

The Tension between Genome Privacy and Criminal Justice in the Wake of DNA Databases

DNA Veri Bankaları Karşısında Ceza Muhakemesinde Maddi Gerçeğe Ulaşılması ile Genoma Dayanan Özel Yaşamın Korunması Arasındaki Dengenin Sağlanması

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ABSTRACT

Using DNA databases has a significant role in finding truths in criminal law; therefore, national DNA databases are becoming common worldwide. Consequently, their size is increasing every year. However, do we actually need a DNA database for the sake of criminal justice? Within this context, this study first demonstrates how common it is to create DNA databases today and how much information is retained in these databases. Then, the key question emerges: how do we find the balance between the competing interests of ensuring the right to privacy while facilitating the state's interest in solving crimes? This is where the main implementation criteria for data entry, storage and destruction become significant. More concretely, we examine the criteria that should be adopted around whether DNA samples for particular criminals should be included. For example, should DNA samples be included in the case of serious crimes, e.g., crimes against life, sexual abuse, and robbery, as well as crimes requiring punishment of more than a certain time period, such as more than one year? Further, is it possible to remove DNA information from the database? This study is based on the proposal that these criteria play a significant role in softening the tension between breaching privacy and the State's interest in fighting and solving crimes. This study will focus on these criteria, summarized as data entry, storage and destruction by considering comparative law including the EU, the ECHR and the USA analysis.

Keywords: Genome, DNA, Databank, storage, privacy, crime, criminal procedure, Prüm Convention, the EU member countries, the USA, the ECHR, S and Marper vs. United Kingdom, Maryland vs. King

ÖZ

DNA veri bankalarının ceza muhakemesinde suçların aydınlatılmasında-maddi gerçeğe ulaşılmasında- önemli işlevleri bulunmaktadır. Bu nedenle birçok ülkede DNA veri bankasının oluşturulması yaygınlaşmakta; mevcut olan ülkelerde de veri bankalarının hacmi her geçen gün büyümektedir. Fakat gerçekten ceza muhakemesinde maddi gerçeğe ulaşılması için DNA veri bankaları olmazsa olmaz nitelikte midir? Bu bağlamda çalışmada ilk olarak dünyada bu amaçla hangi yaygınlıkta DNA veri bankalarının kurulduğu ve bu bankaların ne ölçüde bilgi içerdiğine yer verilecektir. İşte bu noktada bu çalışmanın özünü oluşturan temel soru ortaya çıkmaktadır: devletin suçların aydınlatılmasındaki menfaati ile bireylerin DNA'larından kaynaklanan kişisel verileri bağlamında özel yaşam hakkı arasında denge nasıl sağlanacaktır? Bu dengenin sağlanması için DNA veri bankasına verilerin girilmesi, burada tutulması ve buradan silinmesi şeklindeki üç temel çıkış noktası önemli rol oynamaktadır. Daha somut ifadeyle, örneğin insan öldürme, cinsel saldırı veya yağma suçlarını gibi veya bir yıl ve daha fazla hapis cezası gerektiren suçları işleyenlerin DNA verilerine bu bankalarda yer verilmesi şeklinde sınırlamalar getirilmesi gösterilebilir. Yahut ta bir kere veri bankasına girmiş DNA verisinin bu bankadan çıkarılması, silinmesi gibi bir imkânın mevcut olup olmadığı önem arz etmektedir. Bu çalışmada devletin suçları aydınlatmadaki menfaati ile bireylerin özel yaşamı korunması hakkı arasındaki denge, karşılaştırmalı hukuka bakmak suretiyle DNA veri bankasına verilerin girilmesi, burada tutulması ve buradan silinmesi şeklindeki üç tutamak noktastan hareket edilerek ortaya konulmaya çalışılacaktır.

