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ÁRPÁS, BÉLA

Expedient system of homicide prevention

Introduction

As a professional member of the Police force, I served for nearly twenty years in the field of homicide. I directed the investigation of numerous cases that were based on the crime of preparation for homicide. All of this occurred before Act XC of 2017 entered into force on the current criminal procedure – hereinafter referred to as [CP]. In my research, I aimed to examine the current situation regarding the prevention and detection of preparation for homicide. To this end, taking into account the relevant jurisdictional and competence rules, I conducted interviews with investigative officers, detectives, examiners, leaders, and a senior executive working in the field of life protection, all of whom had more than a decade of professional experience, across six counties. Following this, I drew possible conclusions.

Legal background

The Act XC of 2012 on the Criminal Code (hereinafter: [CC]) defines the basic factual situation of homicide as an open factual situation, not tied to a method of commission: *"Anyone who kills another person shall be punished by imprisonment for a term of five to fifteen years."* The legislator defined a total of twelve qualified cases, taking into account the perpetrator's background, the identity of the victim, the method of commission, motives, and other factors, which allowed for the permanent exclusion of the offender from society. In privileged cases, such as negligent commission or homicide committed in a state of strong emotional disturbance as a separate factual situation, milder sanctions are associated compared to the basic

case.[1] Determining the necessary intent for the correct legal assessment of the act is often difficult, especially in cases that have reached the stage of preparation, as the perpetrator's state of mind is not present in the external world or only appears in small traces, thus there are objective obstacles to understanding.

The [CC] only prescribes punishment for preparatory conduct if the specific factual situation in the special part provides for its punishability. A person is punishable for preparation if they provide the necessary or facilitating conditions for the commission of the crime to commit the given crime, call for the commission, offer, undertake, or agree to commit jointly. However, a person is not punishable for preparation if they voluntarily abandon their intention, resulting in the failure to commence the commission of the crime, nor is a person punishable who withdraws their verbal declarations that would otherwise qualify as preparatory conduct or seeks to persuade others to refrain from committing the act. However, a conjunctive condition for this is that the commencement of the crime is omitted for any reason. Finally, a person is exempt from punishment if they report the preparation to the authorities before the commencement of the crime. The only exception is when the preparation itself constitutes another crime. In this case, the perpetrator is punishable for that reason.[2]

Methodological differences

In the investigation and proof of homicide that has reached at least the attempted stage, classical investigative methods – data collection, scene examination, autopsy, interrogation, search, and expert examinations – still dominate today.

However, preparatory cases necessitate the application of a special procedural model, especially in cases of more sophisticated commission – for example, involving a hired killer – or in the investigation of crimes that are

[1] The Act C of 2012 on the Criminal Code, Sections 160 and 161
[2] The Act C of 2012 on the Criminal Code, Section 11

much more difficult to prove, realized only through the communication of thoughts. In the former, the conspiratorial commission is present, while in the latter, the nature of the crime results in a much more limited application of tools, which justifies the use of a special investigative method.

The methodological model is characterized by the fact that among the classical investigative tools – in the absence of on-site measures and forensic experts – greater emphasis is placed on interrogation, presentation for recognition, and confrontation. The personal proof of the investigation becomes prominent, with the main goal being the proof of intent. The problem arises with the validity of the evidence and the questionability of the witnesses. Therefore, the investigation must have a threefold focus: the prevention of the crime, the collection of evidence, and, as a third pillar, its substantiation. All of this must be accomplished in such a way that when involving the suspect in the proceedings, there must already be sufficient evidence for indictment, as the opportunities for evidence collection significantly narrow thereafter. Since the commission of the crime is ongoing, it is not sufficient to follow events; a specifically rapid proactive approach is necessary. But does this appear in the investigative timeline? To gain insight into the so-called case duration, I submitted a data request to the National Police Headquarters Criminal Directorate Criminal Analysis Evaluation Division, but this time I requested data over a broader time interval to gain a wider understanding of the processes. The response is contained in Table 1.

The average case duration of completed investigations in homicide criminal proceedings. based on the Unified Investigative Authority and Prosecutor's Criminal Statistics (2016-2023)							
crime (stage of realization)	**2017. yr**	**2018. yr**	**2019. yr**	**2020. yr**	**2021. yr**	**2022. yr**	**2023. yr**
other criminal cases	110,3	133,8	169,5	195,9	225,0	226,8	n.d.
Intentional homicide	499,8	749,1	729,3	872,9	653,1	674,4	626,8
preparation for murder	403,3	560,4	626,4	614,2	540,9	545,5	504,6

Figure 1: Criminal Statistics Data
Source: NPHC CD CAED, self-edited

The most striking data for me is that the investigation of homicide generally takes three times longer than investigations related to other crimes. At the same time, the time spent on investigations for the preparation of homicide is 70-85% compared to the investigations of completed homicides. In my study, I considered the year 2017 as the base year because it was the last full year when investigations were conducted under Act XIX of 1998 on criminal proceedings. I compared this with the year 2019, which was the first full year following the entry into force of Act XC of 2017 on criminal proceedings.

It is immediately apparent that the average time spent on investigating crimes increased by 54% by 2019, and then the rate of increase reached 205.6% by 2022. In contrast, the time spent on investigating homicides shows a more differentiated picture. Between 2017 and 2019, the investigation time increased by 45.91%, and then by 2020 – the year of significant case number increase – it reached 75%. At this point, the situation consolidated, and by 2023, when the number of homicides decreased, the time spent on investigations was only 26% longer compared to 2017. Regarding the preparation for homicide, the investigation time increased by 55% by 2019 compared to 2017. By 2023, this figure showed only a 25% increase, corresponding to the homicide pattern.

The prolongation of investigations is primarily attributed by my interviewees to personnel issues (staffing, professional competence, expertise), administrative, and IT problems. The staffing and material-technical gaps are also present in the expert field, which also affects investigations. Considering that the number and professionalism of life protection units are relatively constant, there is significantly less expert activity in preparatory cases, which is why the aforementioned problems appear only to a small extent in the vertical of investigation performance time, resulting in a much smaller increase in deadlines compared to the average.

Special substantive legal tools

The detection and proof of preparatory behavior manifested in actions (e.g., tampering with the victim's car brake system) is a relatively simpler task. The difficulty arises in the case of preparatory behaviours that manifest solely in verbal form. The "invitation" to commit a crime by another person or the "offer" of another person is a unilateral but ultimately a bilateral activity between two individuals. The "agreement to commit jointly" is also a bilateral act, but it is a partner activity. These are clarified forms of behaviour. Since the situation involves multiple participants, the proof is less cumbersome than in the case of "undertaking" to commit a crime. This behaviour merely signifies the acceptance of some activity in common parlance.

The Curia's decision No. 3/2019 issued by the Criminal Law Unification Council on October 7, 2019 (hereinafter: [CLU]) brought significant changes to investigations. It clarified that *"the expression of intent to commit a crime without an invitation may also be suitable for establishing the crime."*[3] In other words, an undertaking does not merely mean accepting an invitation or offer made by another; it becomes a factual situation when someone resolves to carry out their will or even their already established plan – namely, to kill another person. Based on this, one might think that

[3] The decision No. 3/2019 of the Criminal Law Unification Council of the Curia

the investigation has become much simpler. The investigative authority only needs to understand and record the conversation between the parties, and the evidence is available. However, it should not be forgotten that a single word can have multiple meanings or be interpreted differently in various cultural contexts. In everyday life, there may be expressions of intent without actual intent to kill. Therefore, while interrupting the flow of the crime is indeed easier, establishing the truth remains a complex task.

During the interviews, I learned that since the entry into force of the [CLU], numerous proceedings have been conducted for the preparation of homicide, resulting in final, convicting judgments. The respondents stated that for crimes realized merely through the communication of thoughts, relatively mild but appropriately weighted penalties are usually imposed, avoiding deprivation of liberty. Additionally, in cases showing more serious determination or a higher degree of organization, the court regularly imposes custodial sentences. In my opinion, the [CLU] has clarified the administration of justice for the courts by providing guidance and has even allowed the investigative authority to take timely preventive action.

Another legal tool for prevention, which aids in prevention not through sanctions but by exempting from punishment, is the very fact of preparation. Section 11 (2) of the [CC] provides, to a certain extent, immunity from punishment for a person who demonstrates behaviour aimed at preventing the commission of a crime in a manner contrary to the act itself, as an additional reason excluding criminal liability. An exception to this is the crime already committed by the subject of the crime, such as illegal arms purchase. However, this may even assist in the investigation if there is a possibility for a later discussed agreement.

Special procedural tools

I have mentioned above that the [CP] provides several consensual options, similar to plea bargaining well-known in Anglo-Saxon law, regarding the perpetrator's impunity. Accordingly, the prosecution has the option to refuse the report, terminate the investigation, propose prosecutorial measures

or decisions, or enter into an agreement with a suspect or a person who can be suspected of committing a crime, provided that their confession and cooperation in crime detection and evidentiary procedures are significant enough to outweigh the societal interest in holding them accountable. The options – except for the agreement – cannot be applied if the cooperating person has committed a crime that involves the intentional extinguishment of another's life or intentionally causing permanent disability or serious health deterioration, and here the legislator uses the past tense, implying the perpetrator's behaviour that presupposes the occurrence of the result. Cooperation can be based on reports made about all essential aspects of the case, or even on the use of a natural person as a covert tool. In the latter case, there is an opportunity for the secretly cooperating person to assist the investigative authority in obtaining further evidentiary tools by using other covert tools subject to judicial or prosecutorial authorization.

In proceedings concerning the preparation for murder, the scope of covert tools is also emphasized. The individual tools are applied without the knowledge of the affected party, severely infringing on their fundamental rights. For these reasons, the legislator has established a three-tier authorization level as follows:

- Not subject to judicial or prosecutorial authorization,
- Subject to prosecutorial authorization, and
- Subject to judicial authorization for the use of covert tools.[4]

The most important principles for the application of these tools are:

- Necessity – it can be reasonably assumed that the information or evidence sought is essential for achieving the objectives of the criminal proceedings and cannot be obtained by other means or only with significant difficulty,

[4] Act XC of 2017 on Criminal Procedure, Section 214 (4)

- Proportionality – the application of covert tools does not result in an unreasonable restriction of the fundamental rights of the affected or other individuals; and
- Purpose limitation – the application of covert tools is likely to lead to the acquisition of information or evidence related to a crime.[5]

Next, I would like to share a few thoughts on the three most commonly used covert tools in cases of preparation for murder.

The secretly cooperating person

The authority authorized to use covert tools may employ a secretly cooperating person to obtain information related to the crime.[6] The legislator has also allowed law enforcement agencies to use secret collaborators both in general intelligence activities supporting law enforcement and crime prevention, as well as in specific activities related to obtaining information or evidence for criminal proceedings. However, the use of information obtained by collaborators and the procedural role of the cooperating person is highly situational, depending on the state of progress of the case, the degree of risk, the method of commission, and the determination of the perpetrator.

Covert surveillance

The authority authorized to use covert tools may secretly observe a person, residence, other premises, enclosed area, public or open space, as well as a vehicle or object that constitutes material evidence related to the crime, gather information about the events, and record observations using technical means.[7] Covert surveillance is as old a tool as the use of informants. However, it is also an extremely costly and dangerous tool. Monitoring the perpetrator of a preparatory act is a guarantee for preventing the crime. Professionally conducted surveillance does not influence the perpetrator's

[5] Ibid, 214 (5)
[6] Ibid, Section 214 (1)
[7] Ibid, Section 214 (5)

behaviour, so there can be no doubt about the objectivity of the evidence obtained (e.g., video recording, photograph).

Wiretapping

The authority authorized to use covert tools may, with judicial authorization, secretly get to know and record the content of communications conducted via electronic communication services through electronic communication networks or devices, or information systems.[8]

The first mobile subscriptions, which have almost completely replaced landline phones, began to be sold in Hungary in 1990 by Westel Rádiótelefon Ltd. According to the Central Statistical Office, in 2023, there were already 1043.3 subscriptions per 1000 people.[9] Wiretapping involves understanding the communication between two parties, which makes it effective in cases of social perpetration. In our time, it is becoming less emphasized, as perpetrators share less information over the phone, but there remains a realistic possibility that it can significantly aid investigations. According to my interviewees, the information obtained during wiretapping can help authorities timely recognize and establish genuine intentions related to the preparation of a crime, and identify the instigator, or the executor.

Summary

The priority of the investigation into the crime of conspiracy to commit murder, which overrides all else, is the protection of the life of the endangered person. In addition to prevention, it is, of course, important to enforce society's criminal law demands. For these reasons, the situation must be kept under control in a conspiratorial manner. Due to the specific characteristics of the offense, the investigation primarily aims to prove the perpetrator's intent, thus emphasizing personal evidence. This, along with

[8] Ibid, Section 232 (5)

[9] Source: https://www.ksh.hu/kereses?q=mobiltelefon Accessed: 06.06.2024

the significantly limited application of classical investigative tools, necessitates the use of specialized investigative methodologies in more sophisticated cases. Together, these factors can tie up significant personal and technical capacities, resulting in the rapid and proactive execution of the investigation.

The transition associated with the entry into force of the [CP] and other independent law enforcement (personnel, infrastructural) processes has negatively impacted the investigation time, which has doubled over five years. Although problems have also infiltrated the area of life protection, the situation has relatively quickly and significantly consolidated. One significant reason for this is that there is still no human (staffing or knowledge-based) gap in this field, as there is in other areas. Another reason is the wide range of available legal tools, partly substantive and partly procedural.

The source of the substantive legal tools is fundamentally the Criminal Code itself, which defines the preparatory conduct and, in certain cases, excludes liability, but it should also include the decision No. 3/2019 made by the Criminal Law Unification Council of the Curia. The latter clarified the relatively frequent " undertakes" in committing a crime among the sanctionable behaviours, thereby providing authorities with the opportunity for appropriate action already at the stage of expressing the thought.

The other source of special tools is contained in the procedural law. The [CP] increasingly employs various types of agreements defined as open and covert tools based on consensual foundations. Additionally, according to the opinions of the professionals involved in the research, classical covert tools remain important, among which the most frequently used are the secretly cooperating person, hidden surveillance, and wiretapping.

In my work, I have concluded that the police have all the necessary tools available for cases where, for some reason, establishing the facts is more complicated, or difficulties arise in detection or proof. The range of traditional and special tools provides sufficiently broad options for the authorities to act effectively.

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BARÁTKI, LÁSZLÓ ATTILA

International dimensions of AML/CFT supervision in Hungary[1]

Supervision against money laundering and terrorist financing development of the background

Over the last thirty years, the European Union has developed a solid regulatory framework for the fight against money laundering and terrorist financing, underpinned by the case law of the Court of Justice of the European Union.[2] The EU rules have a broad scope and go beyond the international standards adopted by the Financial Action Task Force (FATF). The range of businesses and professions covered by these rules has steadily increased compared to the previous period. The data shows that, unfortunately, during the Covid 19 pandemic, money laundering offences have continued to increase. Further disruptions are caused by the outbreak of the Russian-Ukrainian war, which in many cases also significantly complicates and hinders international cooperation in the fight against ML/TF. A study carried out by the EU Commission shows that criminals take advantage of every opportunity to carry out illegal activities to the detriment of society and the economy.[3] To this end, in its *Communication Towards a better implementation of the EU framework for combating money laundering and*

[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.
Source: https://m2.mtmt.hu/frontend/#view/Publication/SmartQuery/1127/

[2] The Court of Justice of the European Union has recognised that the objective of combating money laundering is linked to the protection of public order and may justify restrictions on the fundamental freedoms guaranteed by the Treaty, including the free movement of capital. Restrictions must be proportionate (see Panama Papers, Jyske Bank Gibraltar, C 212/11 and Lhu Zeng, C l 90/17). Source: https://www.icij.org/investigations/panama-papers/

[3] Source: https://net.jogtar.hu/jogszabaly?docid=a20k0058.com#lbj2idf28a

terrorist financing and its accompanying report of July 2019,[4] the European Commission has identified the measures needed to ensure a comprehensive EU framework for the fight against money laundering and terrorist financing.[5]

These include a more effective implementation of existing rules, a more detailed and harmonised rulebook, the establishment of high quality and consistent supervision by delegating specific supervisory tasks to an EU body, the interconnection of central bank account registers and the development of a stronger mechanism to coordinate and support the work of the Financial Information Units (FIUs). To achieve these goals, the EU has also established a new comprehensive system for the protection of whistleblowers, which was transposed into EU norms in December 2021, complementing the existing rules on whistleblower protection in the 4th Money Laundering Directive. The system will strengthen the ability of national and EU authorities to prevent, detect and deal with breaches of rules on, among other things, the fight against money laundering and terrorist financing. In this context, the Commission intends to implement a comprehensive anti-money laundering and counter-terrorist financing policy that is tailored to the specific threats, risks and vulnerabilities that the EU is currently facing.[6] The need to establish a supranational supervisor to achieve all these objectives was already confirmed in the July 2019 report package. An analysis of a number of money laundering cases has revealed significant shortcomings in jurisdictions with regard to the risk management of credit institutions, in the activities of AML/CFT supervisors, including FIUs, and of prudential supervisors.

[4] EU Commission Communication 2020/C 164/06 on an action plan for a comprehensive EU policy to prevent money laundering and terrorist financing. Source: https://net.jogtar.hu/jogszabaly?docid=a20k0058.com#lbj11id82ec

[5] Source: https://rm.coe.int/moneyval-annual-report-2019/1680a07d48

[6] Report from the Commission on the Supranational Risk Assessment on Money Laundering and Terrorist Financing Risks to the Internal Market and Cross-Border Activities COM(2019) 370 final.
Source: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019DC0370

Recent country assessments have also revealed weaknesses in the authorities supervising the activities of non-financial institutions and service providers. In my opinion, this is partly because the countries' inspectorates lack adequate professional and financial resources, and the political interests and priorities devoted to this task are far below EU expectations. Furthermore, implementation methods differ and, because of these differences, the quality and effectiveness of national supervision in EU countries is uneven and damaging. It is mainly for these reasons that the establishment of a supranational EU authority of high professional quality should be introduced in order to remedy these shortcomings and restore confidence among citizens, economic operators and the international image of the Union. This EU-wide supervisory system can address the fragmentation of supervision to integrate and complement national supervisory systems. It will also ensure harmonised and uniform application and effective enforcement of anti-money laundering and counter-terrorist financing rules across the EU, support on-the-spot monitoring activities and promote a continuous flow of information on ongoing actions and significant gaps in jurisdictions. National supervisors will form an integral part of this system, while remaining responsible for the majority of the day-to-day supervisory tasks.

Establishment of the Anti-Money Laundering/Countering the Financing of Terrorism Authority (AMLA)

In 2019, the European Commission has highlighted how criminals have exploited differences and gaps in Member States' implementation of the European system to combat money laundering and terrorist financing.[7] On

[7] The European Commission published a Communication and four reports in 2019 on better implementation of the EU framework for combating money laundering and terrorist financing.
Source: https://finance.ec.europa.eu/publications/communication-towards-better-implementation-eus-anti-money-laundering-and-countering-financing_en

the basis of these findings, the European Commission presented its proposal for the establishment of a supranational authority to combat money laundering and terrorist financing to the Council and Parliament on 20 July 2021. The proposal, presented under COM(2021) 421 final,[8] identifies around 1% of the EU's annual gross domestic product as being involved in suspicious financial activities.[9] Following a number of high-profile international cases involving EU credit institutions involved in money laundering, the Commission has also adopted a series of documents analysing the efficiency and effectiveness of the existing EU system for combating money laundering and terrorist financing.[10] As a result of this analysis, the Commission has concluded that reforms are needed, including in the area of supervision and cooperation between financial intelligence units. The establishment of a European authority is the only way to fully achieve the objectives of preventing similar cases and achieving the objectives set.[11]

[8] Proposal for a „REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL" establishing the Authority for Anti-Money Laundering and Countering the Financing of Terrorism and amending Regulations (EU) No 1093/2010, (EU) 1094/2010, (EU) 1095/2010
Source: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2021%3A421%3AFIN

[9] Europol: From suspicion to action: Converting financial intelligence into greater operational impact Europol – Report from suspicion to action, enhancing the operational impact of financial intelligence.
Source: https://www.europol.europa.eu/publications-events/publications/suspicion-to-action-converting-financial-intelligence-greater-operational-impact

[10] Communication from the Commission - Towards a better implementation of the EU framework for combating money laundering and terrorist financing (COM(2019) 360 final), Commission Report on the evaluation of recent alleged money laundering cases involving EU credit institutions (COM(2019) 373 final) and other amending reports on money laundering and terrorist financing.

[11] Commission proposal for a Regulation establishing the European Money Laundering and Terrorist Financing Authority and amending Regulations (EU) No 1093/2010, (EU) No 1094/2010 and (EU) No 1095/2010.
Source: https://www.consilium.europa.eu/hu/press/press-releases/2023/12/13/anti-money-laundering-council-and-parliament-agree-to-create-new-authority/

The AMLA is in fact a new EU agency created to improve supervision within jurisdictions in the fight against money laundering and terrorist financing in the EU and to support fast and efficient cooperation between FIUs.[12] The proposal for the establishment of the AMLA was presented as part of the European Commission's legislative proposal package on the fight against money laundering and terrorist financing 2021/0250(COD) before the end of 2021.[13] The European Parliament and the Council reached a provisional agreement on the establishment of the AMLA on 13 December 2023. A few days later, 18 December 2023, the Council and Parliament representatives also reached an agreement on the process for selecting the seat of the AMLA. Under the agreement on the selection procedure, the seat will be included in the Regulation following the selection procedure. 28 September 2023, the Commission, at the request of the co-legislators, published a call for tenders for the establishment of a seat for Member States, which resulted in nine Member States submitting their applications for the establishment of a seat.[14] Applicants were heard on their applications after 30 January 2024.

[12] Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the mechanisms to be put in place by the Member States for the prevention of the use of the financial system for the purposes of money laundering or terrorist financing and repealing Directive (EU) 2015/849.
Source: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021-PC0423

[13] Press release: Fight against money laundering - Council and Parliament agree to set up new authority.
Source: https://www.consilium.europa.eu/hu/press/press-releases/2023/12/13/anti-money-laundering-council-and-parliament-agree-to-create-new-authority/

[14] Selection of the seat of the Anti-Money Laundering/Countering the Financing of Terrorism Authority (AMLA) Call for tender 1063/2023 for the selection procedure for the seat of the new Authority. Nine countries applied: Belgium - Brussels; Germany - Frankfurt; Ireland - Dublin; Spain - Madrid; France - Paris; Italy - Rome; Latvia - Riga; Lithuania - Vilnius; Austria – Vienna.
Source: Selection of the seat of the Anti-Money Laundering/Countering the Financing of Terrorism Authority (AMLA) - European Commission (europa.eu)

Following the evaluation of the applications, the German application was considered the most suitable 22 February 2024 and the AMLA office is expected to open in Frankfurt in 2025 with an expected staff of 400.[15] The decision also took into account the fact that Frankfurt is also the seat of the European Central Bank. 18 January 2024, the Council and Parliament also reached a provisional agreement on parts of an anti-money laundering package to protect EU citizens and the EU financial system against money laundering and terrorist financing.[16] As regards the procedural mechanism, the member states' representatives in the Permanent Representatives Committee will submit their proposals to the Parliament and, once approved, they will have to be formally adopted by the Parliament and the Council. The texts are then published in the Official Journal of the European Union and enter into force, thus allowing the supranational authority's procedural powers over the Member States to be exercised.

Functions and powers of the AMLA

Since money laundering is a cross-border financial crime, the AMLA strengthens the EU framework for combating money laundering and terrorist financing by establishing an integrated mechanism with Member States' national supervisors to ensure that the service providers concerned comply with their obligations. Under the compromise regulation establishing the AMLA,[17] which is not yet finalised, it will, among other things:

[15] Source: https://www.consilium.europa.eu/en/press/press-releases/2024/02/22/frankfurt-to-host-the-eus-new-anti-money-laundering-authority-amla/

[16] Source: https://www.consilium.europa.eu/hu/press/press-releases/2024/01/18/anti-money-laundering-council-and-parliament-strike-deal-on-stricter-rules/

[17] Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing the Authority for Anti-Money Laundering and Countering the Financing of Terrorism and amending Regulations (EU) No 1093/2010, (EU) 1094/2010, (EU) 1095/2010. Source: https://data.consilium.europa.eu/doc/document/ST-6222-2024-INIT/en/pdf

- directly supervise a number of credit and financial institutions, including cryptoasset providers, which are among the riskiest in the EU;
- have a support role for the non-financial sector;
- coordinate financial information units within Member States;
- impose administrative fines for serious infringements.

