Criminal Legal Theory and Practice, 2013, pp. 5-148; S. Bejatović, *Neposredna optužnica kao instrument državne reakcije na kriminalitet* [Indictment as the instrument of state reaction to the crime], in *Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet* [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014b, pp. 253-268; G. Ilić, B. Banović, op. cit., pp. 93-103; M. Škulić, *Charges and measures to ensure the presence of the accused and the smooth conduct of criminal proceedings*, in *Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet* [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014, pp. 143-175; G. Ilić, *Some public prosecutorial experiences in the application of the new CPC*, in *Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet* [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014, pp. 176-186;

A. Blanuša, Pripremno ročište [Preparatory hearing], in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014, pp. 269-280; D. Damjanović, Odnos presude i optužbe [The relationship between the verdict and the accusation], in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014, pp. 325-330; G. Bošković, D. Čvorović, Indictment and abbreviated criminal procedure, in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex. 2014, pp. 426-440; V. Petrović, Nova rešenja u Zakoniku o krivičnom postupku Republike Srbije [New solutions in the Criminal Procedure Code of the Republic of Serbia], in Bilten sudske prakse Apelacionog suda u Kragujevcu, no. 2, 2011, pp. 30-45; S. Manojlović, Optuženje i pojednostavljene forme postupanja u krivičnim stvarima [Accusation and simplified forms of proceedings in criminal matters], in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014, 2014, pp. 364-370; Đurđić, V., Dokazne radnje [Evidence actions] in Priručnik za primenu Zakonika o krivičnom postupku [Manual for the Application of the Criminal Procedure Code] by S. Bejatović, M. Škulić, and G. Ilić, Belgrade: Association of Public Prosecutors and Deputy Public Prosecutors of Serbia, 2013, pp. 83-152; T. Bugarski, Posebni krivični postupci u novom ZKP-u - skraženi krivični postupak I ročište za izricanje krivične sankcije [Special criminal proceedings in the new CPC - abbreviated criminal proceedings and a hearing for the imposition of a criminal sanction] in New solutions in the criminal legislation of Serbia and their practical application, Zlatibor: Intermeks, 2013, pp. 212-228; S. Važić, Nova rešenja kod mera za obezbeđenje prisustva okrivljenog i nesmetanog vođenja krivičnog postupka [New solutions in measures to ensure the presence of the accused and the smooth conduct of criminal proceedings], in New solutions in the criminal legislation of Serbia and their practical application, Zlatibor, Intermeks, 2013, pp. 117-130; J. Tintor, Branilac i nova rešenja u ZKP [Defense counsel and new solutions in the CPC], in Nova rešenja u kaznenom zakonodavstvu i njihova praktična primena [New solutions in the criminal legislation of Serbia and their practical application] Zlatibor, Intermeks, 2013, pp. 145-171; M. Tomić, Pojednostavljene forme postupanja i nova rešenja u ZKP [Simplified forms of action and new solutions in the CPC], in Nova rešenja u kaznenom zakonodavstvu i njihova praktična primena [New solutions in the criminal legislation of Serbia and their practical application] Zlatibor, Intermeks, 2013, pp. 183-190; V. Turanjanin, M. Voštinić, O pojediim poteškoćama u primeni novog Zakonika o krivičnom postupku Srbije [On Certain Difficulties in the Application of the New Criminal Procedure Code of Serbia], in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014a, pp. 466-481; V. Turanjanin, M. Voštinić, "Tužilačka istraga – iskustva u BiH i početni problemi u Srbiji [Prosecutorial Investigation – Experiences in BiH and Initial Problems in Serbia] in Exchange of theoretical knowledge and practical experiences related to the

order to achieve its greater efficiency, caused a number of changes in the field of evidence⁵.

Detecting and proving the commission of a criminal offense, finding its perpetrator and imposing a criminal sanction in accordance with the law is the basic goal in criminal proceedings. All his rules serve this purpose⁶, which raises the search for the truth to a high place in the procedure, but there are many obstacles along the way. The criminal procedure is constructed in such a way that certain values in it are in contradiction with the establishment of the accuracy of the facts⁷. The legislator has envisaged several means of evidence in Serbia (dividing them into regular and special), and in this paper the focus will be on obtaining of samples⁸. Namely, the new legal text on criminal procedure in Serbia contains significant innovations aimed at the use of modern technologies. The application of technology may not be the only solution in the fight against crime, but it is part of the solution⁹, which requires both adequate equipment and preparation of persons to use it. Bypassing other solutions where there is a need to use these tools, for our consideration are important articles that regulate sampling, and according to the current CPC, there are three types: obtaining biometric samples, obtaining samples of biological origin and obtaining samples for forensic-genetic analysis. In the same time, we enter the field of forensics, as a science that analyzes the traces found at the crime scene, in order to determine the origin of the trace, and the connection between the trace and the act^{10} .

II. Obtaining samples

2.1.0btaining biometric samples

"The field of evidence is no other than the field of knowledge"11.

work on the model of prosecutorial investigation and the concept of adversarial criminal procedure Sjenica, Univerzitet u Novom Pazaru, 20146 pp. 270-287; B. Cvetković, Vanredni pravni lekovi i novi ZKP [Extraordinary legal remedies and new CPC] in Nova rešenja u kaznenom zakonodavstvu i njihova praktična primena [New solutions in the criminal legislation of Serbia and their practical application], Zlatibor, Intermeks, 2013, pp. 191-199; D. Lopušina, Optuženje prema novom ZKP [Indictment under the new CPC], in Nova rešenja u kaznenom zakonodavstvu i njihova praktična primena [New solutions in the criminal legislation of Serbia and their practical application] Zlatibor, Intermeks, 2013, pp. 183-190.