Anahtar Kelimeler: Genom, DNA, Veri Bankası, verilerin depolanması, özel yaşam, suç, ceza muhakemesi, Prüm Sözleşmesi, AB Ülkeleri, ABD, AlHM, S ve Marper v. Birleşik Krallık, Maryland v. King

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EXTENDED ABSTRACT

National DNA databases are becoming common throughout the world. Consequently, their size and volume are expeditiously increasing each year. However, do we actually need a DNA database for the sake of criminal justice? Within this context, this study first shows how common it is to create DNA databases in the world today and how much information is retained in these databases. Then, the key question emerges: how do we find the balance between the competing interests of ensuring the right to privacy while facilitating the State's interest in solving crimes? This is where the main implementation criteria for data entry, storage and destruction become significant. More concretely, we examine the criteria that should be adopted around whether DNA samples for particular criminals should be included. For example, should DNA samples be included in the case of serious crimes, e.g., crimes against life, sexual abuse, and robbery, as well as crimes requiring punishment of more than a certain time period, such as more than one year? Further, is it possible to remove DNA information from the database? This study is based on the proposal that these criteria play a significant role in easing the tension between breaching privacy and the state's interest in fighting and solving crimes. This study will focus on these criteria, summarized as data entry, storage, and destruction.

This study indicates that collecting DNA evidence in databases is useful for the criminal justice system in fighting and solving crimes. However, concerns arise, especially around privacy. Each criterion related to data entry, storage, and destruction of DNA samples plays a significant role in mitigating the tension between privacy concerns and the state's interest in fighting and solving crime. As a matter of fact, these criteria ensure the principle of proportionality. However, the current tendency to create databases and expand the existing ones is developing in confusion and mess, which in turn renders cooperation among countries difficult. Within this context, it was highly unexpected that this study would find this outcome: EU member countries prefer to keep their own national criminal law procedural understanding in the application of the criteria private, even when the EU demands unity, such as through the introduction of the Prüm Convention of 2005. This outcome forces us to confront the issue of whether breaching genome privacy for the sake of the criminal justice system is ultimately justified is indeed still under question.

1. Introduction

I would like to begin with two striking cases: one from Europe and another from the USA. Assume that an eleven-year-old boy is arrested on the suspicion of attempted robbery and his DNA samples are collected by the police. Having been acquitted after five months, he demands the removal of his samples from the DNA database. His demand, however, is rejected. This famous and extreme case, *S and Marper vs. United Kingdom*, was brought to the ECHR in 2004 and heard in 2008¹. A similar case occurred in the USA in 2013. In this case, an individual was arrested on assault charges, and his DNA samples were collected. Four months later, his DNA sample was found to match DNA samples from an unsolved rape case, and the individual was convicted of the crime. Justice Antonin Scalia stated that “*make no mistake about it: As an entirely predictable consequence of today’s decision, your DNA can be taken and entered into a national DNA database if you are ever arrested, rightly or wrongly, and for whatever reason*” in the decision *Maryland v. King*².

Despite the aforementioned extreme cases from the UK and the USA, DNA analysis has a significant function in crime solving by enabling the analysis of genetic codes that differentiate one human being from another. In the USA, numerous individuals who have been sentenced to the death penalty have been exonerated because of DNA evidence³. Hence, the use of DNA evidence in the criminal justice system is on the rise today. Although many countries have already created their own national DNA databases, some countries, such as Turkey, are only starting to do so⁴. In accordance with the increasingly prevalent use of DNA evidence, some developed countries have expanded their existing DNA databases. In 2012, to justify the expansion of the existing DNA Database Centers in New York, a Senate Majority Leader stated that “*DNA is the 21st Century equivalent of a fingerprint and the most powerful law enforcement tool to catch and prosecute criminals and protect victims*”⁵. Consequently, the question arises whether genome privacy concerns due to the

1 S and Marper vs. United Kingdom, Applications nos. 30562/04 and 30566/04.

2 Maryland vs. King (425 Md. 550, 42 A. 3d 549, reversed), SCALIA, J., dissenting, p.17.

3 *The National Registry of Exonerations, A Project of the University of Michigan Law School*.

4 For example, in Turkey, there was an attempt to create a national DNA databank in 2007; however, it has not been signed into law yet. For more information regarding the Turkish DNA database See İLGİLİ & ARDA, Forensic DNA Banking Legislation in Developing Countries: Privacy and Confidentiality Concerns Regarding a Draft from Turkish Legislation, p. 56 *at seq.*

5 *The New York State Senate*, Statement by Senate Majority Leader Dean Skelos on Expansion of DNA Databank, March 14, 2012, Issue: Crime.

creation of a national DNA database can be justified against the State's interest in fighting and solving crime.