Under the draft, the AMLA, acting under its powers, will examine credit institutions and financial institutions that pose a high risk in several Member States, selecting up to 40 groups and service providers. The selected obligated financial service providers will be supervised by joint supervisory teams led by AMLA, which will, among other things, carry out assessments and inspections.

New supervisory arrangements for the non-financial services sector, known as colleges of supervisors, will also be established with the supportive involvement of AMLA. This is needed because if the EU supervisory authority were to supervise only those financial institutions that carry out the largest share of all financial transactions – although the sector is already heavily regulated and supervised and may therefore appear to be a simpler solution – it would not create a comprehensive and effective system to combat money laundering and terrorist financing. Therefore, the EU supervisory authority, together with national supervisory authorities as part of an integrated system, will have direct supervision of the financial sector and indirect supervision of the non-financial sector. Indirect supervision of the non-financial sector allows the Union body to intervene, where necessary, to ensure high quality supervision of the non-financial sector across the Union. The powers of the ESAs in this respect can also be divided into two parts: regulatory and supervisory.

Preparatory processes in Hungary

In Hungary, the Action Plan for a comprehensive EU policy on the prevention of money laundering and terrorist financing and the effective transposition of the Sixth Money Laundering Directive are also ongoing. This includes the effective implementation of the existing EU framework, the monitoring of Member States' capacity to prevent and combat money laundering and terrorist financing, and cooperation with the European Banking Authority.[18]

The supervisory structure and organisation of the Authority is designed to ensure the fulfilment of its tasks and is divided into the following main units:

- Supervisory Board,
- Board of Directors,
- President,
- The Board of Supervisors, the President, the Chairman, the President, the Chief Executive, and the Managing Director,
- Board of Appeal. [19]

Given that Hungary, together with five other EU Member States, is not part of the European Central Bank (ECB), a multilateral Memorandum of Understanding (MoU) was concluded with the National Competent Authorities (NCAs) in January 2023 to ensure the supervisory activities of the

[18] Source: https://net.jogtar.hu/jogszabaly?docid=a20k0058.com#lbj14id1fe8
[19] (EU) No 1093/2010 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a European Supervisory Authority (European Banking Authority), replacing Decision No 716/2009/EC
and repealing Commission Decision 2009/78/EC.
Source: https://eur-lex.europa.eu/legal-content/HU/TXT/PDF/?uri=CELEX:32010-R1093&from=EN

Banking Authority.[20] The MoU aims to provide a framework for Member States to regularly exchange information on supervisory issues and concerns, supervisory methodologies, approaches and priorities in relation to cross-border supervised financial institutions. It also encourages the ECB and national authorities to inform each other of planned measures that may be of mutual relevance. This is particularly important in times of stress as it can mitigate the risks arising from the fragmentation of European banking markets. The ECB will also seek to enhance cooperation with the financial authorities of Member States not participating in European banking supervision. This is because their banking sectors are highly interconnected. Some of the banks supervised by the ECB have subsidiaries or significant credit exposures to these Member States and conduct a significant part of their activities there. At the same time, some credit institutions established in Member States not participating in the Mechanism also have a significant presence in the jurisdictions supervised by the European Banking Authority. Without proper supervision, all these activities pose a serious risk to the fight against money laundering and terrorist financing in Europe and the agreement aims to further strengthen supervisory cooperation at European level.

The competent financial authority in Hungary for cooperation with the Banking Authority is the National Bank of Hungary (MNB),[21] which is re-

[20] Memorandum of Understanding with the competent national authorities of the six EU Member States that are not part of the Banking Supervisory Authority. It provides a framework for the Czech Republic, Denmark, Hungary, Poland, Romania, Sweden and Poland to exchange information and coordinate supervisory activities. The agreement aims to further strengthen supervisory cooperation at the European level, building on the strong culture of cooperation that has emerged from the work of the European Banking Authority, which links the ECB and EU NCAs outside the mechanism. Source: https://www.bankingsupervision.europa.eu/legalframework/mous/html/ssm.mou_2022_EU_non-participating_NCAs~6eeff08a42.hu.pdf

[21] The National Bank of Hungary as the primary financial authority of Hungary.

sponsible for the tasks of the MNB, including cooperation between the authorities and with the Commission, in the implementation of the legislative acts implementing Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions,[22] Directive 2006/49/EC of the European Parliament and of the Council of 14 June 2006 on the capital adequacy of investment firms and credit institutions[23] and Directive 94/19/EC of the European Parliament and of the Council of 30 May 1994 on deposit-guarantee schemes.[24] On the basis of the European Central Bank (ECB's) assessment opinion CON/2024/5 of 26 February 2024 on the Treasury Single Account held by the MNB and the powers of the MNB's supervisory authority, the banking supervision activity of our country has implemented a number of amendments, the results of which are significant, in particular as regards the strengthening of independence.[25]

The report points out, inter alia, that, in exercising the powers conferred on them by the Treaties and the Statute of the European System of Central Banks and of the European Central Bank and, in carrying out such tasks and duties, neither the ECB nor any member of its decision-making bodies may seek or take instructions from, inter alia, the governments of the Member States or from any other body, including bodies established by law such as the Board of Supervisors.[26]

Source: https://www.bankingsupervision.europa.eu/legalframework/mous/html/ssm.mou_2022_EU_non-participating_NCAs~6eeff08a42.en.pdf?6a4bed566fc002245c888113cdb08ade

[22] Source: https://eur-lex.europa.eu/legal-content/HU/TXT/?uri=CELEX:32006L0048

[23] Source: https://eur-lex.europa.eu/legal-content/HU/TXT/PDF/?uri=CELEX:32006L0049

[24] Source: https://eur-lex.europa.eu/legal-content/HU/TXT/?uri=celex%3A31994L0019

[25] Source: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52024AB0005

[26] ECB Opinion CON/2024/5 on the Treasury Single Account held by the Magyar Nemzeti Bank and the powers of the Supervisory Board of the Magyar Nemzeti Bank, paragraph 3.3.

Source: https://eur-lex.europa.eu/legal-content/HU/TXT/PDF/?uri=CELEX:52024AB0005

In the fight against money laundering and the financing of terrorism in Hungary, the MNB has been perceived internationally – and the IMF's FSSA assessment, mentioned above – to have performed exceptionally well in recent years compared to the previous period.[27]

[27] Source:https://www.bing.com/search?q=IMF+FSSA+report+from+Hungary+2023&qs=n&form=QBRE&sp=-1&lq=0&pq=imf+fssa+report+from+hungary+2023&sc=7-33&sk=&cvid=5E4B87E4D50140A0895B889810F3EFF5&ghsh=0&ghacc=0&ghpl=

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CZIFRA, BOTOND

Would it be more effective to sanction traffic violations by day-fines? - Law and Economics considerations[1]

Introduction

Does the same amount of fine incentivise appropriately the drivers of different wealth? The ideas that are appraisable as the imaging of a general societal intuition in the terrain of traffic law enforcement encompass the domestic press and the public discourse for a long time. Should the rich pay more? In the present paper, I attempt to present the background of the problem, and to seek pragmatic solutions that are not exaggerated, but deter as required the wealthier drivers too.

But do the rich really infringe traffic rules more? The Ministry of Transportation and Communications of Taiwan conducted research in 2009 about the sex and age of the drivers, their education, their income, their yearly driven kilometres, their most frequent driving purpose, and the number of their speeding tickets[2]. This survey is one of the deepest analyses of the international literature on the topic examining the collective effect of the acting factors by linear regression.

It was inferred from the obtained data that the factors of the strongest correlation are age and gender among the examined factors that are the most strongly correlated with the propensity to follow traffic rules: a young

[1] SUPPORTED BY THE EKÖP-24-2-I-ELTE-1033 UNIVERSITY EXCELLENCE SCHOLARSHIP PROGRAM OF THE MINISTRY FOR CULTURE AND INNOVATION FROM THE SOURCE OF THE NATIONAL RESEARCH, DEVELOPMENT AND INNOVATION FUND. This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.

[2] Tseng, C. (2013): Speeding violations related to a driver's socio-economic demographics and the most frequent driving purpose in Taiwan's male population. Safety Science, 57, 53-59. Source: https://doi.org/10.1016/j.ssci2013.02.005,

person is more likely to commit a traffic offence than a middle-aged or elderly person, and a man is more likely to commit a traffic offence than a woman. In terms of social status, the analysis of the data shows that the effect of education on the propensity to obey traffic rules is very significant: the most educated drivers (college or higher) accounted for the largest proportion of traffic offenders (20.2%), although this effect does not appear to be uniform. The survey reports that those with the highest incomes committed the highest per capita offences (0.3 offences per capita) and describes the effect of the reason for driving as being very significant: commuters for work and business are much more likely to commit a traffic offence than those who drive for shopping, family or leisure.

However, the results show that income has a strong effect, and this is supported by other similar studies: on Hong Kong's roads, high-income earners were found to be much more likely to commit offences[3]. But if the rich do indeed break the rules more, the state must create a traffic enforcement environment that discourages them from breaking the rules.

My research question is how to better encourage drivers with higher wealth to follow traffic rules. To answer this question, I chose to use economics because it provides a good model of the decisions that drivers have to make, including whether to obey or break a rule. The problem cannot, of course, be approached using economics alone, but this approach can be very useful to understand it better.

Current rules on traffic fines in Hungary

The traffic rules to be observed on Hungarian roads are set out in the Joint Decree 1/1975 (II. 5.) of the Minister of Transport and Post and of the Minister of Interior (hereinafter: KRESZ). The Act I of 1988 on Road Traffic (hereinafter: Kkt.) and the KRESZ establish jointly the rules of traffic.

[3] Chen, T. – Sze, N. N., Saxena, S. – Pinjari, A. R. – Bhat, C. R. – Bai, L. (2019): Evaluation of penalty and enforcement strategies to combat speeding offences among professional drivers: a Hong Kong stated preference experiment. Accident Analysis and Prevention*, 135.* Source: https://doi.org/10.1016/j.aap.2019.105366

While the Kkt. lays down the basic conditions of road traffic and the rights and obligations of persons and organisations involved in it (1. §), the KRESZ regulates traffic on public roads and private roads not closed to public traffic (§ 1 (1)). The 20. § (1) k) point of the Kkt. provides that, among the road traffic offences, the offender who exceeds the maximum speed limit and the offender who violates eight other traffic rules shall be liable to a fine. The fine is imposed by the designated law enforcement body in administrative authority proceedings, so that no infringement proceedings may be initiated in these cases.

The 48. § (3) a) point of the Kkt. empowers the Government to determine the scope of traffic offences subject to administrative fines, the amount of fines that may be imposed for infringements of the provisions on these activities and the detailed rules for the imposition of fines and the use of the fines collected. The Government has made use of this power in Government Decree 410/2007 (XII. 29.)[4], which sets out in its annexes the amounts of the fines for certain traffic offences. This does not give the enforcer the discretion to determine the amount of the fine under Article 11 of the Act on Infringements but obliges him to impose the fine specified in the Government Decree.

The introduction of the so-called *objective fine in* Hungarian traffic law enforcement has eliminated the consideration of liability elements from the process of fining. The complicated procedure of the old Act on Infringements, the slowness of the procedure, the simultaneous increase of motor vehicle traffic and the deteriorating accident statistics in the early 2000s made certain measures necessary in Hungary as well[5]. The legislator decided to remove the burden from the shoulders of the law enforcement

[4] Government Decree No 410/2007 (XII. 29.) on the scope of traffic offences subject to administrative fines, the amount of fines that may be imposed for infringements of the provisions on these activities, the procedure for their use and the conditions for cooperation in control

[5] Kovács, Gy. (2023): A közlekedési szabályszegések szankciórendszere [The system of sanctions for traffic offences]. Jogi Forum.
Source: https://www.jogiforum.hu/wp-content/uploads/2023/05/kovacs-gyorgy_-kozlekedesi-szabalyszegesek-szankciorendszere_cimlappal.pdf Accessed: 20.10.2023

authorities to investigate who committed the traffic offence and whether they were at fault, and instead defined the cases in which the operator or, where applicable, the actual driver of the vehicle cannot be held liable.

By this act, the legislator has also removed the possibility for the law enforcement authorities to consider the amount of the fine to be imposed, considering the circumstances of the case and the personal and financial circumstances of the offender. In all cases, the amount of the fine was set at the amount laid down in the Government Decree, which was fixed proportionally. For example, in the case of exceeding the maximum speed limit, this means that the annexe to the Regulation specifies that if the driver exceeds the maximum speed limit within a given speed limit, he is liable to pay a given fine, so that, for example, if the maximum speed limit is 50 km/h and the speeding is above 15 km/h but up to 25 km/h, the offender is liable to pay a fine of 39 000 HUF[6].

The economics of traffic fines

The economics of criminal sanctions

The economic analysis starts from the rational offender, i.e., it assumes that the offender considers the expected benefits and risks of committing the crime before acting, and in doing so, also considers the nature and the level of the punishment for breaking the rule. The fundamental question is what sanctions can be used to encourage latent offenders to respect the law. From an economic point of view, three types of punishment can be distinguished in the theory of punishment: imprisonment, stigma, and fines. In his study, Ákos Szalai explains the costs that each gender of punishment imposes on society[7].

[6] Effective 11 October 2023

[7] Szalai, Á. (2018): A büntetőjog közgazdasági elemzése [Economic analysis of criminal law]. Pázmány Law Working Papers, 2018/16

In general, prison is clearly the costliest for society of all the sentencing genders. It requires buildings, which are very expensive to build and properly equip, and the state must pay prison guards and staff who organise the detention, as well as the costs of providing care for the prisoners. Although the primary concern of prisons since the introduction of the Auburn system has been to make prisoners work and to work efficiently, experience shows that prisons are financially unprofitable. When analysing the social costs, it is also important to take into account stigmatisation: given that imprisonment is generally associated with a serious breach of basic social norms, the social perception of ex-offenders is very strongly influenced by their past, to the extent that the States are regularly challenged to organise rehabilitation and integrate ex-offenders into society.

In essence, stigmatisation is a reduction in the reputation of the person being punished. Legislation embodies the common will of society through the indirect democratic legitimation of the legislative process, and citizens who behave in a non-compliant manner are associated by the community with the information that they do not wish to abide by the rules of co-existence. Given that society associates imprisonment with more serious offences, stigma is a clear secondary punishment to imprisonment, whereas, in the case of fines, the gravity of the offence is also considered. Most traffic offences, if they do not cause an accident, are not usually associated with stigmatisation. The direct costs of stigma to society are relatively low: the costs incurred are all costs of transmitting information, but the indirect costs can be enormous. The diminished esteem makes it more difficult for the individual to cooperate with the rest of society, and this manifests itself in all aspects of his life: it is more difficult to find work, assert oneself in social relationships, etc. It is important to stress that stigma is not a formal sanction but a side effect of the perpetrator's social image, although the law can facilitate or even hinder its enforcement by shaping the rules of publicity.

As far as fines are concerned, the social costs of this type of punishment are clearly the lowest. If the amount of the fine is higher than the cost of collection, the fine generates a net revenue for society and is, therefore, the

most desirable form of punishment. However, a counterargument is that the distribution of wealth in society is very unequal, so the better-off may be able to buy off the opportunity to commit an offence. On this basis, it can therefore be said that, from the point of view of social costs, fines are primarily desirable.

It can be said that imprisonment is a time-based punishment and a fine is a money-based punishment: the offender sentenced to imprisonment is deprived of time by the state, while one sentenced to a fine is deprived of a part of assets. In addition to their social costs, it is also worth briefly considering the deterrent effects of the different types of punishment. Given that punishment deprives the offender of some scarce resource, the deterrent effect of punishment can be understood in terms of how the individual values the resources that are deprived.

How do time and money value each other? Baum and Kamas explained it briefly in an American journal[8]. In general, the distribution of money is much more dispersed than the distribution of time among people: the average difference between an individual's wealth from the average wealth in a country is expected to be much larger than the average difference of an individual's age from the average age. The implication is that members of society are expected to value the utility of their time much more accurately than the utility of their wealth since the distribution of the latter is much more stochastic than the distribution of the former.

However, it is also worth pointing out the interesting problem that, on the contrary, imprisonment penalises the rich much more than the poor, and fines penalise the poor much more than the rich. If the rich, by some ability, earn much more money at a given time, the imprisonment penalty entails a much greater potential loss of wealth for the rich. If the poor, for some reason, can earn less money each time, the fine penalises them much more severely in terms of time, since they have to work much longer to earn the

[8] Baum, S. – Kamas, L. (1995): Time, Money and Optimal Criminal Penalties. Contemporary Economic Policy, 13(4), 72-79. Source: https://doi.org/10.1111/j.1465-7287.1995.tb00733.x

amount of money they have. The question arises as to which type of fine is fairer: the one that deprives the recipient of a proportionate share of the wealth of the offender i.e., the same expected amount of time, or the one that deprives the recipient of a well-defined amount of money but from a different number of hours of work. I think it is important, however, to mention the practical aspect that the commission of an offence punishable by a uniform penalty becomes much easier to buy. But what is the purpose of these penalties? The presumed, but not clear, legal policy objective of these offences suggests that, in addition to the classical objectives of punishment, such as specific prevention or general prevention, there is also a strong emphasis on accident prevention. In my view, this is also a presumed aim of the legal policy, since, in accordance with the gravity of the offence, neither prevention nor accident prevention requires the State to remove the offender from his social environment: the primary - and preventive - aim is to ensure that the driver does not cause an accident while driving.

The regulations in countries around the world basically use two methods of calculating fines, one of which is the *fixed fine*. In the case of a fixed fine, the penalty is imposed according to some system of sanctions, based solely on the offence.

Another typical calculation method is the use of a daily fine, the *day-fine*. The fine is calculated in two steps. In the first step, the law enforcer determines the number of days for the fine, i.e., the number of days the offender should be fined for the offence, and in the second step, the amount of the fine per day. The amount of the fine will be the product of these two factors.

It is worth comparing these to choose one of the methods of calculating the fine. Furthermore, in light of the research question, it is important to consider the problem of diminishing marginal utility of assets that I describe before the comparison.

The problem of the diminishing marginal utility of money

The typical penalty for traffic offences worldwide is a fine. But does a fine have a deterrent effect? Among the economists, Gossen formulated the concept of how individuals value the goods at their disposal in the light of the achievement of their goals. *"The magnitude of enjoyment decreases if enjoyment is continued without interruption until satiation occurs."* - states his first law, which is the cornerstone of the microeconomic principle of diminishing marginal utility. But if this is also true for money, it means that the resource taken away when money penalties are applied is valued less by the rich than by the poor.

To prove this, I use the model of two Israeli researchers[9]. In this model, people's subjective well-being depends on two factors: the monetary value of their wealth and the monetary value of the way they spend their time. The latter may be the driving incentive for traffic offences: drivers do not drive within the limits to reach their destination faster, as they can then spend their time on other, more useful activities. Since he can always choose the best of these activities, we can assume for simplicity that the utility of his time is constant.

First, for simplicity's sake, let's assume that the identity of the perpetrator will be revealed. The individual chooses to commit the offence or not to commit the offence: if he does, he increases the likelihood of having an accident (inconvenience), exposes himself to fines and derives some personal benefit from getting somewhere faster. It can be assumed that a driver becomes an offender if, and only if, the benefit derived from the reduced amount of the wealth and the additional leisure got from the basic leisure and the leisure gained by committing the offence exceeds the benefit of the wealth and the more leisure the driver would have gained if had not committed the offence. Given that both sides of the inequality outlined above

[9] Moshe, B. N. – Zvi, S. (2002): On the social desirability of wealth-dependent fine policies, International Review of Law and Economics, 22(1), 53-59. Source: https://doi.org/10.1016/S0144-8188(02)00068-6

reflect the benefit that the individual derives if he does not commit the offence, this can be disregarded. Therefore, it can be said that when the offender is certain to be caught, he commits the offence if and only if the combined benefit of his wealth, reduced by the fine, and the leisure exceeds the benefit of his wealth if he does not commit the offence.

Now, let's examine the more realistic scenario where it is uncertain whether the driver who is violating the rules will be caught. Mathematically, this means that the probability that the offender will be fined lies between the probability of the impossible event and the probability of the certain event. In this case, if he rationally considers whether to violate traffic regulations and if he is risk-neutral, his expected utility can be written as the sum of two components according to the laws of event algebra: the expected utility of being caught in the act and the expected utility of avoiding a penalty are the expected utilities of committing the violation. The offender, if rational and risk-neutral, will commit the offence if this expected utility is greater than the utility of his current wealth and comfort level. Applying the laws of probability variation and the usual notation of economics, this formally means that the offender commits the act if and only if:

$$p * [v(w - F) + L + H] + (1 - p)[v(w) + L + H] > v(w) + L, so\ that$$
$$pU(w - F, L + H) + (1 - p)U(w, L + H) > U(w, L),$$

where p is the probability of being sanctioned, w is the wealth the offender has before committing the offence, F is the size of the fine, L is the value of the additional leisure, and H is the value of the leisure if the driver does not break the traffic rules. Mathematically rearranging the above inequality and applying the knowledge of the marginal utility of money, we obtain the following:

$$\frac{H}{p} > v(w) - v(w - F)$$

At this point, Bar-Niv and Safra point out that this inequality is particularly useful, given that the fundamental difference between individuals is the size of their wealth. It follows that there exists a wealth *w* for which the utility inequality sketched is equal to H/p and this implies that the owner of any wealth in excess of this wealth w will commit the act in question. Researchers put it this way: *"if an individual at a certain level of wealth chooses to commit an illegal activity, then all richer individuals will also choose to commit the same activity; if an individual at a certain level of wealth chooses not to commit an illegal activity, then all poorer individuals will also choose not to commit the same activity", ceteris paribus*, that is, if we consider only the fine. It also follows that for every act that is fined, there is a wealth level above which, if the individual has more wealth, the fine no longer provides an incentive to comply with the norm, and hence for every wealth level, a sufficiently high fine amount should be sought to provide a sufficient deterrent.

The economics of day fines

The amount of the day fine is calculated by taking the number of days for which the offender is responsible and multiplying it by the amount of money for one day.

Thanks to this fining technique, the offender does not have to pay a predetermined fine, but a relative share of the wealth, so that the fine does not allow the offender to "buy" the infringement.

At present, several countries apply the fining technique: Hungary in criminal cases; Finland, since 1921, although their system was reformed in 1974 because of excessive fines; Sweden, since 1927, Germany since 1975, Austria since 1975, Portugal since 1995, Czech Republic since 2009, etc. The introduction of the technique was mostly justified by the need to reduce

the number of prisoners or by the fact that equal punishment was considered unfair from a social point of view[10]. However, there are also some problems with the application of the daily penalty system.

The information asymmetry between the addressee of the norm and the law enforcer poses a problem when examining the applicability of day fines and in terms of the design of the regulation: there is a large margin for error when applying the penalty technique, and it is difficult to determine the correct multiplication factors.

The current Hungarian legislation leaves the determination of these amounts to the judge in criminal cases: according to Article 50 of the Criminal Code, when determining the number of days, the judge must consider the material gravity of the offence, and when determining the daily amount, the judge must consider the offender's wealth, income, personal circumstances, and lifestyle.

Jakub Drápal examined the prevailing judicial practice in the Czech Republic and found that the ratio of punishment to income, which should be constant (the number of days) is much higher for lower-income offenders: poor people receive 5.4 times as much punishment as rich people in terms of income[11]. The author has argued that judges need to be given a set formula for calculation for the system to work well because judges cannot apply the sentencing technique properly. Czech judges consider the amount of fines above a certain amount to be excessive, so often, given that they have no information on what should be used to determine the number of days, they usually allocate the smallest amount of days and assume income conditions to impose a fair sentence on the offender.

In Hungary, the Police is responsible for detecting traffic offences and imposing penalties. The Police have far less information to make decisions

[10] Bögelein, N. – Nagrecha, M. (2021): Money as Punishment: A Review of "Day Fines in Europe". In: Kantorowicz-Reznichenko, E. – Faure M (Eds.), Day fines in Europe: Assessing Income-Based Sanctions in Criminal Justice Systems. Cambridge University Press. 428-434 Source: https://doi.org/10.18716/ojs/krimoj/2021.4.5,

[11] Drápal, J. (2018): Day fines: a European comparison and Czech malpractice. European Journal of Criminology, 15(4), 461-480
Source: https://doi.org/10.1177/1477370817749178,

than the courts, and the patrols on duty on the roads may have even less information on the ground than the Police. Accordingly, under the day-fine penalty scheme, they cannot be expected to impose the fine: because of the information asymmetry, it may be worth limiting their role to recording the fact of the offence on the spot and taking any other enforcement action, in the same way as is currently done for speed cameras.