- ⁵ S. Bejatović, *cited*, 2013, pp. 5-148, Belgrade, Serbian Association for Criminal Legal Theory and Practice, 2013, pp. 36-47. Like other legislations in the region, the one of the Republic of Serbia urgently needed reform. It took courage for the legislator to enter into major reform efforts at all, or, as it is nicely said, the legislator will allow almost everything, tolerate almost everything, before he dares to embark on reform efforts. See J. Langbein, *Torture and Plea Bargain*, in *The University of Chicago Law Review vol. 46*, 1978, p. 19.
- ⁶ W. Hassemer, *Human Dignity in the Criminal Process: The Example of the Truth-Finding*, in *Israel Law Review, vol. 44*, 2011, p. 186.
 - ⁷ M. Damaška, *Truth in Adjudication*, in *Hastings Law Review*, vol. 49, 1998, p. 305.
- ⁸ This evidence is differently provided in criminal procedure codes. See, for example, V. Turanjanin, J. Stanisavljević, *Special Investigative Action in Baltic Countries*, in *Strani pravni život*, 4/2021, pp. 667-686.
- ⁹ D. Makin, L. Miller, *DNA and Property Crime Scene Investigation: Forensic Evidence and Law Enforcement,* Waltham, Elsevier Inc, 2014, p. 3.
- ¹⁰ J. Sretenov, У којој мери ДНК може пружити чврст доказ? [To what extent can DNA provide solid evidence?], in Crimen, vol. 2, 2014, p. 231.
 - 11 J. Bentham, An Introductory View of the Rationale of the Law of Evidence for Use by Non-lawyers

Establishing a person's identity by physical or behavioral characteristics has been known since early history, and Quintilian noted that the ear is able to distinguish voices, just as the eye can distinguish faces¹². With the aim of establishing facts in the proceedings, impressions of papillary lines and body parts, buccal swabs and personal data may be taken, a personal description made, and a photograph taken (forensic registration of the suspect) of a suspect even without his/her consent [Article 140(1)]. Therefore, these samples are used to determine group affiliation by expertise, using appropriate biological methods, or they are used for DNA analysis¹³. There are many ways of identification and biometric methods, but all have their advantages and disadvantages¹⁴. Despite the name, the scope of the provisions governing the taking of biometric samples is much wider, including samples that are not used exclusively for biometric identification¹⁵. This group should also include individual samples that are. by mistake, classified as samples of biological origin, which will be discussed in more detail in the relevant part of the paper. This, as the legislator emphasizes, is about forensic registration of the suspect, while most of the activities are related to determining various individual body characteristics using biometric methods, which are used to identify and verify persons based on individual characteristics of the human body¹⁶. Biometrics is the automatic recognition of individuals, based on their biological or behavioral characteristics¹⁷, while biometric identification methods include modern techniques based on the use of sophisticated devices for scanning, measuring and storing in a database of individual and immutable body features, which serve as a template for automatic comparison, comparative verification and identification of persons¹⁸. Although at first glance it seems to be relatively simple, in essence it is not, and the problems of resolving the identity of a person are grouped primarily into two categories: verification and identification of persons. Verification points us to the problem of confirming or rejecting the identity of a person, while identification is about establishing it¹⁹.

When necessary for the purpose of establishing identity or in other cases of interest to the successful conduct of proceedings, the court may allow a suspect's photograph to be made public [Article 140(2)]. Therefore, publishing a photograph is not necessary,

as well as Lawyers, Bowring edition, 1810, cited in T. Anderson, D. Schum, W. Twining, Analysis of Evidence, Cambridge, Cambridge University Press, 2005, p. 1; M.S. Pardo, The Field of Evidence and the Field of Knowledge, in Law and Phylosophy, vol. 24, no. 4, 2005, pp. 321-392.

- ¹² H. Lee, K. Toh, L. Li, *Advanced Topics in Biometrics*, Singapore, World Scientific, 2012.
- ¹³ S. Bejatović, *cited.*, 2014a, p. 333.
- ¹⁴ A. Jain, R. Bolle, S. Pankanti, *Introduction to Biometrics*, in *Biometrics: Personal Identification in Networked Society*, by A. Jain, R. Bolle, S. Pankanti, New York-Boston, Kluwer Academic Publishers, 2002, p. 4.
- 15 G. Ilić et al. Коментар Законика о кривичном поступку Србије [Criminal Procedure Code: A Commentary], Belgrade: Službeni glasnik, 2013, p. 375. Theoretically, identity means a set of general and special characteristics through which it differs from other persons and by which it can be identified, from which it follows that a person's identity includes personal identity (based on data acquired by birth), biographical in the process of life in the interaction of the individual with society) and biometric (which represents an identity based on unique physical characteristics or behavioral characteristics. See S. Paunović, D. Starčević, Biometrijski sistemi za utvrđivanje identiteta [Biometric Systems for Identity Identification], Belgrade, Ministry of Internal Affairs, 2002-2004, p. 1.
- ¹⁶ G. Ilić *et al.*, cited, p. 375; B. Simonović, *Kriminalistika [Criminalistic]*, Kragujevac, Pravni fakultet Univerziteta u Kragujevcu, 2004, p. 540.
- ¹⁷ J. Pato, L. Millett, *Biometric Recognition: Challenges and Opportunities,* Washington, D.C., The National Academic Press, 2010, p. 1.
 - ¹⁸ B. Simonović, cited, p. 535.
 - ¹⁹ A. Jain, R. Bolle, S. Pankanti, op. cit., pp. 1-2.

but the entity in each specific situation assesses the necessity of publishing it. In the first case, which will probably be the most common case, it is necessary to determine the identity of the suspect, while in the second case it is about the factual circumstances on which the successful conduct of criminal proceedings depends.

In order to eliminate suspicion about being connected with a criminal offence, impressions of papillary lines and body parts and buccal swabs may be taken from an injured party or other person found at a crime scene even without their consent [Article 140(3)]. According to the Criminal Code of Serbia, the place of commission of a criminal offense means the place where the action was taken or omitted, as well as the place where the consequence occurred, but also any other place where objects and traces of the criminal offense can be found²⁰.

These actions shall be performed by a professional acting under an order of the public prosecutor or the court [Article 140(4)]²¹. Therefore, in the first place, the functional competence for issuing the order on obtaining samples is divided between the public prosecutor and the court, and it depends on the phase of the procedure in which it is necessary to take this action. Secondly, this action will be undertaken by an expert. The expert who should take the described action does not have the status of an expert in criminal proceedings.

2.2. Obtaining Samples of Biological Origin

The obtaining of samples of biological origin and performance of other medical actions which are under the rules of the medical profession required for the purpose of analysing and establishing facts in proceedings may be conducted even without the consent of the defendant, except if it would cause harm to his /her health in some way [Article 141(1)]. If it is necessary to establish the existence of a trace or consequence of a criminal offence on another person, the obtaining of samples of biological origin and performance of other medical actions in accordance with paragraph 1 of this Article may be conducted even without the consent of the person, except if it would cause harm to his/her health in some way [Article 141(2)]. These actions shall be performed by a healthcare professional, acting on an order of the public prosecutor or the court [Article 141(4)]. The healthcare professional who should take the samples assesses the risk of damage to the health of the person from whom they are taken, and according to the case law, deficiencies related to the clinical examination, the presence of a doctor and the time of submitting a blood sample for alcohol analysis do not make such evidence that a court decision cannot be based on it²².