Since the 19th century, the understanding of the structure and function of DNA has been a turning point in scientific development. Our existing knowledge of DNA, the human genome, and DNA analytical tools and methods have become increasingly relevant in the light of future developments and present several issues. On the one hand, how can we control our future based on our genetics? What information will DNA retainers, such as criminal justice authorities, interpret from our DNA in the future? Do innocent people indeed have nothing to fear? On the other hand, can we reject the benefits of the use of DNA in criminal cases for identifying criminals, protecting victims, and exonerating the wrongly convicted? These questions result in a conflict between genome privacy and the creation of a national DNA database for the use of the criminal justice system. I aim to discuss these questions and concerns in this article.

In this article, I begin by questioning the necessity of a DNA database for the sake of criminal justice and the pros and cons of such a database. Subsequently, I discuss the prevalence of establishing DNA databases among countries and the extent of information retained in these databases. The key question thus emerges: how can we balance the competing interests of the right to privacy and the state's interest in solving crimes? The main implementation criteria for the entry, storage, and destruction of genetic information thus become significant in the context of this question. These significant criteria can be recast into the following questions: Whose DNA information (e.g., that of the arrestee, detainee, suspect, or convict) will be collected, and how long and under what conditions should be they included in the database? What criteria should be adopted for including DNA samples of particular criminals, such those who perpetrate serious crimes, e.g., crimes against life, sexual abuse, and robbery, and crimes that require punishment for more than a certain period, such as one year or more? Is the removal of genomic information from the database possible? This article is based on the proposition that these criteria significantly soften the tension between breaches in privacy and the state's interest in solving and fighting crime. Therefore, this article will focus on these criteria, which are summarized as entry, storage, and destruction.

2. An Ever- Present Question: Is the Creation of a DNA Databank Actually Inevitable?

National DNA databases have become common worldwide and contain an annually expanding volume of information. The existence of these databanks, however, hinges on the necessity of a DNA database for the sake of criminal justice. In other words, does the state's interest in solving crime through the creation and use of such a database supersede the interest of the privacy of its citizens? In contrast to other countries, such as Turkey, that do not have DNA databases, the UK, the USA, Germany, and Switzerland have answered that question as "yes" by establishing their own national DNA databases with their own regulations, limitations, and criteria. The discussions over the *legitimacy* and *disadvantages* of these databases continue in countries with established DNA databases, whereas countries without such databases continue to discuss the *legitimacy* and *advantages* of such databases. In the case of *S and Marper vs. United Kingdom*, the ECHR ruled that "...any State claiming a pioneer role in the development of new technologies bears special responsibility for striking the right balance in this regard"⁶.

The concept that "DNA has the power to identify the guilty and exonerate the innocent"⁷ is widely accepted. The creation of a DNA database, however, raises several concerns, particularly those of privacy. Some scholars raise the fact that "...unlike fingerprints, DNA is a trove of personal, medical, and ancestral information"⁸. The potential for the future misuse of DNA information should be taken into account⁹. DNA samples enable "access to all intimate knowledge of a person's biological constitution" and "may contain information about hereditary diseases (both physical and mental), hair color, skin color, ethnical background and etc., as well as information about family relations (parenthood, indications of hereditary diseases that may implicate relatives etc.)"¹⁰. Therefore, the novel term "genetic exceptionalism"¹¹ has been developed within the context of privacy issues. This term implies that genetic information is treated separately from other forms of

6 S and Marper vs. United Kingdom, Applications nos. 30562/04 and 30566/04, para. 112.

7 SILVERSTEIN, *The Dark Side of DNA*, p. 8.

8 No. 7.

9 WILLIAMS & JOHNSON, *Inclusiveness, Effectiveness and Intrusiveness: Issues in the Developing Uses of DNA Profiling in Support of Criminal Investigations*, p. 546.

10 HILDEBRANDT, *Who is Profiling Who? Invisible Visibility*, p. 245.

11 ROTHSTEIN & TALBOTT, *The Expanding Use of DNA in Law Enforcement: What Role for Privacy?*, p.160.

health information¹². In addition, privacy and discrimination concerns about genetic information are interrelated. As a matter of fact, an important concern for the misuse of genetic information to discriminate against people based on their race exists in the USA¹³. Within the context of *non-discrimination*¹⁴, the likelihood that “*the ‘match statistics’ generated by analyzing large troves of DNA information are easy to misinterpret*”¹⁵ has been pointed out.