The purpose of introducing the day fines is to increase deterrence in a reasonable way, i.e., to increase the deterrent effect without requiring disproportionate cost expenditure. I will now briefly outline the issues that should be considered when drafting the daily penalty regulation, starting with the number of daily items. I see two basic options for determining the number of daily items in the calculation of the fine: one is to leave the number of daily items to the discretion of the police service, with a lower and upper limit on the number of daily items. The other, and in my opinion more fortunate solution that I propose, is that the legislator should not set the amount of the fine in the government decree on the level of the administrative fine, but should set the number of daily units assigned to the traffic offence - as in the current solution - in a band, proportionately, and leave the determination of the number of daily units to the police body deciding on the individual case.

And what should the amount of the one-day lot be? In states that apply a daily penalty, income is typically determined based on self-declaration, with the tax authorities randomly checking the veracity of the declarations, or by checking the income of the offender against the tax records. Personal income tax is levied in Hungary on a self-declaration basis, but some types of income are not subject to the declaration: this means that if the legislator were to opt for the option of assessing income from tax records when introducing a broad daily penalty, it would be forced to declare income that it does not wish to tax, such as pensions, scholarships or income from simplified employment. It is worth noting that this solution is not entirely alien to Hungarian financial law: there are currently situations where income that is not taxable must be declared, for example, personal income tax for those under 25. In principle, a register of income could be produced from other

existing databases which include this data; from this register, these fines could be easily calculated: creating this register or changing the tax practice could also be a useful tool for judges dealing with criminal cases.

However, for proper regulation, it is essential to consider how the number of days and the amount of money per day should be related. To do this, it is worth briefly considering the differences in the impact of the day fines and the fixed fine. While the fixed fine is the same for everyone, the day fine not only increases the amount of fines imposed on the rich but also reduces the amount of fines imposed on the poor, since in this case, the fine is a function of increasing wealth. It is also worth aiming to ensure that fines also provide an appropriate incentive for those on lower incomes.

There are two theoretical alternatives for a lower limit: in one case a minimum penalty is set for zero wealth, and in the other case the daily penalty is purely income-dependent. In favour of the former is the tradition of domestic judicial practice, which does not require the offender to have assets or income at the time of the offence[12] to impose a fine, and the fact that in this case, the problem of under-incentivising the poor does not arise, provided that this minimum fine is sufficiently dissuasive. In this case, the amount of the fine should be increased by at least as much as the marginal cost of the fine does not decrease, i.e., the subjective reduction in utility due to the penalty should be kept constant. In this case, the amount of the fine is the sum of the minimum fine and the pro rata share of the income. In the other case, i.e., where the daily penalty is purely income-related, the deterrent for low-net-worth drivers will not be sufficient, although, assuming that there are no drivers without income (since aids can be included in the aforementioned assets register or even in the personal income tax return), this problem can be counterbalanced by setting the number of daily items and the amount per item per day appropriately.

Where offences are sanctioned by a fixed penalty, all drivers pay the same amount of fine. For the sake of simplicity, let's assume that this fine

[12] BH 2015. 25

is just enough to deter the average driver from committing a traffic offence! In the case where the fine imposed on the offending driver is directly proportional to his income, this means that until the offender's income reaches the average income, he will have to pay a lower fine than the average driver would have to pay if he were to commit the same offence. We must ask: how many units less will a driver with just above average income be deterred by the amount of the fine that would deter the average driver from committing the offence? It is very important to find an answer to this question since a fine of a given amount can be imposed if the number of daily items is low but the proportion of income per daily item is high, or if the number of days is higher but the proportion of income per day is lower. In the former case, the penalty imposed as a proportion of income reaches the amount that would deter the average driver from committing a traffic offence, *ceteris paribus,* much sooner than in the latter case. If the deterrence of drivers decreases at a lower rate than the increase in their wealth, it may be beneficial to set the number of daily offenses at a higher rate and the proportion of income per daily offense at a lower rate. This is because if the amount of the fine increases too quickly compared to the reduced deterrence associated with income, the fines will rise unnecessarily fast. As has been observed in the Czech Republic, this may lead to the legal system excluding these penalties.[13] However, if deterrence decreases at a higher rate than wealth increases, it may be worthwhile to set the number of daily offences at a lower rate and the proportion of income per daily offence at a higher rate, as this may prevent many lower-income drivers from being under-incentivised as fines increase rapidly. The tradition of upper and lower limits is also reflected in national daily fine practice: Article 50 of the Criminal Code sets lower and upper limits for the amount of the fine, so it would not be alien to our legal system to set lower and upper limits for the

[13] Drápal, J. (2018): Day fines: a European comparison and Czech malpractice. European Journal of Criminology, 15(4), 461-480.
Source: https://doi.org/10.1177/1477370817749178

penalties to be imposed, and between them to calculate the daily fine based on a formula.

Conclusion

In this paper, I tried to draw attention to the problem of diminishing marginal utility of income in the context of objective fines. Using the tools of economics, I have sought to answer the question of what influences whether a driver violates a traffic rule or keeps it. Additionally, I have considered how the size of the expected penalty can be manipulated to provide a more effective incentive to encourage drivers to keep the rule. I have briefly presented the economics of the daily penalty, the limitations of its application, the practice of the states that have applied it so far and tried to offer solutions to these problems.

In conclusion, it can be concluded that the introduction of a daily penalty scheme as a sanction for traffic offences could provide an effective incentive for wealthy offenders. However, given the potential dangers of daily fines, the preparation of such a domestic measure requires further research on the driving habits of domestic drivers and studies on the relationship between changes in deterrence and changes in income. In my view, to reduce the number of rich people breaking the rules on the roads, it is worth considering the imposition of day fines in traffic.

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FENYVESI, CSABA – FÁBIÁN, VANESSZA

Speaking Absence Clues

Preface

In a 1980s episode of Columbo, we see an investigation where the suspect husband attempts to prove his alibi with a tape recording. He used the tape to show that he was at home in his apartment, in the living room, at three p.m. when his wife was murdered, indicating he couldn't have been the perpetrator elsewhere. The inspector was skeptical and listened to the recording once, then again, and at least ten more times. He paid close attention to the sounds, the background noise, everything perceptible to the human ear. Then he realized: it wasn't about what he heard, but what he didn't hear. What was missing were the three gongs of the living room's standing clock. The husband was not in the house at three p.m., so his false alibi didn't work[1].

The negative clue and the crime scene investigation

The above case of the crumpled balloon detective who always talked about his unseen wife inspired us to examine real criminal cases:

a) what is the significance of the missing clues or material remains?
b) what is the message of missing clues, and material remains?
c) what conclusions and lessons can be drawn from reviewing them?

[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.

We believe that the answers will also be useful for law enforcement-practitioners (law enforcement officers, investigators, prosecutors, judges) in criminal cases.

Scrolling the questions further: where is the first place where the absence of clues can first emerge? It is not hard to answer: on crime scene investigation. As the cardinal moment of the investigative "first strike". Statistics show – and not only in our country – that 60-70% of all crimes are committed at the crime scene. Where it is worthwhile to carry out an on-the-spot inspection, where there is something to search for, to investigate, to "comb", where the building blocks, the clues, and material remains included in the identification pyramid can be found.[2] There is a tendency for forensic scientists all over the world to value the primary crime scene, because everywhere – whether on the European continent or in the Anglo-Saxon oriented countries, including Australia, as well as in Asian countries – the crime scene is a "repository of data", an "open book to be read."

It is a forensic cliché that says that every crime scene is different. Consequently, the extent to which a site visit can be conducted with targeted specificity can be of great importance. In order to do this, a good criminalist, crime scene examiner, or crime scene investigator-CSI must "get under the skin" of the perpetrator[3] to conduct an effective search for clues, i.e., to follow the suspected "path" of the perpetrator[4] and to find and record all the clues, material residues and lesions that may have been left in connection with the perpetrator's movements. Carefully and thoroughly. we would say that the more thorough and attentive the perpetrator was at the scene – leaving nothing behind – the more thorough and attentive the observer should be.

[2] See in more detail Fenyvesi, Cs. – Orbán, J. (2019/2): Electronic data as the building block of the 7-5-1 criminalistics pyramid model. Belügyi Szemle, 45-55

[3] It is worth doing a "thought reconstruction", on which several Hungarian authors have already expressed their views. The most recent of these is Gárdonyi, G. (2023): Criminal crime scene investigation. Ludovika Egyetemi Kiadó, Budapest

[4] On the "paths" that can be followed on site, see Kovács, L. (2009): The Moor was done... Korona Kiadó, Budapest, 38

In our opinion, no clues or material remains free on the scene; we just have to find and investigate the often-invisible alterations left at the crime scene (which must be associated with appropriate interpretations and meanings). And this leads to us to the specific topic of this study: equally valuable can be the so-called "negative clues"[5] , i.e., what isn't there and should be, or what was and is now missing. Often the non-existent missing clue says more than the "speaking" present one.

The lack of a speaking trace in a murder case

As practicing investigators, we became aware of the phenomenon and significance of the lack of material remains when we faced an almost shouting negative circumstance in a Baranya (county) murder case.

On September 15, Friday, around 5 pm, 4-year-old Aniko O. disappeared from a playground in front of a block of flats in Komló (city). Police officers searched the four-storey house, from the basement to the attic, together with the residents. They interviewed relatives, searched the house, the garages, and the nearby woods for days, but to no avail.[6] At 7.20 a.m. on Tuesday, 19 September, local resident B. Z. reported to the Komló Police Station that the body of Aniko was lying in the basement of their house, in one of the storage rooms.

The inspection committee immediately started the crime scene investigation under the state administrative rules. A clue of odour (more precisely, a residue of odour) was recorded at the front of the basement storage room, and a (criminal investigating) dog was set on the alert. The dog went to the house at 26 Fürst S. u. 26, sniffing furiously, but lost the scent there.

The body – which did belong to Aniko O. – was found in the pantry of a resident of the house, a man named Á. Z. The room was not locked, a heavy 55x55 cm boiler plate had been propped against its wooden wall. The narrow window of the storage room was found closed and intact. There

[5] Dobos, J (1964/1.).: Negative conditions on the ground. Belügyi Szemle, 54-59
[6] For more details, see Fenyvesi, Cs. – Kodba, F. (1990/4.): Investigation of brutal homicide of a young child. Belügyi Szemle, 106-113

were no signs of slipping or other marks on the sill or the wall. The body was lying on top of a log pile, covered with a fibreboard, with no plates. The hands were folded behind the back and tied with shoelaces. As there was no doubt that the crime was suspected the committee proceeded to a criminal investigation.

Examination of the body revealed lobular lesions on the face and upper lip, scarring on the tip of the chin, a long incised tracheal opening cut on the neck, and a disfigurement on the nose. Several puncture wounds were noted around the left nipple and on the abdominal wall, with protrusions of the small and large intestines. The bones of the limbs and trunk appeared intact. All known clothing and utensils of the victim were found on or near the body. Also recovered from the vicinity of the body were pieces of the Transdanubian Journal of 18 and 21 August, used as a grip, two crumpled paper bags of 16.80 and 16.50 hand-rolled paper used in grocery stores, and a 100-piece paper handkerchief nylon bag.

Despite all these brutal bodily penetrations and cuts, the 1-1.5 liters of (spilled) blood that accompanied the knife wounds were missing. The absence was almost screaming. Look for me! Message received by the policemen. With feverish diligence, they searched the blood at night using the luminol method under complete blackout. They found red stains in several places, but it turned out that some had cut chicken, others fish, or cleaned or shaved clumsily. Starting with the body, they systematically searched every room in the stairwell and every flat in the house. They needed to know where the two paper bags found next to or under the body, with the price label, the patterned nylon shirts with the price label, the two August issues of the Transdanubian Journal, the shoelaces tied on the girl's hands, and most importantly, where the crime against life itself had taken place, had come from. Where is the primary crime scene? Why did the perpetrator take the victim down to the basement pantry, which is open to all? Precisely because he/she knew that finding the corpus at the scene of the crime would have pointed to him/her.

The thought reconstruction, the logical conclusion from the lack of material remains, was correct. In the perpetrator's apartment on the high ground floor of the house, the investigators found individually identified hair and blood remains of the little girl. In addition to her confession, this was strong evidence for the conviction of Eva V. and the imposition of her 18-year prison sentence.

The evidentiary significance of material remains' absence in attempted homicide

It is not only the absence of human material remains (clue) that can speak to the clever speaker, but also other non-human origins.

Such a negative clue became conclusive evidence in an incident in a village in Tolna County. According to the initial data, the suspected man poured a flammable substance (petrol or diesel) on his secret love in the early morning of 25 April 2021 and then set her clothes on fire with his lighter. According to the indictment, the victim was sitting on the terrace of her house, where the dousing and the lighting of the fire took place. However, confirming and accepting the arguments presented in the submissions and comments of the defence counsel, the Szekszárd Court of First Instance (Tribunal) correctly found that the pouring down could not have taken place on the terrace, as the crime scene investigation did not reveal any material remains of liquid (combustible, such as petrol or diesel). There simply was none. No liquid droplets, stains, or moisture were found, just a circular burn mark. As a result, the spill as alleged in the indictment did not occur there, and the woman identified as the victim did not come into contact with the gasoline in her clothing on the patio.[7]

[7] Number of the acquittal decision in 2023: Szekszárd Tribunal Court 20. B. 120/2022/44-II. Number of the upholding decision in 2023: Pécs Regional Court III. Bf. 50/2023/6/II

The importance of voice non-recognition

During our research, we also noticed that it is not only the lack of physical evidence or material remains that can be found in criminal cases. It is also possible that a lack of a "memory clue" can be part of the evidence.

We recall the 2006 robbery case of a lottery worker in Alkotmány Street, Pécs.[8] According to the indictment, on 19 July 2005, at 8.05 a.m., the hooded man, who was partially covered by his jacket, walked into the sales room with what appeared to be a weapon in his hand, pointed his gun at the lady standing at the counter and declared: *"I am a heroin addict, I will make you crippled forever."*

The victim placed the total amount of 70.957, - HUF into the bag he had brought with him and left after opening the door. Before doing so, however, he repeated several times that *"I'll make you a cripple"* and *"don't tell the cops, I'll be back."*

A few seconds later, the victim opened the door and ran into the adjacent bearing shop, where she hurriedly told the two male employees what had happened. One of them, the owner of the bearing shop, ran after the perpetrator – without success – and the other employee called the police on the phone.

During the investigation, the authorities carried out an act of recognition. During this act, carried out under the rules of criminal procedure and criminalistics, the victim did not recognize the voice of the suspect, although it was distinctively hoarse, as confirmed by others. Nor did the victim mention this in his interview given in the minutes following the robbery, nor in his detailed testimony. All these anomalies (among many others) were noted by the local court and the appeal chamber. The negative trail, which the witness did not observe, was assessed as not establishing that the accused person had uttered the threatening words.

[8] The details of the case leading to the discharge (quitting) can be found here: Fenyvesi, Cs. – Nagy, M.(2007/11): Criminalistical and criminal procedural lessons of armed robbery case. Magyar Rendészet, 106-121

Conclusion to be drawn from the absence of electronic data

In the middle, auxiliary or mediating part of the theoretical pyramid model of forensic science we have already mentioned (7-5-1), electronic data are the last to appear, alongside clues, material remains, documents, and confessions.[9] Today, there is hardly a crime of major importance (murder, kidnapping, robbery, terrorism, etc.) that does not involve electronic data in its investigation. As Pál Déri aptly pointed out in 1970*: "The golden grains are hidden in the sands of the rivers."* Today, in the 21st century, we can say: *"The golden grains are hidden in the brains of computers."*[10] Chiselled further, as mobile phones also hide treasures to aid the investigation, *"The golden nuggets are hidden in the chips."* However, we also noticed in this round that the absence of electronic data could be a talking point. Specifically, it stood out in a 2014 event that shook the whole world.

From the beginning, we have watched and analyzed the disappearance of Malaysian airliner MH370.[11] The Boeing 777-200, a young airliner of 1995 construction (300 tons, full tank), took off from Kuala Lumpur in good weather conditions at 00.40 on the night of 8 March 2014, heading for Beijing with 239 people from 14 countries on board (2 pilots, 10 cabin crews and 227 passengers, the largest of which was a Chinese group of 157). For almost an hour, the plane followed the route set by Malaysian air traffic controllers. The flight captain piloted the aircraft, while the first officer ("co-pilot") radioed on the communication channel. His last message, which was otherwise in a completely calm tone, was given at 01.19 to the Malaysian capital's control centre. The content of the message was, according to initial reports, *"all is well, good night".* This is what the

[9] Fenyvesi, Cs.–Herke, Cs.–Tremmel,F. (2022): Criminalistics. Ludovika Egyetemi Kiadó, Budapest. 49-53

[10] Fenyvesi, Cs.(2017): Tendencies of Criminalistics. Dialóg Campus, Budapest-Pécs. 69

[11] For details, see security risks – forensic responses by the one of authors. Csaba Fenyvesi: Security and forensic lessons from the disappearance of MH370. In: Studies from the conference "Security Risks – Law Enforcement Responses". Border Guard Scientific Publications. XV. Pécs, 2014. 167-176

Malaysian authorities claimed and communicated to the world press until 1 April, when the original recording was revealed to be *"Good night MH370"*.

This text was spoken as the plane reached the Vietnamese border, still heading north. However, it was later revealed that this message had already been sent after one of the communications signaling systems had been switched off. After the last sentence (after a few seconds), the nose of the plane was first turned to the west and then, as it passed, it climbed to over 13,000 metres, exactly 13,700 metres

according to military radar. Later, it descended almost in a dive to 7,000 metres. At Penang Island in Malaysia, the plane changed course again and headed south towards the Indian Ocean, towards the Andaman Islands.

At 01.38, the Vietnamese control tower detected that the crew of the aircraft had not checked in. At 2.15 a.m. a Malaysian Airlines official reported to Kuala Lumpur air traffic control that the aircraft was heading for Cambodia, but no sign of it was detected there either. Inquiries were then made in Singapore, Hong Kong, and Beijing, but none of the air traffic control teams detected MH370 in their airspace.

An "alert" situation was then initiated, which resulted in a search over the South China Sea (Strait of Malacca) at 5.30 am (in water and on water), as the last civilian signal was detected heading towards the Andaman Islands.

The military satellites were more sensitive and it was discovered much later, days later, that a last signal (electronic data) from the aircraft was received at 8.11 am, but it was already deep south over or on (under) the Indian Ocean.

The marine search was not successful. Based on an unprecedented analysis of satellite data, the Malaysian Prime Minister was forced to announce on 24 March that *"I am sad to inform you that flight MH370 ended*

up in the ocean".[12] They have been searching there ever since and it is no exaggeration to say that the largest ever extended search in the world has been going on for months – to no avail.

What is significant for our topic is that on the day of the take-off, 8 March, the Malaysian authorities had to think about and come up with a reasonable, possible scenario. Among these, we highlight the following realistic ones:

A) Machine distraction.
B) Terrorist action.
C) Passengers' psychological problems
D) Psychological problems of staff.
E) Personal confrontation between the occupants of the aircraft.
F) Insurance case - for family support.
G) Fire.
H) Technical fault.

Ad A)
The hijacking was strongly supported by initial Malaysian official communications, giving hope to the relatives of the passengers. Somewhere the plane may have landed and the family members may still be alive. However, the hypothesis, which was sympathetic to the masses of relatives – mainly Chinese – who demanded correct information, was greatly weakened by the fact that no alert signal, (let us say electronic data), was transmitted by any of the captains. Nor did the crew or the 227 passengers on their thousands of digital devices (mobile phones, tablets, notebooks, etc.). No claim was received in any of the countries involved, and no landing was detected by civilian or military radar or satellites.

[12] According to expert data analyses on 28 May, the plane reached the surface (and then the bottom) of the Indian Ocean about 2,000 kilometres off the west coast of Australia with a tank of fuel empty.

Ad B)
There were also arguments against the terrorist act related to point A; the set of "negative clues" is striking, i.e., things did not happen that (normally) should have happened in a terrorist act. There was no claim, no claim of responsibility, no message to the world about the targets, and no crash into any buildings or "enemy" ground targets. Nor was there a shoot down by anyone else, because the sound and light effects would have been detected by satellites and military radar.

Ad C)
Background checks on passengers (Chinese, Russian, Ukrainian, Italian, Austrian, etc.) started already on 8 March, and official investigators-secret services-military air safety units from 26 countries were involved in this (and in the search for remains). In addition to one flight engineer who was subject to enhanced screening, a total of two passengers were caught in this sieve: the Italian Luigi Maraldi and the Austrian Christian Kozel. In fact, 19-year-old Puri Nur Mohammadi and Delavar Szejed Mohammadreza were hiding behind the two passports stolen in Thailand in 2012. The two Iranians were identified on 11 March with the help of Interpol: they traveled on their own passports from Doha, to Kuala Lumpur and then boarded a Malaysian plane using the fake passports to fly to Amsterdam after Beijing. From there, one of them wanted to go to Copenhagen as their final destination, and the other to Frankfurt - to work.

Ad D)
Nothing suspicious was found among the flight attendants, but during a search of the home of Captain Zaharie Ahmad Shah, 53, who has flown 19,000 hours, investigators found a flight simulator. The pilot had been practicing on it in his spare time and recently had electronic data deleted from it. The computer data file (machine) was handed over to the US authorities, specifically the FBI, to unravel and recover the deleted data.
Searchers also found a picture and a brief description of the home-built 777 simulator created by the captain, uploaded in November 2012. The screen appeared to investigators to show what appeared to be the airport near Konarak in eastern Iran during landing, which was supposed to be part of the missing plane's authority. (No landings or intrusions were reported from

Iran, however.) In another video, the pilot demonstrates how to save 25% of the air conditioning power. Other data collection has also revealed that the captain is an activist for the Malaysian opposition figure Anwar Ibrahim's Justice Party, but the validity of this claim has not been confirmed. The co-pilot also proved not to be above suspicion, as an unsuccessful search of 27-year-old Fariq Abdul Hamid's home revealed that he had recently let two South African women into the cockpit of a short flight from Phuket to Kuala Lumpur and entertained them. He even allowed them to smoke cigarettes, which is strictly forbidden. However, no other suspicions were raised against him.

And finally, an important addition to this subsection: neither pilot asked to drive with the other. (The Malaysian authorities did not disclose to the press their previous communication with each other, or their family circumstances.)

Ad E)
No indication was given by the crew (pilots and flight attendants) of any personal confrontation or conflict on board. Likewise, no messages or emergency codes were sent by the passengers present.

Ad F)
The Malaysian authorities have not spoken, and have not conveyed any version of possible insurance fraud. In other words, someone deliberately, for the support/indemnity of their family, relatives, or even creditors, deliberately creates the appearance of an accident, a tragic, fatal event, in order to get the substantial insurance amount to those entitled to it.

Ad G)
As well as the fire, which has been raised by several professional pilots and safety experts from the US, Britain and other nationalities. The assumption was that a fire had started on the plane and that the pilots wanted to test the fault by disconnecting the electrical power (or communication channels) to locate the source of the fault. Unfortunately, however, they suffered carbon monoxide poisoning and the autopilot continued to fly the plane until it ran out of fuel (or tried to land on the nearest runway on land, so they turned

west towards Langkavi Island, which would have been the nearest landing site in Malaysia.)

However, the available data made this version questionable from the outset and even ruled it out. On the one hand, the flight protocol does not provide for the disconnection of the communication bands in such cases, and on the other hand, the last verbal report of the first officer ("co-pilot"), completely calm and without any indication of an emergency, problem or technical fault, was made after the first signaling system had been switched off. Thirdly, in the event of smoke, pilots are provided with oxygen masks, so the likelihood of intoxication is low. Finally, a very strong counter-argument was made later, that the aircraft did not turn the rudder to the west, but the computer was reprogrammed with meticulous typing of new flight data. (Which suggests conscious foresight, time management, and not a sudden emergency.)