A voice or handwriting sample may be taken from a defendant, injured party, witness or other person for the purpose of establishing facts in proceedings for the purpose of making comparisons [Article 141(3)]. The person who without a lawful

²⁰ G. Ilić *et al.*, cited, p. 375; B. Simonović, *op. cit.*, p. 290.

²¹ Orders in criminal procedure are today under the supervision of the ECtHR. See, for example, V. Turanjanin, *Special Investigative Measures: Comparison of the Serbian Criminal Procedure Code with the European Court of Human Rights Standards*, in *International Journal of Evidence and Proof*, 26(1), 2022, pp. 34-60. DOI 10.1177/13657127211055230.

²² Supreme Court of Cassation, no. 156/10 (23 March 2010); G. Ilić *et al.*, cited, p. 377. A healthcare professional is a person who has graduated from the Faculty of Medicine, Dentistry, or Pharmacy, as well as a person who has completed another school of health care, and who directly as a profession performs health care in health care institutions or private practice, under special conditions prescribed by law [Article 165(1) of the Law on Helath Insurance; G. Ilić *et al. op. cit.*, p. 377].

reason (Article 68 paragraph 1 item 2), Article 93, Article 94 paragraph 1 and Article 95 paragraph 2) refuses to provide a voice or handwriting sample may be fined by the court by a fine of up to 150,000 dinars. Therefore, this measure cannot be taken against the will of the requested person. It may refuse to provide a sample only if it has a valid legal reason, which is assessed by the procedural body. Among the legal reasons that justify the rejection of a sample of voice and manuscript are primarily those based on the defendant's right not to state or deny an answer to certain questions, and to exclude / release from the duty to testify or answer certain questions. If it is not done for a valid reason, this person may still be forced to give a sample by fines. An appeal against the ruling pronouncing a fine shall be decided on by the panel. An appeal shall not stay execution of the ruling [Article 141(6)].

Prof. Bejatović and Đurđić quite rightly note that the classification of sampling of voice and manuscript is wrong, because it is not about samples of biological origin, and therefore the obtaining of the described samples should be provided among the provisions governing sampling of biometric origin, which we talked about in the first place this paper²³. The need for this method of identification arises in cases, for example, blackmail that is carried out over the phone, in kidnappings and negotiations with the victim over the phone, wiretapping of telephone and other conversations of terrorists etc.²⁴. By the way, the voice is considered to be one of the phenomena where it is difficult to distinguish between physical characteristics and behavioral characteristics, because it is a mixture of their characteristics²⁵.

2.3. Obtaining Samples for Forensic-Genetic Analysis

Forensic-genetic analysis means the analysis of deoxyribonucleic acid (DNA), that is, the determination of the genetic code unique to each individual. In general, the work of forensic geneticists depends on the laboratory, and thus on the specific country in question, and for our considerations it is important that this includes analysis of material collected at the scene of the crime and identification of human remains²⁶. DNA has become an important tool in forensics for establishing human identity, especially in identifying perpetrators of serious crimes such as murder or rape, but it is also used in burglary and identification of human remains and missing

²³ S. Bejatović, cited, 2014a, p. 332; V. Đurđić, cited, p. 112.

²⁴ B. Simonović, cited, p. 544. Voice, as a complex sound, in addition to linguistic, phonetic and acoustic character, also contains appropriate individual characteristics, thanks to which there are no two persons in the world who have identical voice characteristics (Simonović, B., cited, p. 544). Simply put, voice is a characteristic of the individual (A. Jain, R. Bolle, S. Pankanti, cited, p. 4; S. Furui, *Recent advances in speaker recognition*, in *Lecture Notes in Computer Science 1206, Proceedings of Audio- and Video Biometric Person Authentication AVBPA '97, First International Conference,* Berlin, Springer-Verlag, 1997, pp. 237-252). However, identification by voice can often be difficult, both in a situation where there are many samples and in situations where the quality of voice recording is poor due to microphones or communication channels. Difficulties in isolating the characteristics of the voice are caused by both health and emotional problems of the person whose voice recording is being studied (A. Jain, R. Bolle, S. Pankanti, cited, p. 5), and the voice changes due to age, acoustics, position or distance from the microphone.

²⁵ S. Paunović, D. Starčević, cited, p. 1; D. Dessimoz, J. Richiardi, Ch. Champod, A. Drygajlo, *Multimodal biometrics for identity documents*, in *Forensic Science International*, vol. 167, 2007, pp. 154-159.

²⁶ W. Goodwin, A. Linacre, S. Hadi, *An Introduction to Forensic Genetics*, Chichester, John Wiley & Sons, Ltd, 2007, p. 1.

persons²⁷. Today, there are several methods of DNA analysis, and many are still being developed²⁸. Although DNA is a huge step forward in proving, at the same time it is a means of evidence that is regularly challenged and reviewed²⁹.

By the way, the beginnings of forensic genetics date back to 1900, when Karl Landsteiner described the ABO blood system, emphasizing that individuals can be grouped into different categories based on blood type. Sudden opportunities for the development of this area arose in the 60s of the last century, when the study of DNA began³⁰. Around this time, the police began to monitor advances in technology, seeking space in the field of crime detection and crime prevention³¹, although some roots of modern forensic science date back to the mid-19th century³², and they have been maintaining their slow but constant development since the last quarter of the 19th century³³.

The usual task of forensic geneticists in comparative legislation is to take samples from the accused and the injured party and compare them with each other and compare them with samples from the scene of the crime³⁴. With the help of DNA, we can safely exclude a specific person as a potential perpetrator, while positive DNA evidence can only with a high percentage of certainty indicate one person as the perpetrator³⁵. Essentially, DNA evidence leaves little room for doubt as to the defendant's de facto innocence³⁶.