Furthermore, as DNA evidence is perceived as highly reliable owing to its scientific features, an irrelevant person may be charged with a crime on the basis of their DNA sample matching one from a crime scene or one obtained from a victim; this match, however, may be erroneous¹⁶. For example, in a 2002 case from Italy, a young girl was killed by a foreigner, and a blood stain sample found at the crime scene was sent to Interpol. DNA information from this stain matched one from a UK database. The DNA information belonged to a barman in England, who was subsequently accused of the murder on the basis of the DNA match. After the accused denied the charges and fresh DNA samples were taken from him, the earlier match was found as a mismatch¹⁷. This case indicates that innocent people can be charged with a crime solely on the basis of a (mis)match from a DNA database. Furthermore, numerous studies have investigated the possibility of random matches¹⁸. Thus, although scientific evidence based on technological tools and methods, such as computing, profiling, and mathematical analysis, have a significant role¹⁹ in criminal justice, it can also mislead it.

Despite the disadvantages of DNA information, some of which were mentioned above, *Robin Williams* and *Paul Johnson* have stated that DNA information provides

12 No. 11.

13 *Silverstein stated that “But beyond privacy concerns, there is another reason to reconsider DNA collection on arrest. Because people of color are disproportionately stopped, searched and arrested, they will disproportionately bear the burden of this genetic dragnet. And because DNA samples can be used to establish family relationships, it has the potential to widen the surveillance to entire communities”*, see no.7.

14 No. 11.

15 MURPHY, E., *The Dark Side of DNA Databases*, Oct 8, 2015.

16 See also PASCALI & LAGO & DOBOSZ, *The dark side of the UK National DNA Database*, p. 834, see also no.15.

17 No. 16.

18 See at KOEHLER & CHIA & LINDSEY, *The Random Match Probability (RMP) in DNA Evidence: Irrelevant and Prejudicial?*, p. 201 et seq.

19 For the discussions on the idea to guarantee privacy concerns using technology see NAVEED & AYDAY & W. CLAYTON & FELLAY & A. GUNTER & HUBAUX & A. MALIN & WANG, *Privacy and Security in the Genomic Era*, p.10.

“the potential to make speedy and robust suspected offender identifications through automated profile comparisons in centralised criminal justice databases; the ability confidently to eliminate innocent suspects from investigations; the increased likelihood of generating reliable and persuasive evidence for use in court; a reduction in the cost of many investigations; the likely deterrent effect of DNA databasing on potential criminal offenders; and a possible increase in public confidence in policing and in the wider judicial process”²⁰. DNA databases serve their purpose only in cases in which DNA samples from the crime scenes or victims and matching tools are available. If a DNA database does not exist, the possibility to perform matching procedures, such as acquiring a DNA sample from a suspect, is limited. Nevertheless, despite the advantages of DNA evidence and databases, the inevitability of establishing DNA databases remains debatable²¹.

3. How Common are DNA Databases in the World?

The first attempt to collect DNA samples in the UK occurred in 1987. After a brutal double rape/homicide incident, authorities in the UK collected DNA samples from 4000 men to find the perpetrator. However, the perpetrator’s DNA was not among the 4000 samples collected. The perpetrator was arrested only after he was observed attempting to convince another person give his DNA sample on his behalf²². In 1995, the UK introduced *NDNAD*, the first national DNA database. *NDNAD* was initially used to store samples only from convicted individuals but has since developed into the largest and most inclusive national forensic DNA database in the world. A year after its establishment, *NDNAD* included DNA samples from 2.7 million individuals, many of whom have never been charged with, or convicted of, any crime²³. Therefore, in 2008 case *S and Marper vs. United Kingdom*, the ECHR found that UK authorities were in violation of Art. 8 of the Convention for storing the DNA information of an eleven-year-old child who had been previously acquitted²⁴. The National DNA Database Strategy Board Annual Report of 2014/2015 pointed out that

20 No. 9.

21 Likewise, *Rodrigues* points out that the need for a DNA database is indubitable. However, he is referring to the importance of the aims, workings, and policy of the database and has suggested keeping an eye on future developments regarding the issue, see RODRIGUES, *Big Bio Brother is Here: Wanting, Taking and Keeping Your DNA*, p.12.

22 WAMBAUGH, *The Bleeding* (New York, NY: Morrow, 1989), as cited in No. 11, p. 155.

23 WALLACE, *The UK National DNA Database: Balancing Crime Detection, Human Rights and Privacy*”, (2006) 7 *EMBO reports*, p. 26.