Ad H)

In a separate category, we believe that there could be other malfunctions besides the fire, perhaps the result of a natural disaster (lightning, tornado, turbulence, etc.) If we examine this, we can quickly dismiss it, since, firstly: the weather conditions in the area were completely clear on the flight path. Secondly: there was no distress signal from the cabin. And thirdly: the turn to the west was made after the co-pilot had said a reassuring goodbye. No obstacles or natural difficulties were encountered, nor were any in Vietnamese airspace beyond Malay. Nor did the ACARS system send any technical-technical error messages or electronic data to the aircraft manufacturer.

Without revealing any further investigative data, we will say that in our judgment there is only one version left, which we do not see as having excessive weaknesses (not saying that it has none), but rather suspicions, motives, and strengths. In our view, all natural and technical disasters can be ruled out based on the data. The disconnection of the aircraft's communication channels and its two sharp, partially programmed changes of heading to the west and south are the result of conscious human activity. We do not see any terrorist threat or hijacker behind the execution of this action, as the programming indicates preparation, and no distress signal is given

either by the crew or the passengers. And in this case, the negative (absence) clues in the title of our study must be very firmly assessed. In other words, we must not (only) evaluate what we see, hear, receive, and obtain, but also what we do not see, hear, or receive, although we should normally have received it. These include, in this case, the signals from the emergency signals that were not received, not triggered, the signals from the communication channels, partly from the crew, including the two pilots, partly from the flight attendants, and partly from the passengers, who have a clutch of digital devices. The negative clues "live" for hours, for long hours, not arriving or running in after 01.19 until 08.11. There can be no natural or technical disaster behind this. Behind this, there may even be the seemingly terrible fact that there is no one to send them.

There is none, as our version of the story is that these sources have been deliberately removed. The communication channels have been disabled by disconnections, except for ACARS, which cannot be disabled from the machine. But whoever did this was aware that it was of no significance, because it is not a position indicator, but a technical status indicator, and there is and was no problem with it, so it did not and could not compromise his plan. The human sector could have been the one that posed a threat to it, as the flight attendants or passengers could (would have) detected the two-fold change of route or the significant change of the compass heading. So, they had to be neutralized, and this explains the negative clue why no signals from the sky were received from any person during the more than 7-hour flight. There is really only one explanation for this in a realistic way: because only one or two people, our version is one person, survived on board for that long. And that can only be the captain or first officer in the cabin. The latter is really out of the picture in our assumption (not certainty), because at 27 years of age one does not usually want to fly a plane to death, (he does not have much routine or experience for special manoeuvres, therefore he is not a first choice), he was rather a cheerful first officer ("co-pilot") and no suspicious signs were found in the background search (house search), in the private life. The captain was caught in the sieve for a number of reasons, both circumstantial and electronic:

a) an experienced captain who knows the type of aircraft that has been in service for a long time;

b) He flew 19.000 hours and with the help of his home simulator he could have practiced flying at 13.700- and 7.000-meters altitude, climbing down and descending, it is possible that he was preparing for this in life, he is innovative and creative, during the search he was found to have a new fuel model;[13]
c) At the age of 53, he has "put a lot on the table", and there may be an emotional-religious-political-professional-security money[14] motive that has thrown him off balance and motivated him to commit a wrongful act, an airline captain – if he has a desire for revenge or suicide – however unethical it may seem to hurt others, can really "go out" in style by plane;
d) this action cannot be carried out without the captain unless he was eliminated and this eliminator was the co-captain, he had "access" to it;
e) There is little likelihood of double jeopardy, the pilots did not even ask to be next to each other, and we do not know about their previous consultations and communication (this can be seen as a valuable negative clue)
f) the "co-pilot" said goodbye in a calm tone, but the fact that he did so after the first signal system had been switched off, which could still be due to the captain's conscious behavior (switching off the first channel), is a weakening of our version;
g) the silencing of the "co-pilot" could have been done in a thousand different ways inside the cabin, and outside the cabin is explained by the rapid ascent to 13,700 metres after the first turn, the creation of a conscious state of oxygen deprivation, the creation of "silent

[13] Already in June 2014, according to international press sources, the simulator data deleted by the captain was recovered by the FBI. The captain practiced landing on a tiny ocean island – short course – with the help of the simulator he kept in his home.
[14] If the mystery persists and there is no (proven) human error, conscious intentional (criminal) act, then the insurance company will be liable for all persons on board the plane - including the captain. If there is personal liability, however, then Malaysia Airlines will have to take the blame, and that makes a big difference. (There have been several airlines with a long history and capital that have gone bankrupt in the past decades due to liability-based compensation amounts.) (As an afterthought, insurance companies paid out tens of thousands of euros to relatives as early as 2014.)

witnesses" outside the cabin, while the captain could have had his own oxygen mask, even consciously prepared for it by means of a device;

h) the pilot was definitely playing hide-and-seek, stealth, and deliberate disappearance, which could involve "shadow flying", flying too high or too low, timing the first big turn, exploiting dead space and dead time, choosing a fast route to Malaysia, and then enforcing the "over the ocean as soon as possible" principle;
i) reaching the ocean as soon and as invisibly as possible, the escape could serve several rational purposes; to avoid radar coverage, the physical possibility of a land landing due to the finite amount of kerosene, and it is also possible that he did not want to give himself the chance to turn his plane (and his death intent) back to a safe land landing strip since it is not possible to land on water without an accident and the military interceptors could not do so if they reached him, which he could realistically expect.

Our version, based on mainly negative (partly positive, existing) electronic data, is not yet disproved by any data, but we cannot say with certainty or near-strong-to-strong probability. Any such version, which would have indicated a conscious or unconscious act of the crew, was immediately rejected by the Malaysian authorities, even the speculations. There may be some hope in the contents of the black box containing electronic data if someone in the cockpit had spoken in the last two hours. For example, leaving a message for posterity, or perhaps there were several people there talking to each other. Of course, that would have to have been conscious, because whoever was involved would have known exactly what was recorded and how the black box worked.

The psychological message of non-sale in a series of crimes against property

In criminal cases, not doing so can also be a message. Something that didn't happen, when it should have happened in a realistic, logical and expected way. We have thought about this several times since the beginning of our career.

Especially in 1988, when a serial car burglar was caught by the police in Pécs. On Saturday evening, 6 August to be precise. Around 9 p.m., Zsolt T., a resident of Pécs, noticed someone sitting in his blue Lada, which he used as a taxi driver, parked in front of his apartment. At first, he thought it was his shift mate, but when he approached, he was shocked to see an unknown person in his car. In explanation, the man mumbled, *"Sorry, I got the wrong car."* He then got out and started running. The taxi driver ran after him and nearly ran him into the arms of two volunteer police officers patrolling the area. Géza R., a 28-year-old resident of Pécs, was caught and arrested, but admitted his intention to steal when he was confronted, adding that *"this is the first time I've done this in my life and I'm already busted."*

The officer on duty also informed the Criminal Investigation and Emergency Service, which carried out an on-site inspection of the vehicle, which had been opened in an unknown manner. A search was then carried out at Géza R.'s residence on Garai Street, which did not yield any results. The investigators then held the deceased man responsible in detail. During this process, the name and address of his mother, Mrs. R. N., were revealed. The investigators, with a good psychological instinct, suspected a close bond between the son and his mother and decided to carry out an urgent investigative search of Mrs R. N.'s family home.

As a result of the thorough search, in the locked garage and in the closet of one of the rooms, 454 items worth HUF 2.150.000, -, cash, deposit books, gold objects and public documents were found, collected over several years of diligence.

What has been described so far may seem commonplace in the criminological and forensic literature, but unfortunately, we see similar offences every day. It is also apparently easy to answer the question "why", which must always be asked in order to clarify the facts and impose the correct sentence (two years' imprisonment was imposed on a suspect who cooperated fully with the authorities, made a confession of an investigative nature and showed sincere remorse.)

Financial gain is the main motivation, and this is the incentive for offenders in almost all cases. This is the point where Géza R. and his plot deviated from the norm. The why, neither the cause nor the aim, could not be answered in the usual way.

For years, he hid the stolen items in his mother's house, where a large, lockable cupboard had been reserved for him from earlier times. During the search and seizure at the start of the investigation, almost all the items were found intact and in the condition in which they had been stolen. During the proceedings, the damage caused was fully compensated.

The question was rightly raised, and was always on the mind of the investigator, if he did not sell anything, if he did not want to get money from the loot, (not a usual passivity, unusual inaction) then the question "why did he do it?" Together with a psychology expert, Györgyi Szarkássy, the past-keeper wanted to get a thorough answer to this – at first sight – simple question.[15]

The expert psychologist gave the following answers to the main question.

Géza R. is no ordinary criminal. Compared to the average criminal, he is quite intelligent and very sensitive. Looking at his whole life so far, his crimes suggest a paradoxical defence against the lack of security from which he has suffered all his life. The crimes he committed started almost overnight, almost as a compulsion, when nothing seems to happen to a man but he has reached the limits of his tolerance. From a psychological point of view, committing crimes gave him the following advantages:

a) The possession of stolen objects provided a sense of security against fears and insecurities going back to childhood. (The father's absence, the lack of intimate contact with the mother, and the wife's criticisms were for him the insecurities and the threat of the world that transcended from childhood to adulthood.)
b) It gave him the self-confidence to gradually regain his inner composure with his wife, albeit in a distorted form, as the relationship between them simply showed her dominance.
c) Even as a man, Géza was a damaged, frustrated person, because his wife thought he earned little and could not meet her expectations.

[15] For more details see Fenyvesi, Cs.– Szarkássy, Gy. (1991/3.): Psychological investigation of the perpetrator of a series of crimes in a large city. RTF Figyelő, 273-278. (Here we have also changed the initials for reasons of identity protection.)

The "beauty" of the stolen objects was not unimportant to him. He knew that they were valuable, and he used them to develop a kind of resistance in himself against his wife's negative emotional outbursts. He was strongly protected by the knowledge of possession.

For Géza R., this tragic derailment of his life was also caused by his tendency to hide, and his lack of communication of events and emotions. The silences, and the lack of or insecure relationships (with his father, mother, and wife), drove his whole immature personality towards crime with irresistible tension. He saw no other way to escape his anxiety than to hide material possessions. In doing so, he overcame the internal censorship that had prevented him from stealing anything in his life. After the first success, there was a break in the crime spree. He had to digest and process what had happened. The "success" destroyed his personality, encouraging him to commit more crimes.

It is an interesting manifestation of his personality that it was not the moral gravity of the crimes committed that mattered, but the fact that he managed to conceal them. At the same time, he became the possessor of an "inner power" that only he enjoyed. The knowledge of this made him rich. Paradoxically, however, he felt immense anxiety about this secret power and the sense of security it gave him. His mood tended towards depression, it always could be, but never at the level of illness. His values are not suited to sustained serenity. He was forced to leave his original job due to financial worries and expectations. His mother was not satisfied with her marriage, which almost tore them apart. His last job was uninteresting, so he was forced to compromise on his most important activity, his work. He always felt played. This stemmed from an overestimation of his colleagues' success or financial achievements and a general dissatisfaction. He is a typically unhappy man.

His mother's upbringing and his whole life indicate that he remained an immature person. Emotionally, he could not overcome his problems and could not be honest with anyone. In fact, he lived in a world of taboos on an emotional level, which increased his inner tension. He never made any decisions; they were made for him: his mother and later his wife. He never chose, he was chosen; his wife and other women.

The crimes were a rebellion against his upbringing, his marriage, his whole life and the morality of social dealings, and his own impotence.

Our last thought on Géza R: The study of the burdened personality already points to a problem and phenomenon beyond the scope of this study. Namely, for a truly correct judicial application of the law, which also serves special prevention, it would be necessary to carry out a similar personality analysis in every case.

In our opinion, after the arrest, it could only be decided on the basis of a pedagogical and psychological examination, followed by legal consultation, whether the offender's personality disorder should be influenced by means of correctional or psychological, pedagogical or social measures.

This does not seem to be feasible soon, due to the punishment-oriented criminological approach of today, the lack of backup institutions, the burden on the judicial authorities, and the shortage of funds, but it is the way to a more civilized society that embraces humanism.

As a final thought

Columbo was right. Occasionally it can be more valuable than not. To use a (Hungarian translated) movie analogy, "Treasure that isn't". It is not difficult to advise those involved in criminal proceedings: don't just look at what you see, but think about what you don't see. It may have a more valuable message value. It can even tell investigators the perpetrator – silently, invisibly. And yet still talkative.

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DUDÁS-BODA, ESZTER – FULLÁR, ALEXANDRA

Examination methods at the intersection of forensic anthropologist and forensic mark expert competencies in Hungarian practice [1]

Introduction

At the Hungarian Institute for Forensic Sciences (HIFS), forensic experts primarily carry out their activities in criminal cases. It is common in these cases that not just one, but two or more expert fields are appointed simultaneously or consecutively. Different disciplines may examine alterations found at the same crime scene and on the same evidence, leading to overlaps in their respective boundaries, emphasizing the importance of cooperation. The institutionalized legal possibility of combined expertise allows experts to effectively address complex questions involving multiple disciplines. The examination and application of multidisciplinary and interdisciplinary methods in forensic evidence examination are becoming increasingly significant both domestically and, in foreign forensic institutions[2] as evidenced by the collaborative practice and numerous working groups established by the European Network of Forensic Science Institutes (ENFSI) to examine and understand this topic more comprehensively[3]. At this year's

[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.

[2] Act XXIX. of 2016 on the Forensic Experts, 2. § (2);
Lontai, Márton – Kosztya, József Sándor: Az intézményi szakértés kihívásai a technológiai fejlődés tükrében [The challenges of institutional expertise in the light of technological development]. Ügyészek lapja 2023. 30(5-6) 75–90;
Fülöp, Péter – Ujvári, Zsolt – Petrétei, Dávid – Kiss, István - Dudás-Boda, Eszter – Metzger, Máté – Fullár, Alexandra: Az igazságügyi szakértői szemléltetés modern eszközei és lehetőségei [Modern tools and possibilities of forensic expert illustration]. Ügyészek lapja 2023. 30(5-6) 91–102

[3] Zampa, F. – Bandey, H. – Bécue, A. – Bouzaid, E. – Branco, M.J. – Buegler, J. – Kambosos, M. – Kneppers, S. – Kriiska-Maiväli, K. – Mattei, A. – Zatkalikova, L. (2024):

Saint László Day conference, in the *"Science and Expertise in Criminalistics"* section, our colleague István Kiss shared his insights on this topic. Building on this foundation, we examine the limits of the competence boundaries of forensic anthropology and forensic mark examination, presenting the possibilities and results of close cooperation between the two fields through exciting practical examples.

Competence Areas of Anthropology and Mark Examination

The competencies of forensic expert fields are regulated by the 31/2008 (XII. 31) IRM decree, which is further expanded on concerning the expert fields operating within the HIFS by the 26/2017 (VI. 30) directive of the HIFS director-general [4]. Forensic anthropologists apply identification examination methods for bone remains and living individuals, and they attempt age estimation for both children and adults. The majority of criminal case appointments for forensic mark experts involve the examination of tool marks, footprints, and locks, but the director-general's directive also extends competence to the comparative examination and identification of various objects and photographs. The competence areas of the two fields converge in the identification examinations, providing an opportunity for close cooperation.

A foundation for joint work is the similar structure of identification systems in both fields. Both fields evaluate their examination results on a five-level identification scale, where the names and conceptual definitions of the levels show similarities. In forensic mark examination, the levels are exclusion, not excluded, probability – group identity, high probability, and individual identity, while in forensic anthropology, the levels are exclusion,

ENFSI 2022 multidisciplinary collaborative exercise: organisation and outcomes. Forensic Science International: Synergy, 8 100465

[4] IRM Decree 31/2008 (XII. 31.) on the operation of forensic experts, 30-31. §;
26/2017. (VI.30.) Action by the Director General of HIFS on the temporary Organizational and Operational Regulations of the Hungarian Institute for Forensic Sciences (with amendments in an unified structure)

not excluded, possible, supported, and highly supported. Therefore, the joint work of the two fields can be considered a textbook example of an interdisciplinary methodological approach.

Forensic Examination of Bone Remains

When applying the anthropological identification examination method on bone remains, the forensic anthropologist attempts to establish a biological profile based on general and individual characteristics. The examination of general characteristics involves determining whether the bone remains are of human origin or not, how many individuals they originate from, estimating the burial time, and estimating the age, sex, and height of the deceased, as well as the ancestry (formerly "race") of the bone remains based on morphological properties. For individual characteristics, the forensic anthropologist examines dental status, alterations indicating various diseases and degenerative processes, injuries incurred before death (antemortem), around the time of death (perimortem) (Fig. 1A.), and after death (postmortem) (Fig. 1B.), traces of overexertion due to the person's occupation or posture, and in some cases, perform X-ray analysis and facial reconstruction yet (note that the HIFS does not perform facial reconstructions). In criminal cases, one of the most important examinations of bone remains is uncovering injuries sustained around the time of death and determining the circumstances under which they were inflicted. When forensic anthropologists find perimortem injuries, these are most often attributed to some kind of tool. For the forensic mark expert, the injury found on the bone is nothing more than a tangible alteration caused by the tool that left the mark. Therefore, evaluating the injury as a tool mark can be seen as a shared border between the two fields. Determining what kind of tool might have caused the alteration is the task of the forensic mark expert.

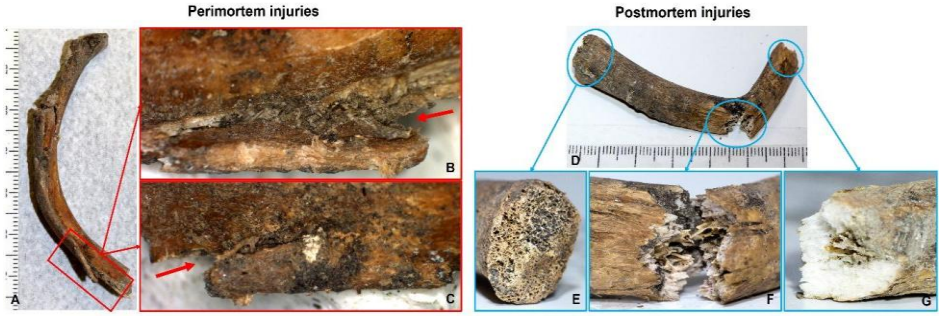

Figure 1.
A-C: Perimortem injuries of the ribs. D-G: Postmortem injuries of the ribs. (The author's own recordings.)

Our joint expert practice dates back many years, during which time we have refined and shaped the cooperation between the two fields into its current form. We have worked together on numerous appointments where new perspectives on the cooperation between the two fields have surfaced. One such situation arose in a criminal case where an unprofessional excavation of the burial site of a deceased person was conducted, and the data in the case files indicated that the suspects made several conflicting statements about the victim's assault and burial. During the excavation, a digging machine disturbed the original position of the bone remains, and neither a forensic anthropologist nor a properly informed medical expert was called to the scene in a timely manner. The forensic medical expert who was eventually called could only examine incomplete and broken bone remains placed in a body bag. Thus, during our appointment, we only had the photographs and site inspection report available to determine the position and direction in which the deceased was buried. By applying our combined examination methods, we were able to reconstruct that the body was buried face down, in an extended position, likely without clothing. The anthropological examination determined, with the help of age estimation methods, that the person found was most likely the individual being searched for. Later, a forensic genetic expert examination confirmed the forensic anthropologist's findings. The forensic mark examination, by identifying

objects visible in the upper layers of the grave in the photographs, corroborated part of the suspect's statement regarding the circumstances of the burial.

In our next case study, our joint cooperation revealed new perspectives, which required the use of new, previously rarely or not yet applied examination methods, with the involvement of additional expert fields. In a case related to a person’s disappearance, the appointing authority assigned a forensic anthropologist and a medical expert after the skeletal remains of the missing person, dressed in clothing, were found near the location of their disappearance years later. During the autopsy, the investigating authority found material discontinuities in the deceased's clothing, so the clothing items were also provided to the experts along with the bone remains, and the involvement of a forensic mark expert was authorized. The examination of the bone remains and clothing items was conducted simultaneously and at the same location, with representatives from all three expert fields present. The forensic anthropologist and medical expert discovered perimortem injuries on the deceased's facial and occipital regions of the skull, raising the possibility of tool-inflicted damage. The forensic mark examiner found overlapping material discontinuities on the right side of the deceased's upper clothing layers (Fig. 2A.). The morphology of the alteration observed on the outermost clothing layer partially differed from the tool marks underneath, as the material discontinuity extended linearly on the surface of the pullover's thermal material. Such marks could originate from a tool with a curved working edge (Fig. 2B.). By using the results of the forensic mark examination, a more thorough re-examination of the bone remains revealed a bone discontinuity, an injury on the external surface of the right scapula (Fig. 2C.). However, by examining only the tool marks found on the clothing items using forensic mark methods, it was not possible to determine whether they were caused by an axe-like tool or a knife-like tool with a curved blade. The location and morphological characteristics of the injuries found on the skull (Fig 2A. red mark) and scapula did not exclude the possibility of either tool type. To examine the mark formation mechanisms, we conducted a reconstruction model experiment

with the help of a mannequin and involved a forensic physicist, who found an appropriate examination method based on the literature to resolve the question of tool usage[5,6]. Since the procedure involved altering the bone remains, the tool marks on the bone remains were photographed using photogrammetry and archived by 3D modelling [7]. This allowed the injuries on the skull and right scapula to be examined on the computer, and the entire skeleton could be buried, as the otherwise individually unidentifiable tool marks were properly documented for possible future expert examinations thanks to the 3D model. Scanning electron microscopy examination confirmed that the injury was likely caused by a knife-like object with a single-edged blade (Fig. 2D-F.). The anatomical location of the injuries uncovered by the forensic anthropologist, the curved blade shape determined by the forensic mark expert, and the forensic physicist's examination results collectively suggested that the deceased person may have been attacked with a machete before death. Using these results, the forensic medical expert concluded that the injuries sustained could have indirectly led to the victim's death.

[5] Bartelink, E. J. – Wiersema, J. M. – Demaree, R. S. (2001): Quantitative analysis of sharp-force trauma: an application of scanning electron microscopy in forensic anthropology. Journal of Forensic Sciences, 46(6) 1288–1293

[6] McCardle, Penny – Stojanovski, E. (2018): Identifying Differences Between Cut Marks Made on Bone by a Machete and Katana: A Pilot Study. Journal of Forensic Sciences, 63(6) 1813–1818

[7] Metzger, M.– Újvári, Zs. – Gárdonyi, G. (2020): A fotogrammetria kriminalisztikai célú alkalmazása: helyszínek, holttestek, tárgyak rekonstrukciója három dimenzióban. [Application of photogrammetry for forensic purposes: reconstruction of locations, corpses, objects in three dimensions.] Belügyi szemle, 68(11) 57–70;
Ujvári, Zs. – Metzger, M.– Gárdonyi, G. (2023): A consistent methodology for forensic photogrammetry scanning of human remains using a single handheld DSLR camera. Forensic Sciences Research, 8(4) 295–307

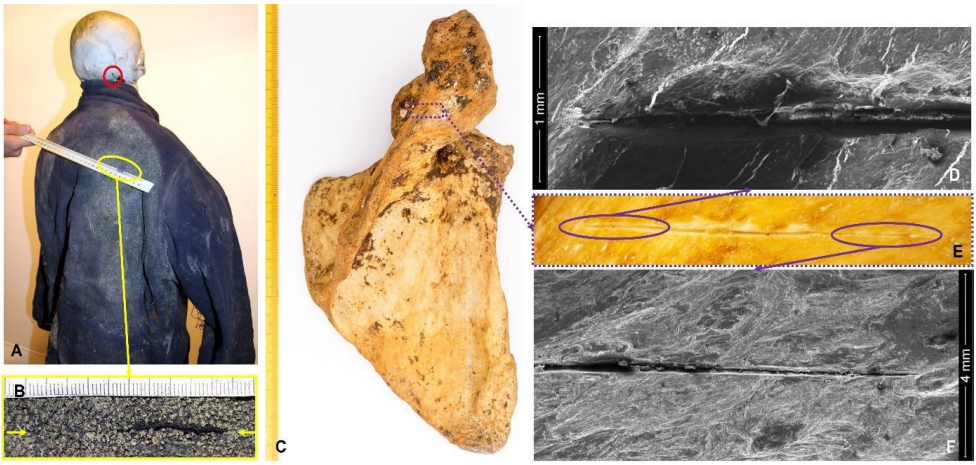

Figure 2.
A: Reconstruction model experiment by placing the skull and the deceased's upper clothing on a dummy. B: Metric recording of a material discontinuity detected on his late outerwear. C: Metric recording of the late right scapula and the discontinuity of bone found on the apical process of the shoulder. E: Magnified view of the discontinuity of the bone at the apical process of the scapula. (The author's own recordings.) D and F: Scanning electron micrographs of the ends of bone discontinuity. (Recordings by Péter Fülöp.)