The legislator foresaw two situations in which an order is taken to take samples for forensic-genetic analysis: to identify the perpetrator of the crime or to establish other important facts, and to take samples from a convicted person for registration. If necessary, for detecting the perpetrator of a criminal offence or establishing other facts in the proceedings, the public prosecutor or the court may order the taking of samples for forensic-genetic analysis:

- 1) from the crime scene or other location where traces of the criminal offence are located;
- 2) from the defendant and injured party, under the conditions stipulated in Article 141(2) of CPC;

²⁷ R. Thompson, S. Zoppiss, B. McCord, *An Overview of DNA Typing Methods for Human Identification: Past, Present, and Future*, in *DNA Electrophoresis Protocols for Forensic Genetics*, by A. Alonso, New York. Humana Press. 2012. p. 3.

²⁸ D. Kaye, G. Sensabaugh, *Reference Guide on DNA Identifiation Evidence*, in *Reference Manual on Scientifi Evidence*, Washington, The National Academies Press, 2011, p. 131.

²⁹ J. Sretenov, cited, p. 232.

³⁰ W. Goodwin, A. Linacre, S. Hadi, cited, pp. 2-5.

³¹ D. Makin, L. Miller, cited, pp. 2-3.

³² W. Eckert, *Historical Development of Forensic Sciences*, in *Introduction to Forensic Sciences*, by W. Eckert, Boca Raton-New York-London-Tokyo, CRC Press, 1997b, p. 21.

³³ W. Eckert, *Introduction to the Forensic Sciences*, in *Introduction to Forensic Sciences*, by W. Eckert, Boca Raton-New York-London-Tokyo: CRC Press, 1997a, p. 11.

³⁴ W. Goodwin, A. Linacre, S. Hadi, cited, p. 1.

³⁵ We should not lose sight of the fact that DNA has proven to be an effective means of proving the innocence of convicts, due to wrongful convictions (K. Miller, *Wrongful Capital Convictions and the Legitimacy of the Death Penalty*, New York, LFB Scholarly Publishing LLC, 2006). False convictions simply still exist today as evidence of the imperfections of criminal justice systems, and there are notions that despite their existence, they are still insufficiently researched (G. Stratton, *Wrongfully Convicting the Innocent: A State Crime?*, in *Crit Crim*, 2015, p. 21).

³⁶ J. Gould, *The Innocence Commission: Preventing Wrongful Convictions and Restoring the Criminal Justice System,* New York-London, New York University Press, 2008, p. 4.

3) from other persons if there is one or more characteristics that bring them in connection with the criminal offence [Article 142(1)]³⁷.

Therefore, the material condition for samples used for forensic-genetic analysis is reflected in the need to identify the perpetrator of the crime or establish other facts in the procedure, while the procedural condition is the existence of an order of the procedural body³⁸.

Obtaining samples for forensic-genetic analysis can be approached against the will of the accused and the injured party, unless damage to his health would occur. And finally, the question arises as to what is meant by a characteristic that a person associates with a crime. In theory, it is considered that this term does not mean a trace or consequence of a crime, but certain features that may be important for the identification of a person, such as anthropological characteristics and other features that make up a person's personal description³⁹.

In comparative theory, the question arose of the relationship between obtaining samples from a suspect and the privilege against self-incrimination. The European Court of Human Rights has held that the privilege against self-incrimination is primarily aimed at the defendant's right to defend himself by remaining silent, but cannot extend to material collected from the defendant, such as a breath or blood sample for DNA analysis⁴⁰. But, in a decision close to this one, the court considered that there was a violation of the privilege against self-incrimination when the suspect swallowed a bag of cocaine, after which the doctor injected him with emetic, a means of vomiting. In this case, Article 3 of the European Convention of Human Rights was violated, because although the sample was basically taken against the suspect's will, the method used was far more difficult than when taking a blood or hair sample⁴¹.

In a decision pronouncing a custodial criminal sanction, a first-instance court may ex officio order a sample for forensic-genetic analysis to be taken from:

1) a defendant sentenced to a term of imprisonment of more than year in connection with an intentional criminal offence;

³⁷ This is much detailed regulation in comparison with the Criminal Procedure Code 2003, which is also emphasized by the ECtHR in *Dragan Petrović v. Serbia* (Application no. 75229/10, judgment 14 April 2020), §83: "Concerning this last point, the Court would note, in particular, that Article 131 §§ 2 and 3, as in force at the relevant time, provided, inter alia, that a blood sample could be taken from, or "other medical procedures" could be undertaken in respect of, any given person if this was deemed medically necessary in order to establish facts "of importance" to the criminal investigation, thus allowing such procedures in respect of a potentially very large group of persons. Conversely, Article 140 §§ 1, 3 and 4 of the new Code of Criminal Procedure indicates that buccal swab samples may be taken only from a suspect or, in order to "eliminate a suspicion of being connected to a criminal offence", from the victim or another person found at the scene of the crime. In those circumstances, the Court considers that it would be reasonable to assume that by adopting the clearly more detailed provisions regarding the taking of DNA samples in its recent Code of Criminal Procedure, the respondent State has itself implicitly acknowledged the need for tighter regulation compared with the earlier legislation in this sphere".

³⁸ M. Škulić, Novi Zakonik o krivičnom postupku – očekivanja od primene [New Criminal Procedure Code – Expectations of Application], in Nova rešenja u kaznenom zakonodavstvu Srbije I njihova praktična primena [New solutions in the criminal legislation of Serbia and their practical application], Zlatibor, Intermeks, 2013, p. 41.

³⁹ G. Ilić *et al.*, cited, p. 379.

⁴⁰ Saunders v. UK, Application No. 19187/91, 1996.

⁴¹ Jalloh v Germany, Application no. 54810/00, 2006; A. Ashwort, Self-Incrimination in European Human Rights Law – a Pregnant Pragmatism, in Cardozo Law Review, vol. 30, no. 3, 2008, pp. 751-774, p. 765; A. Choo, Compelling the Provision of Information: the Privilege against Self-incrimination as a Human Right, in Legal Studies Research Paper no. 2010-2, 2010, pp. 1-13, p. 4.

- 2) a defendant found guilty of an intentional criminal offence against sexual freedom;
- 3) a person who has been imposed a security measure of compulsory psychiatric treatment [Article 142(2)].