24 No. 1.

over the DNA profiles of 1.7 million innocent people, including children, have been deleted from the *NDNAD*. In addition, 7.75 million DNA samples that were unnecessarily retained have been destroyed as a result of the commencement of the Protection of Freedoms Act 2012²⁵. According to the report of the *Home Office*, the database retains 5,766,369 DNA profiles collected between the years of 1995 and 2015²⁶.

Since 1992, the USA has had its own national DNA databank called *CODIS (Combined DNA Index System)*. Similar to the *NDNAD*, *CODIS* initially held the data of only convicted rapist and murderers²⁷. The FBI retains and searches DNA profiles submitted to *CODIS* by federal and state law enforcement authorities²⁸. The Netherlands and Austria introduced their own DNA databases in 1997. One year later, Germany created its own database. In 1999, Finland and Norway also created their databases, and Denmark established their own DNA database in 2000²⁹. In Switzerland, a DNA database was established in 2000. However, it was subjected to a four-year testing period and did not come into effect until 2005. It is now the fifth largest DNA database in Europe³⁰, containing 176, 758 personal profiles and 63, 941 crime scene samples by the end of 2015³¹. A DNA database came into existence in France in 2001³². Moreover, Belgium, Hungary, Luxemburg, Poland, Romania, Spain, Sweden, Estonia, Latvia, Lithuania, and Slovakia now have their own national DNA databases³³. In terms of size, some databases, such as those of Germany, France, Belgium, and Hungary, are restrictive, whereas those of the UK, Austria, and Finland, are expansive³⁴. The national DNA database of Switzerland can be considered as

25 *The National Police Chiefs' Council/Home Office/ National DNA Database*, National DNA Database Strategy Board Annual Report 2014/15, p. i. However, as pointed out by *The Guardian*, a British Newspaper, "Police retain DNA from thousands of children", see *The Guardian*, Police retain DNA from thousands of children, Vikram Dodd, Monday, 20 May 2013. Also there is a press release of 2013 by a NGO in the UK as "Police take DNA samples from children every 10 minutes", see *The Howard League for Penal Reform*, Police take DNA samples from children every 10 minutes, Press statement, 20 May 2013.

26 *National DNA Database Strategy Board Annual Report 2014/15*, p.9.

27 No.11, p. 153.

28 No. 7.

29 SCHNEIDER & MARTIN, *Criminal DNA Databases: The European Situation*, p. 233.

30 VOEGELI & HAAS & KRATZER & BÄR, *Evaluation of the 4-Year Test Period of the Swiss DNA Database*, p. 731.

31 *Federal Office of Police*, *The CODIS DNA database*.

32 No. 4, p. 57.

33 For the size and amount of DNA data of some European countries' databases see SANTOS & MACHADO & SILVA, *Forensic DNA Databases in European Countries: is Size Linked to Performance?*, p.7.

34 No. 33.

expansive given that it is the fifth largest database in Europe. Italy only established its own DNA database in 2009³⁵.

The *Prüm Convention of 2005*, later known as the *Prüm Decision of 2008*³⁶, stated that the widespread creation of DNA databases should consider *the stepping up of cross-border cooperation, particularly in combating terrorism and cross-border crime* in European Union countries. The Decision requires the establishment of national DNA databases and cooperation among European Union countries, stating that “*EU countries are to establish national DNA analysis files for the purpose of investigating criminal offences. Reference data, consisting of the non-coding part of the DNA and of a reference number that does not enable an individual to be identified, must be made available to other EU countries to carry out automated searches*”³⁷. Furthermore, INTERPOL³⁸ has maintained a DNA database, known as DNA Gateway, since 2002; this database contains more than 150,000 DNA profiles contributed by 73 member countries³⁹.

4. Tension-Softening Curves: Criteria for the Entry, Storage, and Destruction of DNA Profiles

The implementation of certain criteria for the entry, storage, and destruction of DNA profiles in national databases is necessary to maintain the balance between the competing interests of the right to privacy and the state’s interest in solving crimes. These are the concrete forms of *the principle of proportionality*. To illustrate, collecting and storing the DNA samples of a perpetrator who committed a crime that carries a penalty of six months’ imprisonment or only a fine is disproportionate and thus does not justify the breach of privacy resulting from the storage of the perpetrator’s

35 MARCHESE & CERRI & CAENAZZO, “Italian National Forensic DNA Database in a European Perspective”, p. e246.

36 The decision is based on *The Prüm Treaty* of 27 May 2005, which was signed between Belgium, Germany, Spain, France, Luxembourg, the Netherlands, and Austria, see *EUR-Lex*, Stepping up cross-border cooperation (Prüm Decision), Last updated: 24.11.2010.