Identification of Persons and Objects Based on Photographs and Video Recordings

In the daily practice of forensic anthropologists, the identification of persons seen in various surveillance camera recordings based on comparative photographs or video recordings is becoming increasingly common. In such cases, the forensic anthropologist examines the body shape, proportions, and facial morphological features of the person seen on the recording, and looks for unique identifying characteristics such as scars, birthmarks, and tattoos[8]. The biological profile of the perpetrator established in this way

[8] Martin, R. – Saller, K. (2004): Lehrbuch der Anthropologie, I-II. Fischer Verlag, Stuttgart, 1957.;

is then compared with the reference person, who is usually depicted in a photograph or video recording. However, not only the forensic anthropologist can work from these recordings, but also the forensic mark expert, who examines the clothing and objects used by the persons seen in the recordings. Therefore, the comparative examination of photographs and video recordings is another area where forensic anthropologists and forensic mark experts can cooperate effectively. We most frequently have the opportunity for joint work when appointed in cases involving serial crimes. Primarily, our task in cases related to serial crimes, coordinated by the National Police Headquarters' (ORFK) working group, is to examine recordings made at different locations, compare them with each other, and compare them with comparative recordings or marks sent about potential perpetrators seen in the recordings. In these cases, continuous information exchange between the investigative authority and the experts is of great importance, as well as the timely optimization and coordination of the numerous appointments on both the appointing and expert sides. Let us examine some practical examples of cooperation opportunities in such cases!

The quality of camera recordings obtained from different locations can vary widely due to the characteristics, positioning of the recording devices, and the behaviour of the individuals being observed during the commission of the crime. In the initial pre-selection phase of the examinations, it is often already a big challenge to determine whether the individuals seen in recordings made at different locations and times might be members of the same perpetrator group (Fig. 3.). There was a case where the similarity factors arising from the familial relationship of the perpetrators (father-son pair) made it even more difficult to distinguish the two individuals from each other. In such cases, it can be a great help to the forensic anthropolo-

Bodzsár, É. – Zsákai, A.: Humánbiológia: gyakorlati kézikönyv. [Human biology: practical manual.] ELTE Eötvös Kiadó, Budapest. 135-182;
Farkas, L. Gy. (2005): Fejezetek a biológiai antropológiából I. rész [Chapters from biological anthropology, part I.], JATE Press, Szeged. 2005. 65-77

gist attempting identification that the forensic mark expert makes some level of probability-based determinations regarding the individual perpetrators by uncovering similarities in clothing items and objects used.

Figure 3.
A-C: The same group of criminals in three different locations, on different quality camera recordings. (The author's own recordings.)

If comparative photographs or video recordings of the reference persons are also available, it provides a greater opportunity to observe and compare unique characteristics when establishing the biological profile. Such unique characteristics can include a birthmark, scar, or even a tattoo, based on which results can be communicated even at the highest level of identification. In a case related to the migration topic addressed by Brigadier General Dr Sándor Gömbös at the plenary session of the conference, the results of the cooperation between the two fields were also utilized. The daily lives of the professional staff serving at the southern border are filled with struggles against human traffickers. Border surveillance cameras frequently captured images of an individual who not only assisted illegal immigrants in crossing border fences but also attacked members of law enforcement agencies. Therefore, it was necessary to examine the submitted camera recordings in two separate proceedings. In the criminal case initiated due to human trafficking, the perpetrator's video recordings uploaded to a

social media platform served as comparative samples (reference recordings). Our task was to select from the recordings made at different times those in which the individual seen in the comparative recordings was visible. In the case of the attack against law enforcement personnel, the forensic mark expert's task was, in addition to identifying the individual, to determine what objects the person threw over the border fence towards the law enforcement staff and how many times. Some close-up recordings made at the scene allowed for high-level identification of the individual. Both the jewellery and clothing items of the perpetrator seen in the on-site and comparative recordings showed similarities with each other (Fig 4.). The results of the combined forensic anthropologist and forensic mark expert opinion provided sufficient evidence for the arrest of the individual under investigation.

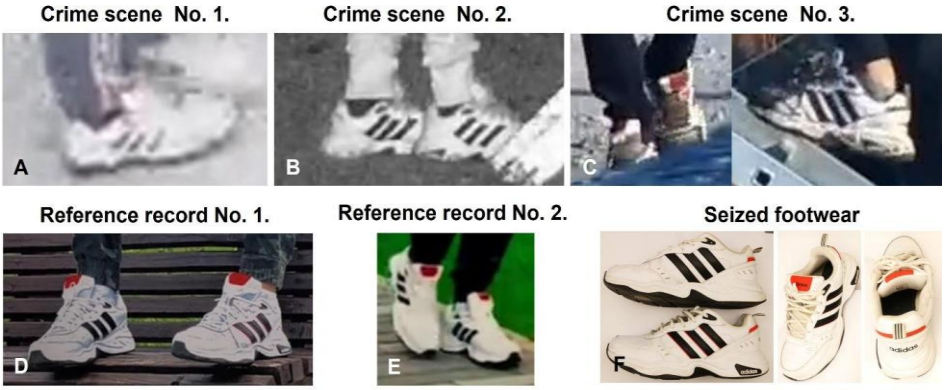

Figure 4.
A-C: The same offender's footwear was captured on camera at three different locations and times. D-E: Photographs of the same reference person's footwear were taken at two times. F: A pair of footwear was seized from the suspect. (The author's own recordings.)

In the forensic mark examination of camera recordings captured during serial crimes, there is also the opportunity to compare what is seen in the recordings with the evidence items and marks recorded during on-site ins-

pections. A great example of this is a case where the upper part of the perpetrator's footwear, bearing a brand logo, was visible in the recordings. If a footwear print fragment is also recorded at the scene, the characteristics reflected in the recording and the mark can narrow down the type of footwear being sought, so that with an internet search, we can provide the appointing authority with very precise information about the sought-after footwear. By linking the camera recording and the mark, the perpetrator's footwear can be associated with the scene in time and space. There was also a case where the perpetrator group repeatedly robbed tobacco shops, prying open the entrances with a crowbar. After their capture, the crowbar was not found, but the comparative forensic mark examination of the tool marks found at different locations determined the highest level of identity, and a crowbar-like object was visible in the hand of one of the individuals in the recordings. In addition to the probability-based identification of the perpetrators, the highest level of identification of the tool marks, evaluated as a whole, was sufficient to attribute almost all of the examined actions to the perpetrator group and to have them placed in pre-trial detention by the court.

Conclusion

With our presentation at the Conference of Saint László Day in the criminalistics section and this publication, we aim to draw attention to the importance of close cooperation between forensic experts. The legal possibility of combined expertise is more easily leveraged within institutional frameworks, but it can also be realized among experts working in different expert institutions or those performing expert tasks independently. The specificities of forensic anthropology and forensic mark examination allow for the closest cooperation in the identification of individuals during the examination of bone remains and photographs or video recordings.

Acknowledgements

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FÜLÖP, PÉTER

The anatomy of falls[1]

Introduction

The study of falls from heights remains an important subfield of Hungarian forensic physics to this day[2]. This fact, among others, justified the creation of this niche study, inspired by the film "Anatomy of a Fall". This multiple award-winning work is a psychological thriller and courtroom drama in terms of genre. The fundamental question of the work could also be a question posed to a physicist expert in an official appointment, namely whether the man who fell to the ground was intentionally pushed out of the window, perhaps voluntarily ended his life, or simply slipped and fell out? Undoubtedly, expert work does not play the main role in the film. Therefore, the following lines aim to give the appointing authorities a glimpse "behind the scenes", to present the physical, theoretical background of falls from height and its applicability in criminalistic practice. With the help of this study, we can gain insight into the process of forming an opinion. We can follow how, in cases similar to the event in the film, evidence, information, and data help the physicist expert differentiate between homicide, accident, and suicide.

[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.

[2] Fülöp, P. (2019): Brutális fizika másképp - Fizikusok az igazság nyomában [Brutal physics in a different way - Physicists in search of the truth]. Magyar Rendészet 2019/19 (2-3) 67-87

I begin the topic with a very sad outlook. According to data from the Hungarian Central Statistical Office (KSH), the number of deaths due to intentional self-harm in Hungary in 2022 was 1,647.[3] According to data from a comprehensive report examining the period between 1970 and 2010, among completed suicides in Hungary, the leading method (in about 60% of cases) was self-hanging, followed by self-poisoning and jumping from height.[4] The statistical data for 2020 reflect similar proportions.[5] CCTV footage now plays a major role in clarifying the circumstances of deaths caused by injuries sustained from falling from height. In recent years, appointing authorities have requested the involvement of physicist experts somewhat less frequently due to suspicious cases, which may be due to the increase in the number of CCTV cameras and the improvement in the quality of recordings. However, these recordings later provide a good opportunity for experts to study falls from height from a scientific perspective as well.

Physical and theoretical foundations of falls from a height

The physical impact of a passenger car traveling at 50 km/h colliding with a concrete wall without braking is, based on the equation $h = \frac{v^2}{2 \cdot g}$, the same as if we dropped it from a height of 9.83 meters onto a concrete sidewalk, which is roughly equivalent to falling vertically from three stories. However, from the perspective of impact, speed itself doesn't play a role; what

[3] Hungarian Central Statistical Office 22.1.1.10. Halálozások a gyakoribb halálokok és nem szerint [Deaths by common causes of death and sex]. STADAT table October 31, 2022

[4]Zonda, T. – Paksi, B. – Veres, E. (2013): Az öngyilkosságok alakulása Magyarországon (1970-2010) [The development of suicides in Hungary (1970-2010)]. In: Műhelytanulmányok 2. Központi Statisztikai Hivatal Budapest, 23-25.
Source: https://www.ksh.hu/docs/hun/xftp/idoszaki/pdf/muhelytanulmanyok2.pdf

[5] Hungarian Central Statistical Office: A fenntartható fejlődés indikátorai, Emberi erőforrások, Egészség, Öngyilkosságok [Sustainable Development Indicators, Human Resources, Health, Suicides]
Source: https://www.ksh.hu/ffi/1-16.html

is significant is the sudden stop, or the change in velocity per unit time, which we call acceleration (or deceleration with a negative sign). Acceleration is directly proportional to the force that ultimately leads to injuries in our case.

If we want to examine the fall of a human body from a height, we need to follow the usual procedure in physics, which is to simplify reality as much as possible and apply various models. A fall from a height can be essentially divided into two processes: the fall itself and the subsequent impact. During the fall, the human body can be considered a rigid body. The parts of a rigid body do not change their relative distances under the influence of forces acting on them. The distance between any two mass points of a rigid body remains constant, and its motion is composed of translational and rotational components. Every rigid body, including the human body, has a distinguished point, which is the centre of mass or centre of gravity, located at about navel height. This is a point as if the entire mass of the body were concentrated into this single point, so its motion (momentum) can be described more simply, practically like a material point.[6]

An ideal fluid – according to the phenomenological approach – is practically incompressible (furthermore, its internal friction is negligibly small, it takes the shape of the container, it continuously fills the available volume, and it ignores the corpuscular structure of the matter),[7] and although 72% of the human body is water, it must be considered partially compressible. Thus, from a biomechanical perspective, the human body during impact does not behave like a body filled with an ideal fluid, but can be replaced by a balloon filled with a bubble-free, gel-like, jelly-like substance.[8]

In physical terms, a fall from height can be treated as a projectile motion, which, depending on the direction of the initial velocity, can be vertical, horizontal, or oblique projection. In our case, only oblique projection is

[6]Budó, Á. (1997): Kísérleti fizika I. kötet [Experimental Physics Volume I], Nemzeti Tankönyvkiadó. Szeged 116-148
[7]Budó, Á. (1997): Ibid, 315.
[8]Strejc, P. – Šachl, J. – Vlčková, A – Dreßler, J. – Vajtr, D. (2010): Another Mechanism of Décollement. Soudní lékařství 55(4). 51-53

relevant, which has two independent components. This so-called compound motion can be decomposed into a horizontal linear motion with a given initial velocity, and a vertical free fall due to the force of gravity.[9] The horizontal component of the projection is responsible for the horizontal distance from the point of fall (e.g. wall plane), while the other component accelerates the body vertically with an acceleration of $g = 9.81$ m/s². As a result of these, the centre of mass of the human body follows a parabolic path in an ideal case – neglecting air resistance. If we were to consider air resistance, it would increase the time of a 30-meter (about ten-story) fall by only 0.5%, and cause a deviation of less than 1% (at most a few centimetres) in the horizontal distance from the wall plane.[10]

Before we proceed to present the examination method, we must mention one more important law through a practical example. The pieces of an obliquely thrown grenade or fired fireworks – after explosion in the air – behave as separate mass points, but they continue to move in such a way that their common centre of mass continues to move along the original path, along a parabola.[11] The explanation for this is the momentum theorem, which states that in a closed system, the path of the centre of mass cannot be changed by internal forces, only by external influences.[12]

Examination method for falls from a height

The first thing a physicist sees in a scene photo of a fall from height is the position of the body's centre of mass, or more precisely, its horizontal distance from the point vertically projected onto the ground from the presumed point of fall. Generally, based on geometric measurements conducted during the on-site inspection, this data is already available at the moment of appointment. In almost every case, an expert inspection takes

[9]Budó, Á. (1997): Ibid, 35-39
[10]Wu-ting Tsai, Chia-I Hu, Chia-Yun Chang (2020): Effect of Wind on Horizontal Displacement of Fatal Fall from a Height. Journal of Forensic Sciences, 65(1). 255-258
[11]Budó, Á. (1997): Ibid, 187
[12]Budó, Á. (1997): Ibid, 184

place to clarify the circumstances more accurately, where we personally verify or confirm previous measurement data about the site's characteristics, geometry, and the actual displacement of the centre of mass through measurements. Subsequently, knowing the height of the fall and the body height (indirectly, the height of the centre of mass from the sole plane), we can perform calculations for two simplified limiting cases. We theoretically determine how far the body's centre of mass would have moved from the point vertically projected onto the ground from the presumed point of fall in cases of falling over while standing or sitting.[13]

The difference between the calculated and actual displacement can provide answers to the arising questions. From a criminalistic perspective, the displacement during falling over can be considered free from external or internal forces, so any deviation from this theoretical value certainly requires explanation. We compare the theoretical values obtained through calculations with the values measured at the scene, then make theoretical considerations based on the available case files (such as forensic medical reports, witness interrogation and suspect interrogation protocols, etc.), studies and cases already published on the topic, and not least, expert experiences. From the totality of this data we arrive at an expert conclusion that ultimately gives us a partial reconstruction of the sequence of actions or events and the motion process that occurred.

During a fall from a height, numerous factors influencing the actual displacement must be considered. These include the initial body position, which may be determined by the window or available space, objects in the path of the fall, the nature of the impact site, and movement created by an internal or external force preceding the fall. Such movements can include a self-willed and determined run-up, jump, external intervention (pushing, thrusting, throwing, swinging), and in certain cases, the effect of wind.[14]

[13] Kosztya, S. – Tóth, P. (2016): Emberölés bizonyítása komplex fizikus és orvos szakértői módszerekkel [Proving Homicide with Complex Physicist and Medical Expert Methods]. Belügyi Szemle 64(7-8) 24-30

[14] Wu-ting Tsai, Chia-I Hu, Chia-Yun Chang (2020): Ibid, 255-258

The absence of displacement indicating these processes can lead to the conclusion of an unusual, unexpected event or accident.

The initial body position - alongside the fall height - affects the body position at impact, which is also related to the resulting injuries.[15] After consulting with a medical expert – given the appropriate data – professional determinations can be made regarding the possible body position of the deceased at the beginning of the fall. The nature and location of injuries help determine the body surface or part that impacted first, thus allowing selection of the most likely scenario among possible event processes (falling face forward or backward from a standing, sitting, or crouched position between these two extremes, turning over or hanging from a railing or windowsill).[16]

It is an eternal debate whether the human body bounces after impact or not. Let us clear this up and somewhat explore this question, as this interaction can fundamentally influence the extent of displacement! The elasticity of the collision can be characterized by a dimensionless ratio – characteristic of the material quality of the bodies – called the collision coefficient *k*. Without derivation, let us accept that the ratio of impulses before and after the collision gives the value of *k*, which is a number between 0 and 1. (The collision is perfectly inelastic when *k=0*, while it's perfectly elastic when *k=1*.)[17] Based on available experiences and theoretical con-

[15] Cywka, T. – Milaszkiewicz, A. – Teresiński, G. (2019): Differentiation between suicidal and accidental falls from height using the method proposed by Teh et al. Archives of Forensic Medicine and Criminology 69(3) 100-107.
Károly, L. – Simon, G. (2023): Magasból történő lezuhanás során elszenvedett sérülések. [Injuries sustained during falls from height]. Thesis. University of Pécs, Faculty of Medicine, Institute of Forensic Medicine.

[16] Han, I. (2020): Characteristic analysis and fuzzy simulation of falls-from-height mechanics, and case studies, Forensic Science International, 311
Han, I.– Park, Ch. (2022): Characteristic analysis and reconstruction method of falls from windows, Forensic Science International, 330
Muggenthaler, H. – Hubig, M. – Meierhofer, A. – Mall, G. (2021): Slip and tilt: modeling falls over railings. International Journal of Legal Medicine 135. 245–251

[17] Budó, Á. (1997): Ibid, 203

siderations, generally for a human body impacting a hard, infinitely massive, stationary surface, the value of the *k* coefficient, based on the quotient obtained from the equations (or as a first approximation, the velocity-independent expression), is about 0.1.[18] In practice, therefore, an important consequence of the compressibility of the human body is that a body falling from the 7th floor of an apartment building (about 21 meters high) onto the sidewalk can bounce back up to about 21 centimetres high. When considering displacement, it must be taken into account that in many cases the collision is not central but oblique, and the body also rotates. One possible explanation for the greater than expected displacement is that in these cases, the impact velocity has both a normal component perpendicular to the surface and a tangential component parallel to the impact surface.[19] If at the moment of collision, the impact velocity also has a tangential component, depending on the roughness of the surface, due to the friction between the two surfaces, the body may continue to slide after falling (e.g. onto a tiled surface). A similar result occurs if the body falls onto an inclined, sloping surface.

Case study

How can this theoretical knowledge be applied in criminalistic practice? A young woman in her early twenties falls from the 10th floor of a panel building and loses her life immediately. Witnesses from the street and other parts of the building - perhaps somewhat contradictorily - see her being pushed out of the window or hanging from the window. The immediate neighbour heard loud arguing, shouting, and thuds suggesting a fight at the time of the incident. At the time of the fall, the girl's ex-boyfriend and one of the man's relatives were in the apartment with her, but the ex-boyfriend hastily left the scene before help arrived. He only returned later at his mother's call and explained what had happened. According to his recollection,

[18]Wach, W. – Unarski, J. (2014): Fall from height in a stairwell – mechanics and simulation analysis. Forensic Science International 244, 136–151
[19]Budó, Á. (1997): Ibid, 202

the girl was already sitting outside the window with her back to him and feet first when, at his relative's call, he ran to the bedroom. Then, with the command *"Don't do it! Stop it!"* he slowly approached the window, jumping from the end of the bed – kicking his shin into the bed – and grabbed the woman's right hand, which was propped up on the window frame. Meanwhile, the girl half-turned and fell out of the window while sitting. At this point, the man braced his own body at the sill at the armpit line, fearing he might fall out himself, and held the victim by her right wrist with one arm while the young woman flailed and asked to be let go. To stabilize his grip and pull the body back, the suspect changed his grip several times, grabbing the woman's left hand as well, then her ponytail, and her clothing. Despite all this, the rescue attempt was ultimately unsuccessful, the victim slipped from his grasp and fell to her death.

According to calculations, from a height of 28.9 meters, in 2.2 seconds, falling from a sitting position, the body's centre of mass would move 1.5 meters away from the wall plane, while from a standing position, it would move 4.3 meters. Based on on-site measurements, the actual displacement was 2.95 meters, which, assuming a sitting position, can be explained by a horizontal movement with an initial velocity of 0.6 m/s (2.16 km/h). Jumps typically can accelerate the human body to about 2-3 m/s (7.2-10.8 km/h), while a push can accelerate it to about 0.02-1.5 m/s (0.072-5.4 km/h).[20] Compared to these velocity values, 0.6 m/s suggests a push rather than a jump as the cause of the displacement.

During the examination of the crime scene photos, a very peculiar thing could be noticed when determining the impact point of the centre of mass. The body was found at a location different from the expected impact point according to the momentum theorem, not in line with the incriminated window, but to the right of it when viewed from the front, at a distance of about 2-2.5 meters. The cause of this significant lateral displacement is an external force that resulted in a movement parallel to the building's wall plane with an initial velocity of 0.8 m/s. The resultant of these two movements

[20]Cross, R. (2008): Falls from a height. American Journal of Physics 76(9) 833-837

suggests that the woman might have fallen out of the window at an angle of about 36° to the left, with an initial velocity of about 1 m/s. All signs indicate, therefore, that the woman's fall from height leading to her death could not have occurred entirely in the manner and under the circumstances described in the preliminary data, that is, practically vertically hanging from the window. So what is the possible explanation? In expert practice, such a degree of lateral displacement primarily occurs when the victim actively defends herself, trying to prevent her body from falling out against an external force (e.g., push, thrust, throw) by bracing or holding on, but falls despite all this. Consequently, the relative location and distance of the fall and impact point are characteristic of a thrust during a struggle. The telltale signs of this seemed to be supported by the limb injuries and bilateral bruising of the facial soft tissues described in the medical expert's opinion, as well as the partial palm print belonging to the victim recovered from the window's glass surface. Another hypothesis is that the cause of the anomalous displacement could be a low-force collision with the roller shutter box located 120 centimetres below the incriminated windowsill, occurring almost immediately after release. The physical effects of impact and push are indistinguishable from each other, but with a detailed and thorough examination of the circumstances of the fall and the method of the rescue attempt, a physicist expert could not confirm the woman's intentional fall, her active resistance to rescue, or the attempt to pull her up from the window. In fact, from the established facts, external intervention became increasingly likely among the possible explanations. Accordingly, the opinion, or conclusion: the suspect's intentional action may have contributed to the victim's position outside the window, may have played a role in her fall, and may even have played a significant role in it.

Summary

One common feature of the film and a real case is that until the last minute, all participants in the proceedings are plagued by doubts about what happened. Will the truth be revealed, can it be revealed at all? Can the truth be

learned from expert opinions? Although experts only play a minor role in the film, we can still see some scenes where the expert and expert work appear (e.g. the lawyer's site visit reminiscent of an expert inspection, model experiments, expert hearings, etc.). They give meaning to the traces, reveal possible mechanisms of injury formation, explain the absence of traces, check, refute, confirm, and make hypotheses probable. Clarifying the circumstances of falls from height - whether in general administrative or criminal proceedings - is not solely the task of the physicist expert, but their work can still be crucial from the point of view of evidence. They can contextualize the findings of other specialties, such as medical, trace, in our case dactyloscopic experts or polygraph specialists, synthesize data by connecting the specialties, and fit them into a possible motion process. Objective data and conclusions that can be drawn from them using the laws and theorems of physics can reveal additional "hidden" information, facts, and connections for the prosecution, which can lead to successful indictment and ultimately accountability, or conversely, to the acquittal of the accused.

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GÖMBÖS, SÁNDOR

"Refugee or Migrant? – Law enforcement context and implications in the application of asylum-related legislation"

After reading the pronounced judgement delivered 13 June 2024 by the Court of Justice of the European Union (hereinafter referred to as CJEU) on case C-123/22, European Commission versus Hungary, I decided to change the content of my presentation. The reason for this is that the question phrased as the title of my presentation could be introduced as a €200 million puzzle, and solving it costs another €1 million a day.

The CJEU established in its referred judgement that Hungary has not implemented the measures necessary to comply with its provisions in its judgement of 2020 yet, and therefore "*in breach of the principle of sincere cooperation, deliberately excludes itself from the application of the whole of the EU's common policy on international protection and from the application of the rules on the removal of illegally staying third-country nationals"*. According to the judgment, "*this infringement constitutes an unprecedented and very serious breach of EU law"*, which, as per the reasoning, is the reason for the decision to impose an unprecedented grave sanction.