This must be a final decision, regardless of the legislator's failure to prescribe it. The keeping of records on the obtained samples, their safekeeping and destruction shall be regulated by the act referred to in Article 279 of the CPC [Article 142(3)]. However, it is no longer surprising that Article 279 does not regulate almost anything, except that the manner of keeping criminal records is regulated by the Government (Article 279). Essentially, the legislator had to adopt a legal text that would regulate the matter of keeping samples. As this is an extremely sensitive matter, which on the one hand encroaches on human rights and freedoms, and on the other hand is subject to abuse, adequate legal regulation is urgently needed⁴². For many years, Serbia remained one of the few European countries that did not have a regulated DNA registry, thus falling into the gap between criminal procedure solutions and realized possibilities in practice, and all together it contradicted the positions of the European Court of Human Rights and Freedoms.

Namely, one of the most famous decisions of the European Court in this matter was S. and Marper v. United Kingdom⁴³. In short, S., as a minor (eleven-year-old), was deprived of liberty and charged with attempted robbery on 19 January 2001, during which his fingerprints and DNA sample were taken. However, on 14 June 2001, a verdict was rendered finding him not guilty of the crime. Michael Marper was arrested on March 13, 2001, accused of harassing his partner, his fingerprints were taken, and on June 14 of the same year, the proceedings against him were officially terminated due to reconciliation with his partner. Both applicants sought the urgent destruction of the samples taken from them. However, their requests were rejected because, according to the British law at the time, sampling was permanent after the arrest, without the possibility of destruction. After being rejected in all instances, the applicants appealed to the ECtHR, emphasizing that non-destruction of the samples taken violates their right to privacy. The ECtHR unanimously ruled that Article 8 of the European Convention on Human Rights was violated. In the procedure, the emphasis was placed on the question of whether the keeping of fingerprints and DNA samples of persons who are suspects, but have not been found guilty, is necessary in a democratic society. The court took the view that it was not. The only countries in Europe that had laws permanently retaining samples were England, Wales and Northern Ireland (paragraph 110 of the judgment), while other European countries have provisions in place in their legislation requiring or urgent destruction of samples and profiles after acquittal or within a certain period after obtaining⁴⁴. Although it does not attract attention at first glance, which is why it is often ignored by the media⁴⁵, the fact is that the court also

⁴² B. Simonović, cited, p. 482.

⁴³ Applications nos. 30562/04 and 30566/04, 04 December 2008.

⁴⁴ However, despite the fact that the Strasbourg court placed emphasis on both the DNA profile and the fingerprints, in Italy the legislature limited in time only the storage of biological samples and DNA profiles, while fingerprints can be stored indefinitely (F. Crupi, *New Perspectives for the Protection of Personal Data in Criminal Proceedings in the European Union and Repercussions on the Italian Legal System*, in *Human Rights in European Criminal Law: New Developments in European Legislation and Case Law after the Lisbon Treaty*, by S. Ruggeri, Heidelberg: Springer, 2015, pp. 273-276).

⁴⁵ K. Michael, The European Court of Human Rights Ruling against the Policy of Keeping Fingerprints and DNA Samples of Criminal suspects in Britain, Wales and Northern Ireland: The Case of S. and Murper v United Kingdom, in The Fourth Workshop on the Social Implications of National

banned the storage of fingerprints, and not just DNA profiles. Finally, the court expressed concern about the high risk of stigmatizing the suspects, as innocent persons are equated with the convicted in this way (paragraph 122 of the judgment).

This decision led to changes in English legislation, so first in some verdicts, the Supreme Court found that the existing law is not in accordance with Article 8, (for example, R (on the application of GC) (FC) (Appellant) v The Commissioner of Police of the Metropolis (Respondent) и R (on the application of C) (FC) (Appellant) v The Commissioner of Police of the Metropolis (Respondent), dated 18 May 2011 and thereafter there were changes in the legislation. According to the Protection of Freedoms Act 2012, a distinction is made between defendants and accused for one of the qualifying offenses (qualifying offenses – certain crimes against sexual freedom, violence and terrorism) from the defendants who have only been arrested but not charged (section 3). In both cases, their previous convictions are taken into account, so if they have files, the retention of data is unlimited. In the first case, if the defendant has not been convicted, the data can be kept for a maximum of three years, and in the second, where he is not accused, also for a maximum of three years, but with the approval of the Independent Commissioner for Retention and Use of Biometric Material. For other offenses, the samples must be destroyed urgently, unless the conviction ends (section 4). Also, this legal text regulates in detail in which situations and for which criminal offenses permanent retention of samples may occur, and it is especially interesting that there is a provision which provides for retention of samples for up to two years due to national security, in cases where samples they were to be destroyed⁴⁶.

Serbia has relatively recently passed the Law on the DNA Registry (24/2018). However, this legal text has brought almost nothing new, and, unfortunately, does not solve the issue of preserving DNA fingerprints⁴⁷. In sum, this law regulates the establishment and content of the national DNA registry of results of forensic genetic analysis of deoxyribonucleic acid for criminal proceedings, identification of missing or unknown persons and corpses, body parts, and processing of data obtained by forensic genetic analysis. and other issues of importance for keeping the Register (Article 1). In the sense of this law

- 1) DNA analysis, ie deoxyribonucleic acid analysis, is forensic-genetic analysis of biological material, performed for the purposes of criminal or identity determination procedure, which obtains DNA profiles, which are entered into the Register;
- 2) locus is a specific part of DNA molecules;
- 3) allele is a variant of a certain locus:
- 4) DNA profile is data that is the result of DNA analysis (a unique DNA profile is a DNA profile determined by analyzing an undisputed or disputed biological

Security. http://ro.uow.edu.au/cgi/viewcontent.cgi?article=10893&context=infopapers [accessed May 27, 2022].

⁴⁶ It is interesting to mention the data related to the destroyed samples. Namely, after the entry into force of this legal text, until October 2013, 1,766,000 DNA profiles taken from innocent persons were removed from the English National Database, then 1,672,000 fingerprint samples, also from innocent persons, and 7,753,000 DNA profiles were destroyed, of which 480,000 were taken from children. In the same period, 6,800 DNA profiles were taken and added to the database, from persons convicted of murder and sexual offenses (J. Beard, S. Lipscombe, *Retention of fingerprints and DNA data*, 2014, pp. 5-6).

⁴⁷ J. Stanisavljević, *DNK dokazi u krivičnom postupku [DNA Evidences in Criminal Procedure]*, Faculty of Law, Kragujevac, 2021.