37 No. 36.

38 INTERPOL is an abbreviation of an international police organization, which is described as “*the world’s largest international police organization, with 190 member countries*”, INTERPOL, Overview.

39 “*Police in member countries can submit a DNA profile from offenders, crime scenes, missing persons and unidentified bodies to INTERPOL’s automated DNA database. Known as the DNA Gateway, the database was initiated in 2002 with a single DNA profile but, by 2014, it contained more than 150,000 DNA profiles contributed by 73 member countries. Participating countries are actively using the DNA Gateway as a tool in their criminal investigations, and it regularly detects potential links between DNA profiles submitted by member countries – searches of the database by member countries led to 77 international hits during 2014*”, INTERPOL, Fact Sheet, DNA Profiling, p. 1.

genomic data. However, despite the consensus on the creation of DNA databases and agreement regarding cooperation between European countries and other non-European countries via Interpol, the non-uniformity of criteria for the entry, storage, and destruction of DNA information among countries, even among European Union countries, remains problematic. In this respect, pursuant to *Schneider* and *Martin*, “*there is a significant difference between the European Countries...*”⁴⁰. To clarify these differences, *Santos et al.* have divided the European countries into two groups known as *the restrictive* and *the expansive* countries⁴¹.

Notably, the DNA databases of the UK and the USA initially held samples of convicted criminals but later expanded to include samples of those who have not yet been convicted. However, the judgment of *S and Marper vs. United Kingdom* has slightly changed this tendency toward expansiveness among European countries. In this case, an eleven-year-old boy was arrested on suspicion of attempted robbery, and his DNA samples were collected by the police. Having been acquitted after five months, he demanded the removal of his samples from the database. His request, however, was rejected. The ECHR pointed out that “*the blanket and indiscriminate nature of the powers of retention of the fingerprints, cellular samples and DNA profiles of persons suspected but not convicted of offences, as applied in the case of the present applicants, fails to strike a fair balance between the competing public and private interests and that the respondent State has overstepped any acceptable margin of appreciation in this regard*”⁴². Subsequently, the Court found a violation of Art. 8 of the Convention, stating that “*the retention at issue constitutes a disproportionate interference with the applicants’ right to respect for private life and cannot be regarded as necessary in a democratic society*”⁴³.

As a response to the above judgment, a new regulation, *The Protection of Freedoms Act*, was signed into law in 2012. However, this Act allows for only some limited destruction and not the immediate destruction of DNA samples taken from the innocent and children. The Act necessitates the removal of the DNA samples of an arrestee under suspicion of a qualifying crime and who is acquitted within three years. That time can be extended by two years by a district court judge. If the arrestee

40 No. 29.

41 For this classification see no. 33, p. 4 *et seq.*

42 No.1, para. 126.

43 No.1, para. 126.

is under suspicion of a minor crime, the samples have to be destroyed. However, in both instances, if the arrestee has *a previous conviction* for a recordable crime, the samples will be retained *indefinitely*. These refer to cases that have not resulted in a conviction. In cases resulting in convictions, DNA samples from adults can be retained indefinitely. The DNA records of children under 18 and who are convicted of a recordable minor crime may be retained for five years in addition to the length of any prison sentence in the first conviction. However, if the prison sentence is for five years or more, their DNA samples can be retained indefinitely. In the case of a second conviction, the samples can be kept indefinitely⁴⁴. In any case, DNA samples are to be destroyed if the responsible chief officer of police finds that “(a) *as the taking of the samples was unlawful,*” or “(b) *the samples were taken from a person in connection with that person’s arrest and the arrest was unlawful or based on mistaken identity,*” pursuant to Art. 14 titled as *destruction of samples*⁴⁵.

Similar to that in the UK, the DNA samples of convicted individuals are not destroyed in the USA. DNA samples can be taken from the arrestee, detainee, or convict. However, if an arrestee requests removal and provides a final court order document showing that the charge has been dismissed, has resulted in an acquittal, or that no charges have been brought within the applicable time period, their DNA samples are to be removed. In the case where the conviction is overturned, if the convicted person requests removal and provides a final court order document indicating that the conviction has been overturned, the samples are to be removed⁴⁶.