Provision of both an in-depth analysis of the referred judgement and an overview of its preluding judgement, delivered on 17 December 2020 by the CJEU on the case C-808/18 in meticulous detail are outside of the scope of my objectives.

Nonetheless, it is worth noting that in its judgement of 2020, the CJEU found several cornerstones of the asylum and migration management legislation of Hungary to be in breach of EU law. Thus, the judgement criticised the rules linking asylum application submissions and asylum procedures to transit zones, as well as the practice of escorting people illegally

staying in Hungary over the border barrier. Furthermore, the referred judgment stressed the requirement to facilitate effective access to the asylum procedure for applicants. The lack of access to effective procedures was a substantial finding established in case C-823/21 as well.

However, it certainly requires some explanation as to why I think that the referred judgment of the CJEU is related to the question raised in the title of my presentation. To answer this, let us go back in time a few years.

Over the past decade, migration was a recurring subject from time to time. Then, since 2015 it has been a major topic of national discourse. In 2015, the phenomenon that started with the Kosovar wave in 2014 reached unprecedented proportions in the history of modern Hungary; in the referred year, Hungarian national authorities detected more than 400,000 illegal migration-related acts along the exterior borders of Hungary, the highest number ever recorded.

Although, thanks to the legal, technical, infrastructural and human resources measures put in place, this number decreased in the following years, the perceivable phenomenon of irregular migration en masse has remained characteristic and continues to have an impact, with varying intensity, on both Hungary and the European Union.

If we assess the number of illegal migrants having arrived in or attempted illegal entry to Hungary, it can be noted that the sharp spike in 2015 was followed by a decline in 2016 and 2017, and then a constant and marked increase in the migration-related data until 2022. This increase could not be stopped even by the COVID-19 pandemic, which occurred in the meantime. Only the changed practice of the Serbian authorities, which were implemented in October, 2023, brought conversion of the increasing tendency that was technically sufficient for the 2023 figures to indicate a perceptible decrease. However, despite the change in the upward trend, the number of illegal entries and attempts still exceeded 173,000 even in this year.

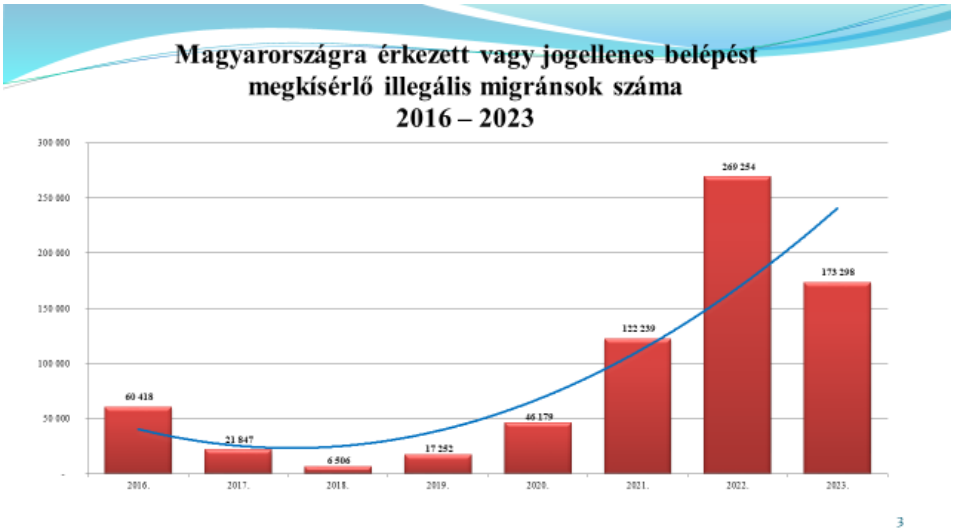

Figure 1
The number of illegal migrants having arrived in or attempted illegal entry to Hungary
2016 – 2023

One might think that the increasing illegal migration pressure could also be associated with a rise in asylum applications, and we could be looking at a similar trend when looking into the number of applications for asylum in Hungary. Thus, it may be somewhat unexpected that there was a steep decline in the number of asylum applications submitted in Hungary between 2016 and 2023. Compared to 29,432, the number of registered applications in the base year 2016, only 31 applications for recognition as a refugee were received in 2023.

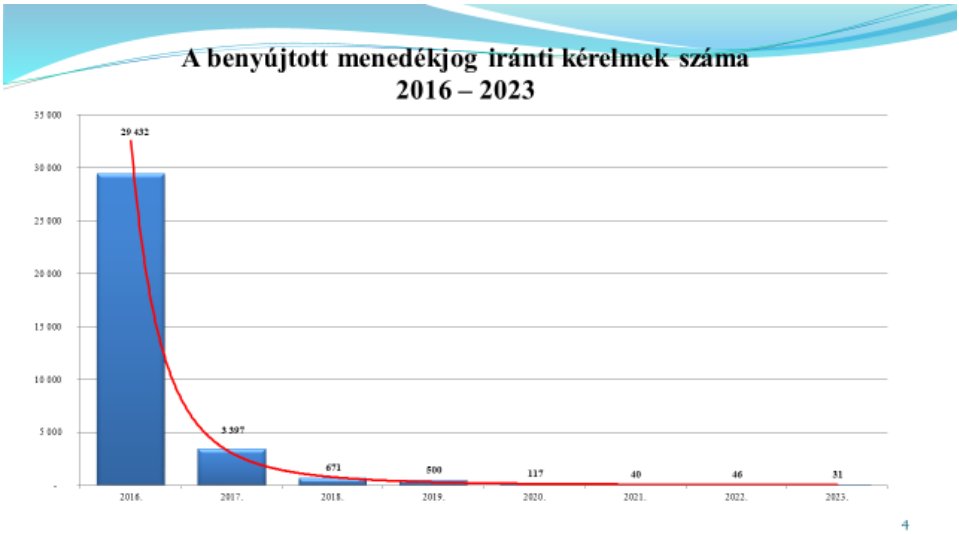

Figure 2
The number of asylum applications submitted
2016 – 2023

When the two sets of data are examined collectively, the difference is quite striking: in the data of 2023 173,298 illegal entries or attempts are juxtaposed with only 31 applications for recognition as a refugee. By all means, it should be taken into account that the number of illegal entries and attempts include people whose border crossing to Hungary was prevented along the temporary border barrier (71,266 people in 2023), people sustained within the territory of Hungary, as well as people escorted via the temporary security border barrier (85,913 people from border areas and 14,225 people from the territory of Hungary).

The question arises as to what conclusion can be drawn from the above. On the one hand, it can be concluded that Hungary's three-pillar system of border guarding does work in practice. The first pillar, the work of the police (in certain periods of time, members of the defence forces and assisting civil guards), the second pillar, the physical protection of the border (the temporary security border barrier with an intelligent signalling system) and

the third pillar, the legal border barrier indeed constitute an efficient solution. It is worth noting that the operation and practical functioning of the three-pillar system in fact also incorporates an invisible fourth pillar. This invisible fourth pillar has message value of Hungary's border guarding and asylum system, making it clear that Hungary is taking action against illegal migration. The significance of this cannot be underestimated, as in an era of mass and abusive asylum application submissions and asylum-related 'application shopping', it is to be considered as rather instrumental.

The legal border barrier is based, on the one hand, on the retention of illegal migrants outside the border, as well as their escort across the state border, and, on the other hand, on specific rules providing governance in the field of asylum. Among the specific rules in the field of asylum, the rules governing the state of crisis caused by mass immigration, the institution of transit zones and, following the closure of the transit zones, the rules of the 'declaration of intent procedure' are to be underlined. At the same time, the CJEU judgement highlighted that these rules are not compatible with EU standards.

Following this, it is worth taking a look at how the number of recognitions as a refugee in the EU, where rules different from the procedure and practice of Hungary are followed, compares to the figures concerning Hungary.

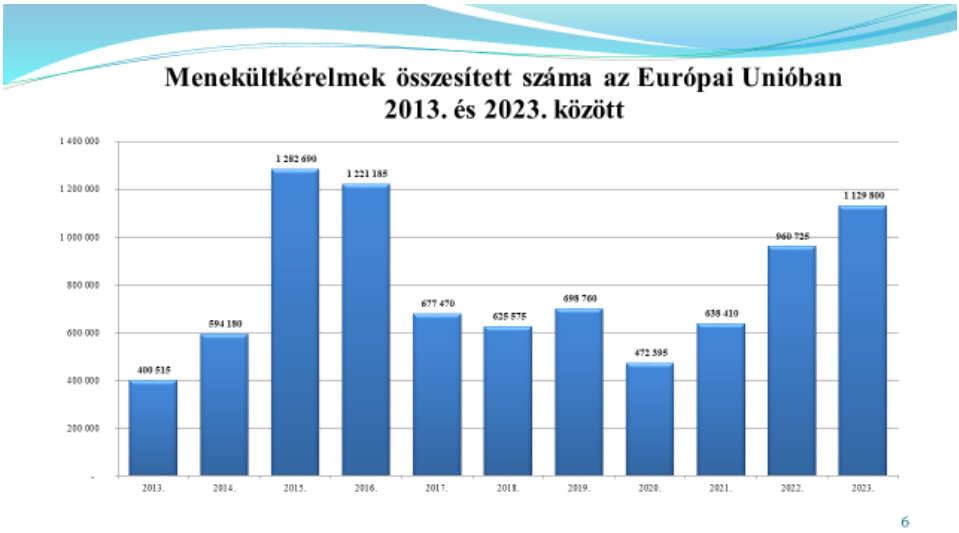

Figure 3
The cumulative total number of asylum applications within the European Union between 2013 and 2023

According to a summary report recently published by the European Union Agency for Asylum (hereinafter referred to as EUAA), the number of applications for asylum submitted in the Member States of the EU in 2023 exceeded 1 million, i.e., it is the highest number since 2016. By comparison, the number of applications in 2022 was still below 1 million, which is also extremely high. Nevertheless, even this high number has continued to grow over the past year. As a result of this increase, in 2023, the number of asylum applications rose to levels reminiscent of the 2015-2016 asylum crisis. As a relevant factor, it is also worth adding that Member States have registered more than 4.3 million people as beneficiaries of temporary protection refugees (cf. the Hungarian term 'menedékes') since the start of the outbreak of the war in Ukraine, which has obviously resulted in a significant workload for the authorities and the provision and care system as well.

The summary report of the EUAA also implicated that the number of displaced people reached an all-time high last year, exceeding 114 million

worldwide. This does not bode well for the future. Given the environmental, economic and social phenomena underlying migration, due to the permanence of conflicts in source countries, and the emergence of newly developing conflicts, it is to be expected that the number of people seeking refuge will continue to rise.

In addition to indicating the number of refugees, the report also underlined that the external borders of the EU had remained under pressure. This is indicative of the fact that this year the number of illegal border crossing was the highest since 2016; national authorities detected 385,000 illegal border crossings at EU external borders, which constitutes an 18% increase.

Looking at the state of play in the EU, the question then arises as to how to distinguish between a refugee and an illegal migrant, who is not eligible for recognition, in practice. The baseline is: what is actually covered by the asylum law. In order to answer this question, it is worth revisiting one of the fundamental international documents on the subject, the rules of the 1951 Geneva Convention.

The definition of the term 'refugee' does not need any special explanation. The fact that refugees, as well as applicants for recognition as beneficiary of refugee status, not only have rights but also obligations is all the more interesting and is hardly ever addressed.

One of the most general obligations is that the refugee is obliged to comply with the laws of the country of his/her residence. However, in some respects it is even more critical whether asylum law encompasses the right to be granted freedom of choice over the country in which a person will be granted asylum. In case this premise is true, there is no need to ask many further questions, the situation can be inferred from it; an application system should be developed, even within the framework of an international organisation, where a person wishing to be recognised as a refugee can declare his/her claim, on what grounds, as well as in which state, presumably with an excellent social and health care system, he/she wishes to apply for asylum. Once the application has been submitted, it is only a matter of waiting time for a fair decision, which may be challenged by legal remedy, of course.

In my opinion, it is an obviously absurd idea. It raises the question of what the welfare democracies of Western Europe would think the establishment of such a system, which would soon impose unbearable burdens on their care and provision systems. The consequences would probably prompt voters of the general public in a country concerned to express their disapproval in the near future, if not already in the next elections.

However, my conclusion, which is certainly startling at first hearing, is that, in line and full compliance with EU requirements, this system seems to be ultimately realised in practice, although not with the seemingly absurd but convenient solution outlined. This is because the practice under EU law lacks the principle called 'first safe country of asylum' principle. Even though Article 31 of the Geneva Convention provides that people illegally entering or being present in the territory of a given state shall not be imposed sanctions upon only if they have come directly from a territory where their life or freedom is threatened; it is in fact technically possible under EU asylum law for a refugee to make his/her application in an EU Member State, regardless of which distant country (s)he set out on a journey. It is only a matter of will, money, perseverance and the effectiveness of the migrant smuggling networks.

This practice is certainly fraught with dangers, most notably by pushing people into the arms of migrant smuggling criminal organisations, resulting in thousands and thousands of deaths each year on the treacherous journey towards the European Union.

The European Union certainly strives to keep the processing of applications from refugees within a controlled framework, paying particular attention to human rights and the specific rights of refugees. To this end, the Common European Asylum System (CEAS), which was established decades ago, provides detailed rules through directly applicable and directly enforceable regulations (perhaps the most important being the Dublin Regulations, which govern the determination of the Member State responsible

for examining a specific asylum application), on the one hand, and directives that guide the content of Member States' procedures, including the provisions of the Reception Conditions Directive and the Asylum Procedures Directive, on the other hand.

This system may have been functional in the past, in a very different context and in the face of completely different challenges, than the ones today. By now, however, both external conditions and the migrants' behaviour, with the advent of 'asylum application shopping', have changed to such an extent that a revision of the system has become inevitable.

At the same time, asylum, migration and mass immigration have become an issue that makes it extremely difficult to come to a compromise solution typical of the EU, exactly because of the changing external circumstances and their impact on the societies of the reception countries. The interests of the Member States, which encounter this phenomenon to varying degrees and in diverse ways, are fundamentally disparate, which dismantled the common practice and solidarity that many sought to establish in this area years ago.

As a result of lengthy preparations, the EU decision-making bodies have recently adopted the Pact on Migration and Asylum, more specifically the legal acts that constitute its components. The complexity of the preparation is illustrated by the fact that the Commission initially submitted its proposal for the Pact in September 2020. Due to the somewhat incompatible EU institutional and national proposals, as well as interests, the lengthy preparation led to the majority adoption of a legislation whose effectiveness is highly doubtful. This is well illustrated by the fact that not only Hungary and Poland[1] expressed their criticism, opposing the Pact; 15 May 2024, the day following the adoption of the Pact by the Council, in an almost unprecedented way, 15 ministers in charge of migration and immigration-related affairs sent a joint letter addressed to EU Commissioner for Home Affairs. In the joint letter, the ministers, who signed it, called on the Commission

[1] HU and PL voted against the Pact, CZ, SK and AT abstained from voting, IE and DK did not vote. In the meantime, Ireland made a decision, and will apply the Pact; Denmark also came to a decision and is opting out.

to develop new methods and solutions to prevent illegal migration to Europe.

Hence, it can be argued that with regards to the rules of the newly adopted Pact which is to be applicable 2 years from now, there is already a majority of those who think it will be ineffective in addressing the consequences of illegal migration sufficiently.

The question is why the EU model based on the Geneva Convention is not functional? In my opinion, the answer lies in the changed external environment and changes in the behaviours and expectations of people involved in migration subsequent thereto. In essence, we are fighting in the era of globalisation with rules that were established before the era of globalisation.

The Geneva Convention was adopted in the period that shortly followed the horrors of World War II, and consequently has a fundamentally humanitarian focus. However, nowadays, typically, people involved in migratory movements are not only people who are actually subject to persecution, but also masses of asylum abusers who are migrating for economic reasons and who are/should be subject to the strict Schengen rules to safeguard the foundations of an area established upon law, freedom and security.

A refugee sets out on a journey and leaves his/her hitherto existing life behind because his/her life and physical safety are in imminent danger. In comparison, the majority of people engaging in illegal migration are motivated by completely different considerations.

It is worth revisiting the fact that even Article 31 of the Geneva Convention, which is imbued with a humanist approach, exempts only people, who have come directly from a territory where their life or freedom was threatened, from the penalties to be imposed on account of illegal entry or presence. This condition has become completely receded in recent years.

When looking into the push and pull factors behind the migratory flows, a number of reasons can be noted that understandably motivate people concerned to set out on a journey in the hope of a better and safer life. In case of a number of such reasons it can be argued that the respective reasons

may be legitimate grounds for recognition as a refugee, such as the horrors of war or persecution for reasons of race or religion. Nevertheless, it can also be conceded that the majority of reasons for migration do not constitute grounds for recognition as a beneficiary of the refugee status. Reasons that do not constitute valid grounds for asylum application include poverty, less developed health care systems, economic underdevelopment, lack of social security or the hope for a better life in general.

The conflict arises here, with masses of migrants seeking to enter the EU under the guise of applying for recognition as a beneficiary of the refugee status. Whether or not they are granted recognition as a refugee is, as per a somewhat far-fetched concept, secondary, since once they have reached the territory of the EU, the chances are great that they can remain there, even if they are not granted recognition as refugee. The reason thereof is, as the letter of the 15 minsters of migration-related affairs also underlined it, the return of people not in need of international protection is insufficient.

The system, which is in line with the rules of the EU, encourages both real refugees and people who simply set out on a journey in the hope of a better life to reach the territory of the European Union, or at least its borders, at any cost. The reason thereof is that an application for recognition as a refugee can be submitted at the border, which gives the right to enter and remain in the territory while the application is being processed, and to receive accommodation and care during this period. According to Article 3 of the Directive of the European Parliament and of the Council on common procedures for granting and withdrawing international protection, it applies both to applications submitted at the border and to the applications submitted in the territory of the Member States. Under Article 8, where there are indications that a person intends to apply for international protection at a border crossing point of an external border, Member States shall provide him/her with information on the possibility of submitting an application for international protection.

And if the conditions for recognition as a refugee are not met, the applicant will vanish in the melting pot of the European Union, if (s)he has not

already vanished and waited for completion of the procedure at all. Given the insufficient return policies and practices, the chances that an applicant, whose application has been refused, will actually have to leave the territory of the EU are poor.

Indeed, it can be established as a fact that, in practice, the return of refused applicants is of scarce effectiveness. In addition, due to the increase in the number of applications, the procedure is also lengthy, which places an increasingly unbearable burden on the Member States of the EU as countries of destination.

According to the report referred to above by the European Union Agency for Asylum, countries of the European Union took slightly more than 677,000 first-instance decisions, which number represents the highest since 2017. On one hand, out of the decisions taken, 294,000 held that the respective application was well-founded, which is approximately 43% of the cases. On the other hand, 383,000 applications were unfounded. The underlying question is: What has happened to the applicants concerned who are present in the territory of the European Union, risking their lives, relinquishing their livelihoods at home and often paying their entire fortunes to migrant smugglers. It seems hardly imaginable that, saddened by refusal of their application, they would voluntarily return home en masse.

Regarding the effectiveness of efforts towards returns, it is worth recalling that 39,235 people were affected by Frontex assisted returns by air in the year of 2023.

According to Frontex data, by application of the EU-Turkey statement, in 179 operations, 2,246 third-country nationals' return has been implemented since April, 2016. Within the framework of the EU-Turkey statement, return operations were suspended in the year of 2020 by the Turkish party. No such operations have been implemented either between 2021 and 2023 or in 2024 so far.

These numbers can be juxtaposed with the 383,000 refused applications and the 385,000 illegal border crossings detected at EU external borders in the year of 2023. Even if we assume that individual Member States have

also managed to encourage the return of a few tens of thousands of people illegally staying in the EU, we can still conclude that the vast majority of the people concerned have remained within the territory of the EU.

The main question as per the question formulated in the title of the presentation is: how to distinguish between refugees and illegal migrants setting out on a journey in the hope of a better life.

A substantial part of the work of the border policing and asylum authorities requires focusing on the identification of third country-nationals who have been subject to actual, personal and individual persecution within the masses of migrants. Particular attention should be devoted to the people who are not just people arriving with the masses having set out on a journey in the hope of a better life, but are downright violent and ill-intentioned individuals in hiding, posing a risk to public policy and/or national security.

However, we also need to address and answer a further question, namely where and how long this identification should take place, and under what guarantees. The following should be considered: if people applying for recognition as refugees shall be entitled to entry to and right of residence within the territory of the EU without having to meet further conditions, and during this period the people's personal liberty shall not be restricted in any way, due to the current insufficient return system, there is a strong chance that they will consequently remain within the territory of the EU, in worse cases, illegally, which can serve as a breeding ground for vulnerability, victimisation and committing criminal activities, and thus result in deterioration in the state of public security in the countries of destination.

An attempt to resolve this puzzle has been made by the Pact on Migration and Asylum, which does indeed introduce progressive elements, including mandatory pre-screening and the definition of people to be subject to a procedure at the border. However, if we were to believe the ministers of the 15 EU Member States, this legislation would not be able to solve the problems caused by mass illegal migration, as well as prevent migration and the related negative social consequences that it entails. After all, we can claim that asylum affairs are not equivalent to the import of labour. The problems arising from this in the aging societies of Europe are evidently

needed to be addressed. For this purpose, immigration or guest worker programmes can be developed to facilitate, under controlled legal conditions, the entry to the Schengen area of third-country nationals who wish to work, their integration into the labour market, and, not least, into the society of the host country. There is already a tradition of this in Western Europe, for this purpose, it will suffice to briefly recall by reference the employment of guest workers, which began in the 1960s, as a result of which a significant number of Turkish nationals got a job and earned a livelihood in Germany.

In conclusion, I will not present the position of Hungary which has been criticised by many and deemed, by the CJEU, to be incompatible with EU law in several respects, but the proposals set out in the letter by the 15 EU ministers.

The proposals strive for:

- preventing illegal migration, and managing it locally, as well as along the respective migratory route;
- providing protection, as well as means of subsistence and livelihood for refugees in their regions of origin;
- developing mutually beneficial partnerships with countries situated along migratory routes and supporting them in reception;
- dismantling hives that encourage dangerous journeys to Europe;
- transferring those rescued from the sea to safe third countries following models similar to the Italy-Albania agreement;
- efficient return of people who are not in need of international protection, eliminating the conditions that encourage illegal entry thereby;
- with the aim of establishing a more effective return system, review of the Return Directive, cooperation with third countries, establishing return centres;
- reconsidering the concept of safe third countries;
- addressing threats posed by the instrumentalisation of migrants;

– reinforcing the fight against migrant smuggling by all possible means.

In comparison with the above, Hungary included the following essential areas among the priorities of the Hungarian EU Presidency in the second half of 2024:

– paying particular attention to the external dimension of migration, close cooperation with countries bordering the EU, as well as with countries of origin and transit is of essence;
– the importance of guarding the external borders, with EU funding;
– restraining illegal migration;
– curbing migrant smuggling;
– increasing efficiency of the implementation of returns;
– applying innovative solutions in the asylum system.

In my opinion, the resemblance is pronounced. In the light of this, the question is what the response to the CJEU judgment should be. The judgment is in line with current applicable EU standards. However, it sanctions the Hungarian legislation, elements of which are increasingly being cited as effective - and therefore desirable - practice, and which will also appear in the provisions of the Pact, applicable in less than two years' time. However, many days will pass before the due date of the application of the Pact in two years, and pursuant to the CJEU judgement, each will be ”rewarded” by a penalty payment of €1 million per a day, unless the national legislation changes.

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KALMÁR, ÁDÁM

The vulnerability of the Danube region in the light of the Russian-Ukrainian war[1]

Introduction

The Danube basin is an important intersection point between the EU's cohesion policy programmes, neighbourhood country programmes and the potential candidate countries. Due to its catchment area covered by a significant number of tributaries of the Danube,[2] the Danube region comprises a total of 14 countries,[3] and therefore these nine EU and five non-EU countries implement joint programmes in response to common challenges as a development concept through the EU Strategy for the Danube Region (EUSDR), which may also be joined by non-member countries.

The countries of the Danube Region are connected by the river and its catchment area, forming it into one single unit, thus it functions as a regional subsystem from the point of view of security. The *"classical security complex theory"* applies to it, since the states of the region form a coherent territorial unit. They are thus characterised by an interdependence in terms of security, which is not permanent, but deep and permanent enough to share common interests earlier and in the present phase of history. Interdependence is based on economic (income, industry, production, transport,

[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.