- sample originating from one person, while the mixed DNA profile is a DNA profile determined by analysis of a biological sample originating from more than one person);
- 5) European Standard Set (ESS) means an internationally accepted set of loci;
- 6) Interpol Standard Locus Set (ISSOL) is an internationally accepted set of loci used by Interpol;
- 7) biological sample, in the sense of this Law, is any biological material of human origin, which can be linked to a criminal offense or a sample taken for the purpose of establishing identity, on which an appropriate DNA analysis can be performed;
- 8) undisputed biological sample is a biological material taken from a person or corpse whose identity has been previously established;
- 9) the disputed biological sample is biological material of unknown origin (Article 2).

The register is kept by the ministry in charge of internal affairs through the competent forensic service. The Ministry is responsible for the accuracy of the data from the Register. The register is established for the purposes of conducting criminal proceedings and establishing the identity of missing or unknown persons and corpses and body parts. Data from the Register may be processed only in such a way as to achieve the purpose of processing for which the data were collected, ie data processing is not allowed on the basis of which physical, biochemical, physiological or psychological characteristics or specific hereditary traits can be established. Updating and deleting, retention periods and data protection measures in the Register are prescribed by a special law which regulates records and data processing in the field of internal affairs. Data from the Register may be exchanged and transferred to international organizations, ie states, in accordance with this and other laws (Article 4).

The register contains:

- 1) Database of DNA profiles determined from undisputed biological samples;
- 2) Database of DNA profiles determined from disputed biological samples and
- 3) Database of DNA profiles determined in criminal proceedings submitted from all DNA laboratories from the Republic of Serbia.

The database of DNA profiles determined from undisputed biological samples contains:

- 1) Collection of DNA profiles of persons over whom forensic registration was performed;
- 2) Collection of DNA profiles of persons for whom the court determined the taking of a sample by a decision on imposing a criminal sanction;
- 3) Collection of DNA profiles of persons convicted of criminal offenses determined in the law which regulates special measures for the prevention of committing criminal offenses against sexual freedom against minors;
- 4) A collection of DNA profiles submitted by the competent authorities in the framework of international police or judicial cooperation and
- 5) Collection of DNA profiles determined to eliminate suspicion (Article 5).

Furthermore, the database of DNA profiles determined from the disputed biological samples contains:

- 1) collection of unique DNA profiles of persons whose identity is established, as well as DNA profiles of other persons submitted for the purpose of their identification;
 - 2) a collection of unique DNA profiles of corpses used to establish identity;
 - 3) collection of unique DNA profiles obtained from disputed biological samples;

- 4) a collection of DNA profiles submitted by the competent authorities in the framework of international police or judicial cooperation and
- 5) a collection of mixed DNA profiles.

The database of DNA profiles determined in criminal proceedings submitted from all DNA laboratories in the Republic of Serbia contains:

- 1) collection of registered DNA laboratories containing: name of laboratory, address, contact details and accreditation data;
- 2) collection of determined DNA profiles from undisputed biological samples at the time of submitting data to the Registry;
- 3) collection of identified unique DNA profiles from disputed biological samples at the time of submission of data to the Registry.

Each individual collection contains its own special record of identification data, which contains: the database of DNA profiles determined in criminal proceedings submitted from all DNA laboratories in the Republic of Serbia contains:

- 1) collection of registered DNA laboratories containing: name of laboratory, address, contact details and accreditation data;
- 2) collection of determined DNA profiles from undisputed biological samples at the time of submitting data to the Registry;
- 3) collection of identified unique DNA profiles from disputed biological samples at the time of submission of data to the Registry.

Each individual collection contains its own special record of identification data, which contains: DNA profile, name, surname (previous surname), parent's name, date and place of birth and unique personal identification number, case number of the body conducting the procedure and laboratory record number, data on the origin of the sample, the name of the technicians and analysts who worked with the biological sample from which the DNA profile was obtained and the name and seat of the laboratory that performed the analysis (Article 5).

The laboratory that performed the DNA analysis on the order of the procedure body is obliged to submit the determined DNA profiles and available identification data to the Ministry, at the same time as submitting the report on the expertise to the procedure body, for entry in the Register. In case of taking an undisputed biological sample for the purpose of performing DNA analysis in criminal proceedings, one copy of the undisputed sample (buccal swab) must be submitted to the Ministry, if the analysis is performed by non-accredited DNA laboratories in accordance with SRPS ISO / IEC 17025: 2006 or appropriate standard according to which forensic laboratories are accredited, and for the accuracy of the data entered in the Register. Data on accredited DNA laboratories in the Republic of Serbia are available to the public within the register kept by the competent body of the Republic of Serbia, in accordance with the law governing accreditation. The laboratory shall, if it is not possible to take a buccal swab, submit to the Ministry blood or other biological material of a person suitable for DNA analysis (Article 6).

For the purposes of conducting criminal proceedings, the competent body of the procedure may request a search of the Register in order to compare the DNA profile obtained by DNA analysis, with the data already in the Register, without delay. The request is submitted in writing, and extremely orally, with the obligation to subsequently submit a written request (Article 7). Data storage in the Register is done in electronic form, using information and communication technologies. Data storage in the Register is performed with the application of appropriate physical and technical protection measures. Access to the data in the Register is allowed only to authorized

persons of the forensic service of the Ministry. Data from the Register are archived in a way that ensures high availability of data while ensuring data from loss and damage. Each data processing in the Register is recorded in a special record containing: name, surname and unique identification number of the person performing the processing, date and time of processing, type of processing and subject of processing (Article 8).

A special question is how long the samples will be kept after the pronouncement of the final conviction. The CPC of Serbia determines an extremely wide range of criminal offenses for which the court can order the taking of samples for forensic-genetic analysis. First of all, these are acts against sexual freedom, which were committed with intent, and we must note that there is no crime from this group that can be committed through negligence. Then, these include procedures in which a measure of obligatory psychiatric treatment was imposed (where it is not emphasized whether it is a treatment in a health institution or at large, because the Criminal Code of Serbia provides for both measures). Although practical reasons suggest that samples should be taken from a person who has been imposed a security measure of compulsory psychiatric treatment at liberty, it is prescribed that they can be taken only in a decision consisting of deprivation of liberty, and therefore, taking samples in in cases of imposing this security measure is not possible⁴⁸. In the end, this includes all other criminal acts committed with intent, for which a prison sentence of over one year was imposed. The European Court considers that samples collected in a conviction procedure can be kept, but for a certain period of time. Since this period has not yet been determined in Serbia, this means that samples can be stored indefinitely, which is not in line with the European Convention on Human Rights⁴⁹. The importance of the DNA sample is also discussed in the judgment of the Canadian court in the case of R. v. Plant (1993 3 S.C.R. 281), which emphasizes that taking and retaining a DNA sample is not a trivial matter, because DNA contains the most intimate details about a person, which can severely violate his right to privacy.