Likewise, in almost every European country, DNA samples are collected and stored not only from *the convict*, but also from *the suspect*, and many countries require the removal of DNA samples from the national database in cases that do not end in conviction. However, some countries, such as France and Germany⁴⁷, stipulate

44 *Home Office*, Policy paper Protection of Freedoms Act 2012: How DNA and Fingerprint Evidence Is Protected in Law, Published 4 April 2013.

45 *Legislation.gov.uk*, Protection of Freedoms Act 2012, 2012, c. 9, Part 1, Chapter 1, Destruction rules for samples and impressions of footwear subject to PACE, Section 14.

46 *The FBI, Federal Bureau of Investigation*, Frequently Asked Questions (FAQs) on the CODIS Program and the National DNA Index System.

47 As a matter of fact, in the case, *Peruzzo and Martens vs. Germany*, the ECHR pointed out that taking, storing, and retaining the DNA samples of persons who were *convicted of serious crimes* or drug-related crimes for future use in criminal proceedings is justified and proportionate. Indeed, the Court emphasized *the gravity of crime* that the convicted person committed by pushing forward *the principle of proportionality*. The ECHR, thusly, held the case inadmissible. See *Peruzzo and Martens v. Germany*, Application nos. 7841/08 and. 57900/12.

the collection of DNA samples from *particular criminals*, such as those who have committed serious crimes (e.g., crimes against life, sexual abuse, or robbery), whereas some other countries, such as Hungary, specify the collection of samples in the case of crimes resulting in punishment by imprisonment for more than *a certain period*, such as five years⁴⁸. By doing so, a tendency to set up *a certain crime catalog* exists in these countries⁴⁹. The inclusion of DNA samples in databases can be subjected to *an order by a judge or court* in some countries, such as in Luxemburg, the Netherlands, and Portugal⁵⁰. As a matter of fact, no specific crime limitation exists in some countries classified by *Santos et.al.* as expansive. These countries include Estonia, Latvia, Lithuania, and Slovakia. In these countries, the DNA samples of a suspect or a convicted person in any type of crime can be included in the database⁵¹.

As for the possibility of removing DNA information from the national database, some countries expunge DNA samples from their databases following acquittal, after a certain period of time, and after the sentence has been served. In Belgium, records are removed after 30 years of inclusion, in Poland after 35 years, in France⁵² after 40 years, and in Hungary 20 years after the sentence has been served. In Italy, records are removed 20 years after the commission of the crime and are no longer held after 40 years. Some countries, such as Luxemburg, remove records after the death of the convicted person. In Germany, profiles are reviewed at certain periods, which differ for adults, children, and youth. Many countries, such as Hungary, Ireland, Italy, Luxemburg, the Netherlands, Poland, and Sweden remove DNA samples after acquittal⁵³. In Switzerland, DNA samples can be taken from both the suspect and the convicted person for use in criminal procedures⁵⁴. After judgment and conviction, the samples of the convicted person are included in the database. However, some

48 THIBEDEAU, National Forensic DNA Databases 2011, p.7.

49 No. 48.

50 No. 33, p. 5

51 No. 33, p. 6.

52 However, recently- in 2017- in the case of *Aycaguer v. France* (application no. 8806/12) the ECHR holds that there has been a violation of art. 8 by arguing that “...to date, no appropriate action had been taken on that reservation and that there was currently no provision for differentiating the period of storage depending on the nature and gravity of the offences committed” (*The ECHR, Judgment Aycaguer v. France - refusal to participate in a national genetic database*, available at [https://hudoc.echr.coe.int/eng#{"fulltext":\["CASE OF AYCAGUER v. FRANCE"\],"documentcollectionid2":\["GRANDCHAMBER","CHAMBER"\],"itemid":\["001-175007"\]}](https://hudoc.echr.coe.int/eng#{)) (19.11.2017).