[2] The most significant tributaries of the Danube are the following: Inn, Morva, Mura, Drava, Tisza, Sava, Velika-Morava, Olt and Prut.

[3] Nine out of 14 EUSDR member states are EU members (Austria, Bulgaria, Czechia, Croatia, Hungary, Germany, Romania, Slovakia and Slovenia) and 5 non-EU countries (Bosnia-Herzegovina, Montenegro, Moldova, Serbia and Ukraine). Among the EU Member States, Bulgaria and Romania are full members of the Schengen Convention, with the exception of land borders. The Danube interland border belongs to the land borders.

communication, etc.), social (social situation, migration, existence of national minorities on each other's territory, etc.) and environmental matters (raw materials, energy supply, production area, waste, etc.). The concept of security can be broken down into at least five sectors; military, political, economic, social and environmental.[4] The disruption of any segment of the unit can make the entire system and its security unstable. The Russian-Ukrainian war could bring about such a significant change in the Danube Region.

Threats and risks in the Danube Region

Over the past decade, law enforcement thinking on river safety has focused on the extent to which the Danube poses security challenges to law enforcement agencies. As Romania and Bulgaria are full members of the Schengen area only in terms of air and sea border controls – and Croatia only became one on 1 January 2023 – only Hungary had a Schengen external border on the Danube until 31 December 2022. Since that date, responsibility for this has remained with regard to vessels and various hazards coming to and from Serbia.

Europol, the EU's law enforcement agency, continuously monitors serious and organised crime trends in Europe and publishes threat assessments, called SOCTA.[5] However, threat assessments for the Danube were last published in 2011 as a short analysis, in which it was identified as a particularly vulnerable area due to the possibility of certain crimes committed by organised crime groups.[6]

Most of the threats come from the south. The Black Sea port of Constanta, located only 179 nautical miles from the Bosporus and 85 nautical

[4] Buzan, B. et. al. (1998): Security: a New Framework for Analysis. Lynne Rienner, Boulder, USA

[5] SOCTA: Serious and Organised Crime Threat Assessment, Source: https://www.europol.europa.eu/publications-events/main-reports/socta-report Accessed: 02.05.2024

[6] Berta, K. (2015): Preface. In Herczeg Mónika (edt.): Establishment of the structure of the Danube River Forum, DARIF. Budapest, MoI of Hungary, 2015. p. 6

miles from the Sulina branch of the Danube, is the most important source of hazards in the direction of the Danube. It is particularly vulnerable due to corruption permeating customs, which helps it become an entry point for cocaine smugglers from Colombia, but Romanian authorities have also seized several tons of hashish and Captagon tablets coming from Syria.

The port of Constanta is also a Mecca for cigarette smugglers. Given that cargo ships can travel on the Lower Danube on the three branches of the Danube Delta (Kilia in Ukraine, Sulina in Romania and Saint-George Branch) until Braila, threats from the sea also affect the safety of the Danube. Already in 2022, the research network of the Global Initiative Against Transnational Organised Crime (hereinafter referred to as GI-TOC) found that data on the most significant known crimes affecting the Danube were occasional and that some significant cases only came to light by luck.[7] The latter fact itself refers to the security deficit present in law enforcement along the Danube. The timely detection of risks inherent in border control at the external border plays an important role,[8] which gives particular importance to Hungary on the Danube, even if the route covered by vessels leads through six transit countries on the more than 1400 river kilometres' journey from the Danube Delta to the border of Hungary. All of the transit countries operate some type of water border surveillance systems supported by optical surveillance devices. This means a kind of enhanced screening system in cross-border law enforcement work.

In order to ensure border security, the risks of cross-border crime types should be analysed by dividing the Danube into three sections due to its length, as suggested by the new GI-TOC research report for 2024.[9] The

[7] Scatturo, R. – Kemp, W. (2023): Portholes. Exploring the maritime Balkan routes. Global Initiative Against Transnational Organised Crime. Source: https://globalinitiative.net/analysis/balkans-maritime-routes-ports-crime/ Accessed: 01.07.2024. 42-45

[8] Ritecz, Gy. (2013): A migráció kockázatai [The risks of migration]. In Gaál, Gy. – Hautzinger, Z. (eds.): XIV. Pécsi Határőr Tudományos Közlemények. Pécs, MHTT Határőr Szakosztály Pécsi Szakcsoport, 2013. 255–264

[9] Kemp, W. – Scatturo, R. (2024): Undercurrents. Blue Crime on the Danube. Source: https://globalinitiative.net/analysis/undercurrents-blue-crime-on-the-danube/ Accessed: 28.06.2024. 13

first stage, Section A stretches from the Rhine-Main-Danube Canal through Germany, Austria and Slovakia to the vicinity of the port of Vukovar in Croatia to the Schengen external water border, including the Hungarian-Croatian-Serbian triple border, including the Schengen port of Mohács. Section B runs from Vukovar to the Braila area in Romania, while Section C covers the area of the triple border of Romania, Moldova and Ukraine, i.e. the Danube Delta. The research report, in which the author of this paper was also involved, concludes that the upper section is the least risky, slightly contaminated by the smuggling of drugs (cannabis, small quantities of synthetic drugs), cigarettes and alcohol on ships, and irregular migration flows also cross the river, mainly between Serbia and Croatia.

The middle section of the river faces other types of challenges, mainly fuel smuggling and the smuggling of irregular migrants. The Serbian section of the Danube traditionally specialises in fuel smuggling. The Serbian police seized 1,861 tons of petroleum products from fuel smugglers in 410 cases between 2018 and 2022. The phenomenon is due to relatively high fuel prices. According to a study there is a risk of fuel smuggling in nearly forty places along the 588-kilometer stretch of the Danube passing through Serbia.[10] The area around the river Delta is the most vulnerable to organised crime. GI-TOC's research finds that the Romanian-Moldovan-Ukrainian triple border region (historically called as Bessarabia) is a traditionally smugglers-friendly ecosystem dominated by criminals from many different ethnic groups, primarily Bulgarian and Gagauz gangs. [11]

It is also obvious from the investigation documents of the Hungarian NTCA analysed by me[12] that cigarette smuggling on the Danube also originates in the Lower Danube region. 11th of October 2021, the NTCA

[10] Đorđević, S. (2023): Fuel to the fire: Impact of fuel smuggling in Southeast Europe, GI-TOC, August 2023, Source: https://globalinitiative.net/wp-content/uploads/2023/08/Saša-Dordević-Fuel-to-fire-Impact-of-fuel-smuggling-SE-Europe-August-2023.pdf. Accessed: 24.04.2024. 15-17

[11] Kemp – Scatturo (2024): Ibid. 15

[12] The South Transdanubian Criminal Directorate of NTCA has authorized providing of materials for case studies based on its authorization no. 62002-1/620/2022. ált.

checked the unloading of a vessel of Ukrainian nationality at the commercial port of Paks. According to the available data, the cargo of the barge attached to the tug was rock salt, which was placed in large "sling-bags" weighing 1.3 tons each in the cargo hold. The Hungarian Customs finally seized 57 million pieces of smuggled cigarettes, which were hidden among the ship's cargo in Izmail, Ukraine! [13]

The new strategic importance of the Danube and the impact of war

River security risks and possible changes in cross-border criminalities can be examined as a result of Russia's war in Ukraine. During the invasion phase of the war, which began 24th February 2022, Russian attacks on the Danube and Ukrainian Danube ports have led to changes in the volume of trade and waterway transport, which, due to the network nature of commercial supply chains, may also have an impact on the activities of criminal organisations that settle on legal supply chains to deliver illegal goods.

With regard to the war, Russia's ambition to control the Northern, North-Western coast of the Black Sea is a pivotal threat in the Danube Region, which predicts the geopolitical goal of the possible occupation of Ukraine's Odessa region. The Odessa region was still in Ukrainian hands in the summer of 2024, when Russia captured about 18% of Ukraine's territory, and there was almost a standstill on the fronts. However, experts say that due to the war, new threats affecting the Danube may emerge, which could have a negative impact on the risks. These threats, according to the expert meeting titled *Blue Crime on the Blue Danube* (Vienna, Austria, 24-25.03.2024) organized by the GI-TOC, could include the following during course of the war:

1. drugs and precursors smuggled to the front line in Ukraine;

[13] Növekedés: A tapasztalt nyomozók is megdöbbentek a csempészcigi mennyiségén [Even experienced detectives were shocked by the amount of contraband cigarettes]. Source: https://novekedes.hu/nav-infotar/a-tapasztalt-nyomozok-is-megdobbentek-a-csempeszcigi-mennyisegen-video-a-cikkben Accessed: 24.04.2024

2. smuggling of men fleeing from conscription in Ukraine by boats;
3. increased volume of cigarette and drug smuggling.

There is a threat that the most sought-after psychoactive substances, methamphetamine derivatives and precursors from China could be delivered to Ukraine to facilitate the fatigueless movement and continued fighting of the troops. Ukraine's synthetic drug trafficking index rose from 3.50 in 2021 to 8.00 in 2023. [14] These synthetic drugs, given that coincidences have previously played a role in the seizure of large quantities of drugs smuggled by ships on the Danube, may once again bring illicit transport on the Danube to the fore.

Last but not least, adult men fleeing conscription in Ukraine due to the war can arrive by boat, even with forged travel documents, which can be facilitated by the use of the poorly protected Ukrainian Seafarers' identity document, accepted by Hungary – among other countries – on the Danube.[15] Since the outbreak of a full-scale war, Ukrainian tobacco factories have been bombed, allowing counterfeit cigarettes to be smuggled from Moldova to Ukraine and Romania, then to the EU via the port of Reni, and homemade synthetic drugs have been exported to Romania and other EU countries with the help of groups recruited from grain ship sailors at the port of Reni.[16]

However, after the end of the war, the following threats must also be taken into account:

4. 4. frontline organised crime groups;
5. 5. use of trained drone operators;
6. 6. possible smuggling of weapons in bulk goods from the front.

[14] GI-TOC (2023): Drugs in the front line. Source: https://globalinitiative.net/analysis/ukraine-synthetic-drugs-ocindex/ Accessed: 27.06.2024

[15] Based on presentations at the conference and expert meeting *Blue Crime on the Blue Danube* organized by GI-TOC (Vienna, Austria, 24-25.03.2024).

[16] Observatory of Illicit Markets and the Conflict in Ukraine, Port in a storm: organized crime in Odesa since the Russian Invasion, GI-TOC, Source: https://globalinitiative.net/analysis/odesa-bessarabia-organized-crime/. Accessed: 02.05.2024

In the Odessa region near the Ukrainian ports of Reni and Izmail, aggressive organized crime groups can use their members sent to the front, after their return with combat experience, to carry out various violent crimes. Combat-trained drone operators can use commercially available drones to carry and drop payloads of up to 30 kilograms safely on the territory of another state, which can increase the risk of smuggling.

However, the most dangerous issue for the Danube is that the Chechen mafia and other criminal organisations (mainly Armenian, Georgian, Gagauz) working to destabilise the EU can find a way to transfer weapons from the front to the Schengen territory by vessels. According to a GI-TOC study from 2023,[17] Ukraine has a high level of corruption with weak law enforcement and a large number of unregistered (mainly small arms) weapons available in the country. After the war, demand for these stocks in the country decreases, which may result in the black market releasing them in several directions, which will which could result in the black market spilling them out in several directions, with a logical transport route once restored from Odessa by sea to enter the EU via the port of Constanţa, Romania or the port of Varna.

For the latter two, they can use the Danube waterway. The Bulgarian port of Varna is still an entry point for weapons coming from the Republic of Türkiye.[18] According to the analysis, fighters from Western Balkan countries who are currently involved in the war on both sides pose the greatest risk. (Currently on the black market in the Odessa region, the price of an AK-47 is $1000-1500, a hand grenade is worth $7-50, and around $400 is the price of a Makarov pistol.)

[17] Galeotti, Mark– Arutunyan, Anna (2023): Peace and proliferation. The Russo-Ukrainian war and the illegal arms trade. GI-TOC Research report. Source: https://globalinitiative.net/wp-content/uploads/2023/03/Mark-Galeotti-and-Anna-Arutunyan-Peace-and-proliferation-The-Russo-Ukrainian-war-and-the-illegal-arms-trade-GI-TOC-March-2023.pdf Accessed: 18.07.2024. 22

[18] GI-TOC, Smoke on the horizon (2024): Trends in arm trafficking from the conflict in Ukraine. Source: https://globalinitiative.net/analysis/trends-arms-trafficking-conflict-ukraine-russia-monitor/ Accessed: 28.06.2024. 41

Due to post-war land decontamination and waste transportation, the transport of scrap metal – traditionally considered bulk cargo on the Danube – in barges may also increase, which represents a potential cover cargo for prohibited goods, mainly disassembled weapons![19] That is why I consider it vital that other bodies involved in ensuring security of navigation shall ensure appropriate precautions before the end of the war. As a sign of this, ahead of the organisation of Joint Operation DARIF on the Danube in 2024, EUSDR experts contacted the experts working for the Firearms Driver of the European Multidisciplinary Platform Against Criminal Threats (EMPACT) to exchange information and carry out joint activities.

Conclusions and proposals

Due to certain weaknesses in commercial transport on the Danube (slow movement of goods, time-consuming border crossings, poor infrastructure in some ports and limited intermodal transport systems), it would be logical that organised crime rarely chooses the river as a route. However, this invisible undercurrent runs from the Danube Delta – the riskiest part interlinked with smuggling for legal movement of goods – to the heart of the European continent.

The scarcity of data indicating illegal acts on Danube vessels and the fact that the detection of certain priority criminalities in the past was only accidental, results in a latency and security deficit at the Schengen external border as well. Due to the high level of corruption in some Lower-Danube ports, vessel hulls that cannot be inspected by conventional X-ray and the peculiarities of bulk cargo transport (safe and itemised checks are only possible at the place of loading and unloading), the river is vulnerable to organised crime.

The level of risks has increased due to the Russia-Ukraine war, which requires border control at the Schengen external water border to become increasingly intelligence- and risk analysis-based in order to be successful.

[19] Kemp – Scatturo: ibid. 24

This can be achieved through targeted capacity building, enhanced law enforcement cooperation, such as facilitating the establishment of Joint Investigation Teams (JITs) for major investigations concerning the transport along the Danube under the support of EUROPOL.

A higher level of police cooperation must be achieved. Law enforcement along the Danube is largely treated as a national matter by the countries of the region, even though a significant proportion of crimes committed on the river are linked to cross-border crime. Cooperation is currently bilateral and ad-hoc and generally related to border management issues rather than intelligence sharing or common activities. More police and customs contact points and their network could enhance and improve law enforcement cooperation between the Danube countries. And this is not a new problem. Hungary already took the first step in 2012, concluding an agreement with Croatia on the operation of the Danube Law Enforcement Coordination Centre.[20] However, other states have not yet accepted joining the agreement. One of the few legacies of the initiative is the joint operation DARIF, organized annually by the Hungarian Ministry of Interior.

The last proposal is the issue of development and financing. In order to strengthen security on the Danube, it is not enough to purchase modern search tools and patrol boats for law enforcement agencies, they must also be operated and maintained in order to avoid a failure in law enforcement work. It is not possible to talk about a meaningful step forward without more frequent inspections of loading and unloading ports, and an increase in criminal intelligence and investigative capacity. Also, the information arising from these must be shared between the law enforcement agencies of the Danube countries! In order to overcome these challenges, it is essential to develop pre-notification and information exchange systems, i.e. to promote regional and international law enforcement cooperation in general!

[20] Act CLXXI of 2012 on the promulgation of the Agreement between the Government of the Hungary and the Government of the Republic of Croatia on the operation of the Danube Police Coordination Centre. Source: https://njt.hu/jogszabaly/2012-171-00-00 Accessed:10.05.2024

In order to ensure effective and rapid control of cargo ships in the vulnerable river domain, it is necessary to transmit the information necessary to identify risks through the contact points of the law enforcement authorities. These would allow the competent authority of a partner country to carry out targeted vessel controls, thereby reducing inspection time and increasing efficiency and thus security of the EU and the Schengen area.

The negative effects of the Russian-Ukrainian war, primarily the start of firearms smuggling on the Danube by vessels, was not yet noticeable in the summer of 2024, but in the absence of increased cooperation between the law enforcement agencies of the member states, there is a high risk that this could happen after the end of the conflict, which must be prevented so that the situation does not escalate later!

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KISS, ISTVÁN

The system of opportunities for expert cooperation in international and national practice[1]

Introduction

At this year's Saint Ladislaus Day Conference, I presented how the organizational structures of European forensic institutes (Dutch, English, Estonian) create practical opportunities for institutionalized support in developing unified expert opinions. The presentation provided an international overview and summary for domestic criminologists, summarizing the system of expert collaboration from both quality management and a forensic perspective. One of the main objectives of the Hungarian Institute for Forensic Sciences (HIFS) is to strengthen collaboration across various expert fields. The legal background and institutionalized forms of joint expertise offer opportunities for experts working in different areas to address complex forensic problems more effectively.[2] At this year's Saint László's Day Conference, in the section titled *"The Science and Expertise of Forensics,"* my colleagues, Dr Eszter Dudás-Boda and Dr Alexandra Fullár, showcased joint activities conducted at the competency boundary between

[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.

[2] Act XXIX. of 2016 on Forensic Experts, 2. § (2).
Lontai, M. – Kosztya, J.S. (2023):: The challenges of institutional expertise in the light of technological development. [Az intézményi szakértés kihívásai a technológiai fejlődés tükrében.] Ügyészek lapja, 30(5-6) 75–90
Fülöp, P. – Ujvári, Zs. – Petrétei, D – Kiss, I. - Dudás-Boda, E. – Metzger, M.– Fullár, A. (2023): Az igazságügyi szakértői szemléltetés modern eszközei és lehetőségei [Modern tools and possibilities of forensic expert illustration], Ügyészek lapja, 30(5-6) 91–102
IRM Decree 31/2008 (XII. 31.) on the operation of forensic experts, 30-31. §
26/2017. (VI.30.) Action by the Director General of HIFS on the temporary Organizational and Operational Regulations of the Hungarian Institute for Forensic Sciences (with amendments in a unified structure)

the fields of anthropology and trace expertise. They showcased shared achievements and possibilities of their fields through practical case examples.

Complex forensic problems and their approaches

In institutional practice, it often occurs that an expert question lies at the boundary between relevant fields of expertise. In such cases, addressing the question without overstepping competencies is only possible through collaboration among experts, resulting in unified expert opinions. When two or more fields need to conduct examinations related to evidence, a critical issue arises; the order in which the evidence should be examined by each expert. The sequence is especially crucial when one field's examination might contaminate or destroy traces or material residues that are essential for another field's analysis.

In the case of complex examinations involving minimal residual material or trace evidence, the challenge is that, due to the required examination order, not all fields of expertise can achieve the highest level of certainty in their conclusions. For collaborating disciplines, some loss of information is inevitable. Therefore, it is advisable to evaluate the results from different examinations, collectively, to maximize the value extracted from complex evidence. A new approach is needed whenever existing methods are inadequate for extracting all—or the most—information from the evidence. The thorough, multifaceted examination and reconstruction of events and actions can only be accomplished through the combined efforts of multiple fields of expertise. The logical sequence of examinations can be determined through a comprehensive evaluation of possible scenarios using a multidisciplinary approach.

To answer the questions posed by appointing authorities and resolve complex forensic problems, experts establish propositions at both the source and activity levels.[3]

In a multidisciplinary approach, experts from various fields conduct examinations simultaneously. While staying within their own fields and methods, they build on and reinforce findings from other disciplines. In contrast, an interdisciplinary approach involves experts working together to conduct a complex, integrated examination of the issue, combining their insights to offer a completely new, multifaceted perspective.

The organizational structure of forensic institutes and complex, joint expertise

The Netherlands forensic institute (NFI) [4]

The NFI is one of the world's leading forensic laboratories, offering products and services from its state-of-the-art headquarters in The Hague to a wide range of national and international clients, including the police, prosecution, courts, as well as private and business sectors.

This state-owned organization, specialized in trace evidence and investigative objects, is structured into four main units: [5]

- The Biological Traces Department (human, animal, plant) conducts, among other things, anthropological, bloodstain pattern analysis, DNA, forensic medical, pathological, and toxicological examinations.
- The Chemical and Physical Traces Department (materials and objects) is responsible for examinations such as fire and explosive

[3] Petrétei, D. (2023): Working modes of forensic experts. In: Pecsi Hataror Tudomanyos Kozlemenyek XXV., 301–308

[4] Source: https://www.forensicinstitute.nl/ Accessed: 20.06.2024

[5] Source: https://www.forensicinstitute.nl/about-nfi/organisation/structure Accessed: 20.06.2024

Source: https://www.forensischinstituut.nl/forensisch-onderzoek Accessed: 20.06.2024

analysis, chemical analysis, drugs, elemental fibres, glass, paint, trace evidence, pyrotechnics, firearms and ammunition, and gunshot residue analysis.

- The Digital and Biometric Traces Department (digital, audio-visual, biometric) carries out tasks such as image analysis and biometric identification, recovery of deleted or damaged multimedia files, digital technology examinations, data analysis, search engine investigations into fraud, murder, and child pornography, reading and recovering data from digital and mobile devices, speech and voice research, statistical calculations, traffic accident investigations, and fingerprint identification.
- The Special Services and Expertise Department conducts multi- and interdisciplinary forensic examinations in an institutionalized manner. Experts working in the field of Interdisciplinary Forensic Examination (IDFO) can help provide an overview in a comprehensive opinion by demonstrating the coherence of the data and determining the combined evidential value of the traces. The IDFO examination requires at least two different versions of the event and examination results from multiple forensic expert branches. Within this department, there is a dedicated group focused on the microanalysis of invasive traumas. This group specializes in examining injuries caused by stabbing, cutting, incising, and blunt objects on victims of fatal violent acts. They investigate the cause and mechanism of these injuries in a multidisciplinary context, working alongside forensic pathologists, anthropologists, trace experts, and micro-trace material experts.

In cases of criminal investigations (OEM), the NFI's Crime Scene Investigation (PDO) team can provide trace experts who, upon the police's request, offer advice, support the investigation, and ensure the professional collection and preservation of evidence in cases involving crimes against life.

United Kingdom – Forensic Laboratories (EUROFINS®)[6]

EUROFINS is a multinational laboratory diagnostic enterprise that provides forensic services to various branches of the justice system in the United Kingdom, with scientific support from the Defence Science and Technology Laboratory (DSTL).[7]

As a private organization specializing in trace evidence and investigative objects, EUROFINS has two main service profiles from a structural perspective, offering the following examinations:

Firstly, their forensic expert services include physical forensic examinations. In the field of biological traces, their services cover the analysis of human body fluids, tissues, and bloodstain morphology. They offer a comprehensive case review service to support investigations at all stages, with a particular specialization in unresolved homicide, missing persons, and sexual offenses. A dedicated team handles cold cases, consisting of scientists with extensive expertise and over 150 years of accumulated forensic experience. These scientists review previously conducted work and use new technologies, the world's most advanced forensic tools, and alternative approaches to uncover crucial evidence.[8] The laboratory provides a wide range of DNA technologies and techniques, covering all routine and specialized analyses, and is constantly working on developing and applying new DNA technologies for forensic science.

In drug examination, they offer a broad range of tailored solutions specifically designed for identifying, analysing, and interpreting all types of drug abuse. For firearms and ballistics, the service includes standard packages for quick, cost-effective routine work, such as weapon identifica-

[6] Source: https://www.eurofins.co.uk/forensic-services/our-services/physical-forensics/ Accessed: 20.06.2024

[7] Source: https://www.gov.uk/government/organisations/defence-science-and-technology-laboratory/about Accessed: 20.06.2024

[8] Source: https://www.eurofins.co.uk/forensic-services/our-services/physical-forensics/cold-case-investigations/ Accessed: 20.06.2024

tion and classification, ammunition identification and classification, comparison of bullet and cartridge case markings, and comparative examination of gunshot wounds, with the capability of conducting on-site reconstructions and analyses in special cases.

In the area of tools and trace evidence examination, the services include the documentation and analysis of fire-related, toxic, and corrosive substances, and the collection of footwear impressions from 2D and 3D surfaces, including those in blood, on the body, and in soil. They also examine tire prints (from leather, fabric, and other objects), tool marks, locks, keys, fingerprints, composite traces (such as weapons, fabrics, gloves, etc.), glass, paint, textile fibres, gunshot residue (GSR), and unknown powders and liquids.