III.Conclusion

In the cumbersome reform of criminal procedural legislation in the Republic of Serbia, changes in the field of evidence were inevitable. The legislature regulated three types of sampling: taking biometric samples, taking samples of biological origin, and taking samples for forensic genetic analysis. Although this reminds us mostly of the American criminal procedure, this represents a big step forward for Serbian law as well. However, in order to better implement the prescribed provisions, the legislator should eliminate certain errors as soon as possible, especially when it comes to incorrect classification of voice and handwriting samples among the provisions that regulate the taking of samples of biological origin. Elsewhere, a law should be passed as soon as possible that would adequately regulate the storage of DNA profiles and samples. Serbia is an exception in Europe in this regard. As we have seen, the European Court of Human Rights has taken a fairly clear position, finding that the unrestricted

⁴⁸ G. Ilić et al., cited, p. 380.

⁴⁹ For example, the destruction of a sample of biological material on the basis of which DNA analysis was performed and the DNA profile obtained in the Republika Srpska is carried out three years after the DNA profile was deposited in the database, while the profile of the convicted perpetrator is destroyed after thirty years from sampling for analysis.

retention of samples and DNA profiles, as well as papillary line prints, violates the European Convention on Human Rights and Freedoms. A special issue that is inevitable to draw attention to, and which is important for the practical conduct of the police in the countries of the region, is the ratio of evidence taken from the body of the accused with the privilege against self-accusation, which requires special caution.

References

- 1. Anderson T., Schum D., Twining W., *Analysis of Evidence*, Cambridge, Cambridge University Press, 2005.
- 2. Beard J., Lipscombe S., *Retention of fingerprints and DNA data*, 2015, https://commonslibrary.parliament.uk/research-briefings/sn04049/.
- 3. Bejatović S., *Krivično procesno pravo (Criminal Procedure Law*), Belgrade, Službeni glasnik, 2014a.
- 4. Bejatović S., Kaznena politika zakonodavca i reforma krivičnog procesnog zakonodavstva Srbije [Criminal policy and reform of the criminal procedural legislation of Serbia], in Kaznena politika (zakon i praksa) [Criminal policy (law and practice)] by S. Bejatović et. al., Belgrade, Serbian Association for Criminal Legal Theory and Practice, 2013.
- 5. Bejatović S., Neposredna optužnica kao instrument državne reakcije na kriminalitet [Indictment as the instrument of state reaction to the crime], in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014b.
- 6. Bentham J., An Introductory View of the Rationale of the Law of Evidence for Use by Non-lawyers as well as Lawyers, Bowring Edition, 1810.
- 7. Blanuša A., Pripremno ročište [Preparatory hearing], in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014.
- 8. Bošković G., Čvorović D., Indictment and abbreviated criminal procedure, in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014.
- 9. Bugarski, T, Posebni krivični postupci u novom ZKP-u skraženi krivični postupak I ročište za izricanje krivične sankcije [Special criminal proceedings in the new CPC abbreviated criminal proceedings and a hearing for the imposition of a criminal sanction] in New solutions in the criminal legislation of Serbia and their practical application, Zlatibor: Intermeks, 2013.
- 10. Cvetković B., Vanredni pravni lekovi i novi ZKP [Extraordinary legal remedies and new CPC] in Nova rešenja u kaznenom zakonodavstvu i njihova praktična primena [New solutions in the criminal legislation of Serbia and their practical application] Zlatibor, Intermeks, 2013.
- 11. Crupi F., New Perspectives for the Protection of Personal Data in Criminal Proceedings in the European Union and Repercussions on the Italian Legal System, in Human Rights in European Criminal Law: New Developments in European Legislation and Case Law after the Lisbon Treaty, by S. Ruggeri, Heidelberg: Springer, 2015.

- 12. Damaška M., Truth in Adjudication, in Hastings Law Review, vol. 49, 1998.
- 13. Damjanović D., Odnos presude i optužbe [The relationship between the verdict and the accusation], in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014, pp. 325-33.
- 14. Dessimoz D., Richiardi J., Champod Ch., Drygajlo A., *Multimodal biometrics for identity documents*, in *Forensic Science International*, vol. 167, 2007.
- 15. Eckert W., *Historical Development of Forensic Sciences*, in *Introduction to Forensic Sciences*, by W. Eckert, Boca Raton-New York-London-Tokyo, CRC Press, 1997b, pp. 21-42.
- 16. Eckert W., *Introduction to the Forensic Sciences*, in *Introduction to Forensic Sciences*, by W. Eckert, Boca Raton-New York-London-Tokyo: CRC Press, 1997a.
- 17. Đurđić, V., *Dokazne radnje [Evidence actions]* in *Priručnik za primenu Zakonika o krivičnom postupku [Manual for the Application of the Criminal Procedure Code]* by S. Bejatović, M. Škulić, and G. Ilić, Belgrade: Association of Public Prosecutors and Deputy Public Prosecutors of Serbia, 2013.
 - 18. Evans C., Criminal Justice: Evidence, New York, Infobase Publishing, 2010.
- 19. Hassemer W., Human Dignity in the Criminal Process: The Example of the Truth-Finding, in Israel Law Review, vol. 44, 2011.
- 20. Goodwin W., Linacre A., Hadi S., *An Introduction to Forensic Genetics,* Chichester, John Wiley & Sons, Ltd, 2007.
- 21. Gould J., *The Innocence Commission: Preventing Wrongful Convictions and Restoring the Criminal Justice System*, New York-London, New York University Press, 2008.
- 22. Ilić G., Some public prosecutorial experiences in the application of the new CPC, in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014.
- 23. Ilić G. et al. Коментар Законика о кривичном поступку Србије [Criminal Procedure Code: A Commentary], Belgrade, Službeni glasnik, 2013.
- 24. Ilić G. P., Banović B., Oštećeni kao supsidijarni tužilac u krivičnom postupku [Damaged person as a subsidiary prosecutor in criminal proceedings], in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014.
- 25. Jain A., Bolle R., Pankanti S., *Introduction to Biometrics*, in *Biometrics: Personal Identification in Networked Society*, by Jain A., Bolle R., Pankanti S., New York-Boston, Kluwer Academic Publishers, 2002.
- 26. Kaye D., Sensabaugh G., Reference Guide on DNA Identifiation Evidence, in *Reference Manual on Scientifi Evidence*, Washington, The National Academies Press, 2011.
- 27. Makin D., Miller L., *DNA and Property Crime Scene Investigation: Forensic Evidence and Law Enforcement*, Waltham, Elsevier Inc, 2014.
- 28. Manojlović, S., Optuženje i pojednostavljene forme postupanja u krivičnim stvarima [Accusation and simplified forms of proceedings in criminal matters], in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014, 2014.
- 29. Michael K., The European Court of Human Rights Ruling against the Policy of Keeping Fingerprints and DNA Samples of Criminal suspects in Britain, Wales and