53 No. 33, p. 5.

54 *Der Bundesrat*, Das Portal der Schweizer Regierung, DNA-Profil-Gesetz, Art. 3 Probenahme und DNAAnalyse in Strafverfahren.

circumstances exist wherein DNA samples can be retained, depending on the type of crime and the punishment. Specifically, DNA samples are retained in the case of intentionally committed crimes or crimes that require imprisonment or other measures that result in the deprivation of liberty for a period of no less than a year. In addition, samples may be retained where the crime involves a crime against health, life, or sexual integrity⁵⁵. DNA samples are removed after acquittal, upon the termination of the case, or on the death of the convict. In Switzerland, DNA records are expunged 10 years after the sentence has been served, five years after security measures are imposed, or 10 years after the implementation of the deprivation of liberty⁵⁶.

In expansive countries, such as Estonia, samples of the suspect or the convicted person are deleted 10 years after death. In Latvia, the samples of the convicted person are removed 75 years after its inclusion, and the samples of the suspect are deleted 10 years after acquittal. In Lithuania, samples are removed 100 years after inclusion in the database or 10 years after the death of the suspect or the convicted person. In Slovakia, records are deleted 100 years after the date of birth of the person concerned, and the records of suspects are deleted after acquittal⁵⁷.

Turkey attempted to establish a national DNA database in 2007; however, it remains unsigned into law as of today. The draft aimed to establish a DNA database for not only criminal affairs but also for other purposes, such as the location of missing persons by taking samples from volunteers. Existing databases in other countries are expanding for the same purposes. Under the current Turkish law, DNA samples can be collected from the suspect, the convicted person, and the victim, as well as from the crime scene. Regarding the removal of DNA samples in the context of criminal matters, the draft referred to Art. 80 of the Turkish Criminal Procedure Code. Pursuant to this Article, DNA results should be expunged by a public prosecutor under the following circumstances: (1) if a public prosecutor decides not to prosecute, and the time for objection against the decision by a public prosecutor to not prosecute is due or the objection is rejected; (2) the perpetrator is *acquitted*; (3) or the court

55 Art. 5: Probenahme und DNA-Analyse bei verurteilten Personen.

56 Art. 16: Löschung der DNA-Profile von Personen.

57 No. 33, p. 6.

renders a judgment to the effect that there is *no need to inflict punishment*⁵⁸. Notably, no expunction duty exists in the case of a conviction, i.e., if *A* is convicted for sexual assault and his DNA information has been extracted from his semen found on the body of the victim, then the information may not be expunged.

Given that a national Turkish DNA databank does not currently exist, the following questions arise: should the DNA samples and information of convicted people be expunged? If the answer is “yes,” for how and for how long should they be retained? Turkish scholars hold divergent opinions on the creation of a national DNA databank. Some strongly favor the creation of such a database, arguing that it is an inevitable and even necessary tool for solving crime in a modern society. By contrast, some scholars object to the creation of such a database⁵⁹.

5. Conclusive Remarks

The functions of DNA evidence and DNA databases in the criminal justice system indicate the necessity of creating DNA databases to solve and fight crime. However, the creation of such databases raises some concerns, especially those for privacy. This essay is based on the proposition that the criteria for the entry, storage, and destruction of DNA samples ease the tension between privacy breaches and the state’s interest in solving and fighting crime. As a matter of fact, these criteria ensure *the principle of proportionality*. However, the current tendency to create databases and expand existing ones introduces confusion and complicates cooperation among countries. This outcome brings us to the issue of whether breaching DNA privacy for the sake of the criminal justice system is justified remains debatable.

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58 The judgment of *acquittal* differs from the judgment of *no need to inflict punishment* in the Turkish criminal procedure because culpability has been separated from the mental elements of the crime (*mens rea*). In that respect, different conclusions between the lack of mental element and of culpability exist. Acquittal indicates that the perpetrator is not guilty, their guiltiness could not be proven, or the crime did not come into being because of the lack of elements of crime, for example, lack of mental elements. The judgment of *no need to inflict punishment* indicates the lack or deficient of culpability out of mental illness, being under age, acting under necessity or coercion, or lack of consciousness of that the act is unjust.

59 For these opinions see ARISOY & ERESEN & ÖZBEK, Yeni yasal düzenlemeler ve Moleküler Genetik İncelemeler (New Laws and Molecular Genetic Tests: Review), p.181; see also ÖZBEK, DNA Verileri ve Türkiye Milli DNA Veri Bankası Kanunu Tasarısı Hakkındaki Görüşlerimiz, p. 76; ALTAŞ, E., Bir Koruma Tedbiri olarak Moleküler Genetik İncelemeler ve Türkiye Milli DNA Veribankası Kanunu Tasarısı, p. 107.

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