Northern Ireland: The Case of S. and Murper v United Kingdom, in The Fourth Workshop on the Social Implications of National Security. http://ro.uow.edu.au/cgi/viewcontent.cgi? article=10893&context=infopapers [accessed May 27, 2022].

- 30. Miller K., *Wrongful Capital Convictions and the Legitimacy of the Death Penalty*, New York, LFB Scholarly Publishing LLC, 2006.
- 31. Langbein J., Torture and Plea Bargain, in The University of Chicago Law Review, vol. 46, 1978.
- 32. Lee H., Toh K., Li L., *Advanced Topics in Biometrics,* Singapore, World Scientific, 2012.
- 33. Lopušina D., Optuženje prema novom ZKP [Indictment under the new CPC], in Nova rešenja u kaznenom zakonodavstvu i njihova praktična primena [New solutions in the criminal legislation of Serbia and their practical application] Zlatibor, Intermeks, 2013.
- 34. Pardo M.S., The Field of Evidence and the Field of Knowledge, Law and Phylosophy, vol. 24, no. 4, 2005.
- 35. Pato J., Millett L., *Biometric Recognition: Challenges and Opportunities*, Washington, D.C., The National Academic Press, 2010.
- 36. Paunović S., Starčević D., *Biometrijski sistemi za utvrđivanje identiteta* [Biometric Systems for Identity Identification], Belgrade, Ministry of Internal Affairs, 2002-2004.
- 37. Petrović V., Nova rešenja u Zakoniku o krivičnom postupku Republike Srbije [New solutions in the Criminal Procedure Code of the Republic of Serbia], in Bilten sudske prakse Apelacionog suda u Kragujevcu, no. 2, 2011.
- 38. Simonović B., *Kriminalistika [Criminalistic]*, Kragujevac, Pravni fakultet Univerziteta u Kragujevcu, 2004.
- 39. Sretenov J., У којој мери ДНК може пружити чврст доказ? [To what extent can DNA provide solid evidence?], Crimen, vol. 2, 2014.
- 40. Stanisavljević, J., *DNK dokazi u krivičnom postupku [DNA Evidences in Criminal Procedure]*, Faculty of Law, Kragujevac, 2021.
- 41. Stratton G., Wrongfully Convicting the Innocent: A State Crime?, in Crit. Crim., 2015.
- 42. Thompson R., Zoppiss S., McCord B., *An Overview of DNA Typing Methods for Human Identifi cation: Past, Present, and Future*, in *DNA Electrophoresis Protocols for Forensic Genetics*, by A. Alonso, New York, Humana Press, 2012.
- 43. Tintor J., Branilac i nova rešenja u ZKP [Defense counsel and new solutions in the CPC], in Nova rešenja u kaznenom zakonodavstvu i njihova praktična primena [New solutions in the criminal legislation of Serbia and their practical application] Zlatibor, Intermeks, 2013.
- 44. Tomić M., Pojednostavljene forme postupanja i nova rešenja u ZKP [Simplified forms of action and new solutions in the CPC], in Nova rešenja u kaznenom zakonodavstvu i njihova praktična primena [New solutions in the criminal legislation of Serbia and their practical application] Zlatibor, Intermeks, 2013.
- 45. Turanjanin V., Stanisavljević J., *Special Investigative Action in Baltic Countries*, in *Strani pravni život*, no. 4/2021.
- 46. Turanjanin V., Special Investigative Measures: Comparison of the Serbian Criminal Procedure Code with the European Court of Human Rights Standards, in International Journal of Evidence and Proof, 26(1), 2022. DOI 10.1177/13657127211055230.
- 47. Turanjanin V., Voštinić M., O pojediim poteškoćama u primeni novog Zakonika o krivičnom postupku Srbije [On Certain Difficulties in the Application of the New

Criminal Procedure Code of Serbia], in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014a.

- 48. Turanjanin V., Voštinić M., "Tužilačka istraga iskustva u BiH i početni problemi u Srbiji [Prosecutorial Investigation Experiences in BiH and Initial Problems in Serbia] in Exchange of theoretical knowledge and practical experiences related to the work on the model of prosecutorial investigation and the concept of adversarial criminal procedure Sjenica, Univerzitet u Novom Pazaru, 20146.
- 49. Važić S., Nova rešenja kod mera za obezbeđenje prisustva okrivljenog i nesmetanog vođenja krivičnog postupka [New solutions in measures to ensure the presence of the accused and the smooth conduct of criminal proceedings], in New solutions in the criminal legislation of Serbia and their practical application, Zlatibor, Intermeks, 2013.
- 50. Furui S, Recent advances in speaker recognition, in Lecture Notes in Computer Science 1206, Proceedings of Audio- and Video Biometric Person Authentication AVBPA '97, First International Conference, Berlin, Springer-Verlag, 1997.
- 51. Škulić M., Charges and measures to ensure the presence of the accused and the smooth conduct of criminal proceedings, in Optuženje i drugi krivičnopravni instrumenti državne reakcije na kriminalitet [Prosecution and other criminal instruments of state response to crime] by S. Bejatović, Zlatibor, Intermex, 2014.
- 52. Škulić M., Novi Zakonik o krivičnom postupku očekivanja od primene [New Criminal Procedure Code Expectations of Application], in Nova rešenja u kaznenom zakonodavstvu Srbije I njihova praktična primena [New solutions in the criminal legislation of Serbia and their practical application], Zlatibor, Intermeks, 2013.