When processing sexual offenses, they provide a victim-centered approach, offering a comprehensive range of forensic expert services to the police, sexual assault referral centres, and prosecution authorities.

In the field of toxicology, they offer the full spectrum of services, including the analysis of extensive body fluids and tissue samples in cases of suspected poisoning and sudden or unexplained deaths, extracted from minute traces of drugs and poisons, as well as sub-therapeutic levels of medications, with result interpretation based on the specific circumstances of each case.

Secondly, in the realm of digital forensic services, they provide digital and audio-visual investigations, image and video file analyses, as well as examinations of mobile devices for their clients.

The Estonian Forensic Institute (EKEI) [9]

Operating within the police framework and organized into field-specific divisions, the professional organizational units of the forensic institute are

[9] Source: https://www.ekei.ee/en/efsi-organization/efsi-organization Accessed: 21.06.2024

the departments. [10] These include the Forensic Medicine Department, the Biometric Department, the DNA Department, the Document Examination Department, the IT Department, the Chemistry Department, the Toxicology Department, the Vehicle and Traffic Accident Investigation Department, and the Technical Department, which conducts forensic examinations (such as trace, weapon, fingerprint, and handwriting analysis). The regional forensic medicine departments are located in four major cities. Within the institute's structure, there is no institutionalized multi- and interdisciplinary unit; however, collaboration between experts from different departments is ensured.

The Hungarian Institute for Forensic Sciences (HIFS) [11]

The forensic expert institution, operating under ministerial supervision and organized by specialized fields and geographical location, consists of professional organizational units, namely institutes and departments. These include the Central Dactyloscopy, Genetics, Physical, and Chemical, Narcotics Examination, Criminalistic (trace, weapon, handwriting, and document examination), Toxicology Expert Institute, the Blood Alcohol and Fire Investigation Department, the Medical, Technical, Tax, and Accounting Expert Institutes, as well as the Regional Institutes. Within the institution's structure, there is no institutionalized multi- and interdisciplinary unit; however, expert cooperation and unified expertise are ensured across institutes and departments. In daily practice, a trace expert typically coordinates the investigations of the participating specialized fields, evaluates individual results, and interprets them comprehensively.

[10] Source: https://www.ekei.ee/en/ekei-kui-organisatsioon/organization-chart Accessed: 21.06.2024

[11] Source: https://nszkk.gov.hu/szervezet-es-tevekenyseg Accessed: 20.06.2024

The Importance of Accreditation

The management systems of the aforementioned foreign institutions are based on the application of the international standards ISO/IEC 17025[12] and ISO/IEC 17020,[13] as well as the ILAC G19 guidelines containing the modules of the forensic examination process, and the ILAC P15 ISO/IEC directive, which includes the requirements for various types of inspection bodies.

The management system of the Criminal Forensic Expert Directorate of the HIFS – consisting of six central expert institutes and an independent expert department – is based on the national standard derived from the MSZ EN ISO/IEC 17025 international edition and the application of the ILAC G19 guidelines.

The independent Hungarian accreditation body, the National Accreditation Authority (NAH)[14], serves as the internationally accredited organization recognized by the International Laboratory Accreditation Cooperation (ILAC).[15]

The ISO/IEC 17025/2017 standard defines the general requirements for the competence of testing and calibration laboratories, including international requirements for risk assessment, risk management, and risk-based thinking. Its main principles are a more flexible management system, less rigid regulation, and greater autonomy for laboratories in building their systems. Laboratories identify, assess, and neutralize the impact of their risks.

The ISO/IEC 17020/2012 standard defines the requirements for the operation of various types of organizations conducting conformity assessment and inspection activities, encompassing standards for the competence, impartiality, and consistency of their inspection activities.

[12] Source: https://www.iso.org/standard/66912.html Accessed: 21.06.2024
[13] Source: https://www.iso.org/standard/52994.html Accessed: 21.06.2024
[14] Source: https://www.nah.gov.hu/hu/ Accessed: 19.06.2024
[15] Source: https://ilac.org/ Accessed: 19.06.2024

The management systems, procedures, and risk management of accredited organizations, along with continuous internal and external monitoring, ensure compliance with standard requirements.

ENFSI Multidisciplinary Collaborative Exercise (MdCE)

For forensic laboratories, the use of collaborative exercises (CE) and proficiency tests (PT) is a routine part of the management system. Traditionally, PTs and CEs are discipline-specific tests and exercises, meaning that typically, a single type of laboratory examination is conducted on the test material. However, in real cases, the same forensic examination material often needs to be examined from various evidence perspectives. Currently, PT and CE providers do not offer multidisciplinary exercises for forensic institutes capable of complex, cross-disciplinary cooperation.

Recognizing the need for multidisciplinary collaboration practices and sharing gained experiences, the European Network of Forensic Science Institutes (ENFSI) has summarized the concept, planning, preparation, implementation, coordination, and evaluation of a series of exercises covering multiple forensic disciplines. The ENFSI's expert working groups have been successfully conducting collaborative exercises within their fields for years. [16]

The examination areas participating in ENFSI's Multidisciplinary Collaboration Exercises so far include:

- **2022**: DNA, fingerprint, document, and handwriting analysis
- **2023**: DNA, fingerprint, explosives, and hair/fibre analysis
- **2024**: DNA, fingerprint, fire, and burn residues, document, and handwriting analysis

[16] Zampa, F. – Bandey, H. –Bécue, A. – Bouzaid, E. – Branco, M. J. – Buegler, J. – Kambosos, M. – Kneppers, S. – Kriiska-Maiväli, K. – Mattei, A. – Zatkalikova, L.(ENFSI 2022): Multidisciplinary collaborative exercise: organisation and outcomes. Forensic Science International: Synergy 2024. 8 100465

These exercises are popular within the ENFSI community, and sharing the results enhances participants' knowledge and significantly contributes to the development of their specific fields. Efforts are ongoing to establish a unified best practice and develop a recommended examination methodology.

Summary

Through my presentation at the St. Ladislaus Day conference and this publication, I aim to highlight the importance of conducting complex investigations with a multi- and interdisciplinary approach, as well as the significance of unified expert analysis. Opportunities for cooperation exist both within institutions and between institutions and individual experts.

Western European forensic institutions support expert collaboration through their evidence/examination object-specific and institutionalized organizational structures, utilizing a multi- and interdisciplinary approach. In these institutions, cutting-edge forensic services are provided in an institutionalized manner to their clients. In contrast, the professional specialization and institutional structure of the Estonian and Hungarian institutes enable collaboration across disciplines. Specifically, in the case of the HIFS, the professional fields are suitable for multidisciplinary analyses based on personal expert relationships, and for issuing unified expert opinions that are grounded in law.

The development and accreditation of complex investigative methods and procedures, along with multidisciplinary practices, facilitate expert collaboration. As a result, it becomes possible to extract the maximum amount of information from the examined objects, providing all parties involved in the justice system with a more comprehensive picture of the investigated event, and ultimately supporting the establishment of the most well-founded facts possible.

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MÁGÓ, BARBARA

The citizenship procedure as a special public administration procedure[1]

Introductory thoughts

Citizenship-related administrative procedures can be considered special in several respects, with procedural specialties ranging from the submission of applications to decision-making and even the system of appeals. Due to these specific characteristics, citizenship administration cannot be considered part of general public administration and therefore cannot be subject to its general procedural rules. The aim of this study is to present these unusual attributes, which seem to confirm that citizenship administration is a specialised administration with its own specific procedural law.

Foreword: Administrative citizenship matters

Before describing the specificities, it is necessary to state that citizenship proceedings are an umbrella concept that covers a wide range of acquisition, loss and declaratory rights. Although there are many similarities between the procedures under various titles, they are not identical. Different rules of detail apply to the certification of nationality by descent, naturalisation or re-naturalisation procedures and acquisition by declaration, and the procedural mechanisms for the acquisition of citizenship by application and forfeiture of rights on application and *ex officio* are not entirely identical. However, in the light of the foregoing, I would like to present here a general overview of the Hungarian citizenship procedure, contrasting it with other constitutional, administrative and alien law procedures.

[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.

Legal classification

When classifying citizenship cases into different fields of law,[1] the public/private law distinction alone can be a source of considerable difficulty, and it is impossible to determine their exact location without any doubt. At the beginning of modern development, the area of law at the border between the two fields of law was dominated by the private law aspects, with regulations forming part of the civil codes, following the French model.[2] In the second half of the 19th century, however, a public law approach came to the fore, with the newly emerging autonomous citizenship norms emphasizing the legal relationship between the state and the individual. The Hungarian approach traditionally placed citizenship in the sphere of public law, thus emphasizing the importance of belonging to a nation.[3] However, despite the predominance of public law, the institution of citizenship still contains elements of private law, which are mainly related to the broadly understood family law (marriage, naming, inheritance).

Accepting the public law focus brings us to another milestone to be examined, since delimiting the public law subfield is as difficult as choosing between the main branches of law. The citizenship procedure is both a matter of constitutional law or, in other words, of constitutional law and administrative law. Authors who consider it to be more of a constitutional nature tend to focus on the decisions taken in citizenship cases, while those in favour of the administrative nature concentrate on the public nature of the pathway to decision making. However, administrative law can also be defined as a set of legal rules that regulate the legal relations between the state and the individual within a constitutional framework.[4] By analogy

[1] A field of law is understood as a set of laws governing similar legal relationships in similar ways.

[2] Kisteleki, K. (2024): Állampolgárság. In: Internetes Jogtudományi Enciklopédia. HUN-REN Társadalomtudományi Kutatóközpont Jogtudományi Intézet, ORAC Kiadó Kft., Budapest, 1-24

[3] Kisteleki, K.: Ibid.

[4] Madarász, T. (1989): A magyar államigazgatási jog alapjai [The foundations of Hungarian administrative law]. Tankönyvkiadó, Budapest, 173–176

with the former definition, it can be concluded that the coexistence of the two branches of public law within citizenship law is not excluded, but merely reflects a hierarchical relationship. The practical implementation of this concept could be achieved by enshrining the main principle of citizenship (the principle of consanguinity) in fundamental law and defining the detailed rules in a cardinal law.[5]

Constitutional procedure?

In the context of classifying citizenship cases exclusively as constitutional procedures, the question may arise as to which procedural rules apply in the course of the administration of the case. Unlike other branches of law, constitutional law does not have a conceptualised procedural law, and it does not apply a dual approach.[6] Constitutional procedural law means (at most) the method of investigating a so-called constitutional complaint. The enforcement of the highest substantive standards, on the other hand, cannot be ignored in the application of the law, and it is the primary duty of the authority in charge to enforce them. Case law offers two ways of resolving this anomaly: either the constitutional law itself contains procedural rules or it refers them to other, lower-level legislation. As explained above, under current Hungarian law, the detailed rules on citizenship are contained in a law adopted by a qualified majority and are not provided for in the Fundamental Law. The types of citizenship cases are therefore indirectly constitutional procedures, the principles laid down in the Constitution merely serving as a yardstick for other procedural rules.[7]

[5] The Fundamental Law of Hungary, Art. G) section (1) and (4): "The child of a Hungarian citizen shall be a Hungarian citizen by birth. A cardinal Act may specify other instances of the origin or acquisition of Hungarian citizenship."
[6] Chronowski, N. – Petrétei, J. (2016): Alkotmányi eljárásjog, alkotmányjogi eljárások, eljárási alkotmányosság [Constitutional procedural law, constitutional procedures, procedural constitutionality]. Iustum-Aequum-Salutare, 63-84
[7] Chronovszki, N. – Petrétei, J.: Ibid. 63-84

Administrative procedure?

According to the jurisprudential concept of administrative procedures, the ..administrative procedure is a way of enforcing substantive administrative law, which involves the order in which specific administrative acts are issued.[8] The current text of the rules is contained in the Ákr.[9] However, citizenship procedures are so-called exempted procedures, so in these cases the general public administrative rules cannot be used as background legislation, either.

The separate procedural method is not new in the context of citizenship procedures; the first[10] and second[11] citizenship acts already contained procedural provisions. An interesting feature of the first general administrative procedural law[12] is that, although it was negotiated at the same time as the third citizenship law,[13] it did not include citizenship procedures among the excluded procedures.[14] It was included as part of the legislative process following the change of regime[15] and its distinct status has been maintained by the Ket.[16] and Ákr.[17] However, since the entry into force of the Ket., the procedure for the issuance of citizenship certificates is still a general administrative procedure as an exception to the exception. In cases falling

[8] Árva, Zs. – Balázs, I. – Barta, A. – Pribula, L. – Veszprémi, B. (2023): Közigazgatási eljárások [Administrative procedures]. Debreceni Egyetem Állam- és Jogtudományi Kar, Debrecen, 42
[9] Act CL of 2016 on the general public administrative procedure.
[10] Act L of 1987 on the acquisition and loss of Hungarian citizenship.
[11] Act LX of 1948 on the Hungarian citizenship.
[12] Act IV of 1957 on the general rules of public administrative procedure.
[13] Act V of 1957 on citizenship
[14] Boros, A. – Patyi, A. (eds) (2020): A hazai közigazgatási (nem hatósági) eljárások alapvető jellemzői a hatékonyság tükrében [Basic characteristics of domestic administrative (non-administrative) procedures in terms of efficiency]. Ludovika Egyetemi Kiadó, Budapest, 63
[15] The law currently in force: Act LV of 1993 on the Hungarian citizenship: Art. 24. sec. (2) and Act I of 1981, Art. 3. sec. (7)
[16] Act CXL of 2004 on the general rules of public administrative procedures and services
[17] Act CL of 2016 on the general public administrative procedure

under the scope of the excluded procedures, the legislator may lay down fully separate procedural rules.[18]

From the outset, the citizenship norms have shown a regulatory dichotomy, with each norm being accompanied by some kind of implementing provision.[19] However, the dichotomy between the law and the implementing regulation does not imply a substantive and formal legal division, with the derivative regulations merely containing detailed rules on the exclusive legislative subject matter. In conclusion, both the Act and the implementing regulation contain substantive and procedural provisions, although the procedural predominance of the implementing regulation is considerable.

However, in spite of the exceptional procedure, general administrative procedural features are still present in many areas of citizenship procedures. Similarities can be found in relation to the submission of applications, suspension and termination of proceedings, the obligation to clarify the facts, the calculation of the time limit for the submission of applications, the involvement of the competent authorities and judicial review. The treatment of the citizenship certificate as an official certificate has been recognised by the legislator itself. It should be noted here that the naturalisation certificate can ultimately be considered as a simplified decision.

Marked procedural specificities are most evident in the exercise of decision-making power. Applications for naturalisation are decided by the President of the Republic on the basis of a proposal and countersignature by the competent minister.[20] The decision of the President of the Republic is not subject to a time limit, is discretionary (no reasons are given) and cannot be appealed. The applicant does not acquire Hungarian citizenship on the day of the issuance of the naturalisation certificate (decision), but at the time of taking the oath of citizenship,[21] after which he/she may exercise

[18] Hajas, B. (2016): Általános közigazgatási rendtartás – Ket. kontra Ákr [General administrative procedure - Ket. v Ákr]. Új Magyar Közigazgatás 2016/4, 19
[19] Decree 584/1880. of the Minister of Interior, Decree 600/1949. (I. 23.) of the Minister of Interior, Decree-law 55. of 1955., Gov. Decree 125/1993 (IX. 22)
[20] Act LV of 1993 on the Hungarian citizenship (hereafter: Ápt.) Art. 6. section (1)
[21] Ápt. Art. 7. sec. (1)

the rights and obligations attached to citizenship. Another difference is the personal procedural obligation and the exclusive use of the Hungarian language,[22] authorised representative and interpreter can only be used in a very limited number of cases. The possibility of appeal is also limited, as the client can only submit a new application after the naturalisation application has been rejected.

A further particularity of this area of law is that the application of the law must take into account not only the existing body of law, but also all legislation that has ever affected the institution of Hungarian citizenship.[23] As a result of the prohibition of retroactivity, the substantive law in force at the time of the event giving rise to the right applies.[24]

Specialised administration of foreign law?

Alien law is the set of legal rules whose subject does not have Hungarian citizenship.[25] As a general rule, aliens administration covers three broad areas: asylum administration, aliens policing and citizenship administration.

However, as stated above, contrary to popular belief, citizenship administration covers not only naturalisation but also a number of other types of procedures. The forms of acquisition of citizenship (naturalisation, re-naturalisation, declaration) meet the above requirement of alienage, since the applicant does not have Hungarian citizenship at the time of application.

Yet, in the case of citizenship loss titles, the person wishing to renounce his/her citizenship or the client subject to the revocation procedure is a

[22] Applications for a citizenship certificate are an exception.
[23] Lőrincz, A. – Parragi, M. (2013): Állampolgársági jog és jogalkalmazás. Egyetemi jegyzet [Citizenship law and law enforcement. University note]. Nemzeti Közszolgálati Egyetem Rendészettudományi Kar, Budapest, 31
[24] Ápt. Art. 1 sec. (4): "The Act is not retroactive. Hungarian nationality is governed by the law in force at the time when the facts or events affecting nationality occurred."
[25] Hautzinger, Z. (2014): A magyar idegenjog rendszere és az idegenjogi (szak)-igazgatás [The Hungarian alien law system and the (specialised) administration of alien law]. Pro Publico Bono – Magyar Közigazgatás 2014/2, 71

Hungarian citizen. In the case of applications for the establishment of citizenship and for the issue of citizenship certificates, the ratio of persons with Hungarian citizenship is also high, and the majority of them have acquired their citizenship by descent at birth. Thus, as far as the acquisition titles are concerned, it can be clearly established that they are part of the specialised aliens administration, but the forfeiture and establishment titles cannot necessarily be considered as classical aliens proceedings.

Notwithstanding the foregoing, it is also worth looking at loss titles from a different perspective, since it is well known that successful completion of renunciation and withdrawal results in a foreign status. As a consequence of becoming an alien, the subject of the proceedings becomes a foreign client and thus also a subject of alien law. Since the definition of alienage does not make it clear at which stage of the proceedings the client must be an alien, I consider that these claims may be part of alienage, if interpreted not narrowly, then broadly.[26]

The majority of clients in proceedings for the establishment of Hungarian nationality are latent, hidden citizens. Although they cannot prove their citizenship by any credible document at the time of the application, their citizenship still exists at that time. The procedure of issuing a certificate of citizenship as proof of Hungarian citizenship is therefore not part of the specialised administration of aliens' rights in a narrow and broad sense. It is an interesting parallel that it is precisely this procedure which, although based on a different reasoning, applies the exception to the citizenship procedures exempted from the Ket.

The domestic registration procedures closely linked to naturalisation, as well as the transfer of any name changes in the registers, are also not part of alienage, as these procedures can only take place after the oath or vow has been taken.

[26] For more on the concept of alien law interpreted broadly and narrowly, see: Hautzinger, Z. (2014): Idegenjog kontra idegenrendészet [Alien law versus aliens policing] In: Gaál, Gy. – Hautzinger, Z. (eds.): Rendészettudományi gondolatok. Írások a Magyar Rendészettudományi Társaság megalapításának egy évtizedes jubileuma alkalmából. Budapest, MRTT, 113-120

Conclusion: sui generis procedure?

Citizenship procedures are complex in nature. Most of the preparatory work, both in terms of its nature and the body responsible for it, can be classified as administrative procedures. The decision-making mechanism, however, follows a very different set of rules and is often regarded as a constitutional procedure, given that it belongs to the powers of the President of the Republic. In support of this, it should be noted that in most higher education institutions citizenship issues are taught as part of the constitutional law discipline. Nor is there any doubt about the alien law link between citizenship law and the asylum and immigration procedures. In times of mass migration, there has been a legislative tendency to treat aliens procedures separately, so that the Ákr. has included the two related areas mentioned above in the group of excluded procedures, in addition to the citizenship procedure. With this objective in mind, it is now less conceivable that citizenship procedures, despite their many administrative features, should be placed in the domain of subsidiary legislation.[27]

The issue of citizenship is also linked to other areas of public and private law: international law, EU law,[28] criminal law, family law, inheritance law and labour law.

A review of the procedural similarities and differences, as well as of the related areas of law and regulatory trends, leads to the final conclusion that citizenship procedures, as a special administrative procedure, constitute a sui generis procedure with its own specific characteristics.

[27] Boros, A. – Patyi, A. (eds): Ibid. 68

[28] For more on EU citizenship, see: Ganczer, M. (2022):. Az uniós polgárság természete, összevetése az állampolgársággal [The nature of EU citizenship and its comparison with citizenship] In Ganczer, M. – Knapp, L. (eds): Az uniós polgárság elmélete és gyakorlata. Gondolat Kiadó, Budapest

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MÉSZÁROS, BENCE

Possible criminalistic advantages of sequential lineup[1]

Introduction

A police lineup is an important and common investigative act which, if carried out lawfully and professionally, can be used to identify the relevant persons (in particular the perpetrators) and objects involved in a crime. Its importance is increased where, in the absence of trace evidence, identification by expert examination is not feasible or, in the case of objects, would be unnecessary because it would result in wasted time and additional costs. Sequential lineups are currently not allowed under Hungarian law. In this paper I will introduce the results of several researches on the effectiveness of sequential lineups conducted abroad and outline how the legal prohibition manifests itself in Hungarian law norms. Furthermore, I will draw attention to the possible practical advantages of sequential lineups and to their inevitability in certain cases.

The sequential superiority effect

Simultaneous lineup means that the persons/objects (or images) are present at the same time, the witness can observe them simultaneously, that is, all of them are in the witness's field of vision when the lineup starts, and all of them stay there until it ends. In the case of sequential lineup, the persons/objects (their images) are presented in succession at short intervals, so that it is perceived individually by the person attempting to carry out the recognition.

[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.

The data published in the literature by researchers were controversial in the past decades, but the dominant view has been for a long time that the sequential lineup is more effective than the simultaneous version; although it reduces the willingness to choose relatively, so it decreases the number of successful identifications, it also significantly increases the chance to avoid the identification of non-guilty persons, that is, it substantially reduces the false positive results of the lineup.[2] This phenomenon is called *"sequential superiority effect"* in the literature.

The quoted effect was demonstrated in a number of experiments, and its existence was also confirmed by two meta-analyses, which were carried out 10 years apart in 2001[3] and 2011.[4] Based on this evidence, researchers have successfully advocated a policy shift towards sequential presentation, which has led to its adoption in various forms in 30% of US jurisdictions and in Canada and the United Kingdom.[5] The interpretation of the sequential superiority effect was challenged by Wixted and Mickes in 2014. The researchers argued, based on their own theory called *„diagnostic feature-detection hypothesis"* (DFDH), that in the case of simultaneous lineup the "discriminability" of the witness is higher than in the case of sequential lineup, that is, they can identify the person seen earlier more effectively.[6]

[2] Consequently, the sequential lineup could be more suitable to avoid miscarriage of justice than the simultaneous lineup, which is a very important aspect. While writing this paper, I have looked through two American databases specialized in wrongful decisions within the criminal justice system. In one of them 21 % of all cases (https://deathpenaltyinfo.org/policy-issues/innocence-database), while in the other 67 % of all cases (https://innocenceproject.org/all-cases/#) were related to eyewitness misidentification.

[3] Steblay, N. – Dysart, J. – Fulero, S. et al. (2001): Eyewitness Accuracy Rates in Sequential and Simultaneous Lineup Presentations: A Meta-Analytic Comparison. Law and Human Behavior, 25(5), 459-473

[4] Steblay, N. – Dysart, J. – Wells, G. L. (2011): Seventy-two tests of the sequential lineup superiority effect: A meta-analysis and policy discussion. Psychology, Public Policy, and Law, 17(1), 99-139

[5] Kaesler, M. – Dunn, J.C., Ransom, K. et al. (2020): Do sequential lineups impair underlying discriminability? Cognitive Research 5, 35, 2

[6] Wixted, J. T. – Mickes, L. (2014): A signal-detection-based diagnostic-feature-detection model of eyewitness identification. Psychological Review, Vol. 121, No. 2, 262-276

The essence of DFDH is that it predicts a memory advantage for simultaneous lineups compared to sequential lineups, because the witness's memory excludes the common features (e.g. hair colour, skin colour) in the persons lined up before them, and the witness can focus on the different features (e.g. face shape). Wixted concludes in the chapter of the book "Visual Memory" written by him in 2022 that the simultaneous lineup has superiority, because many experiments have demonstrated this since 2011.[7] This conclusion is contradicted by the previously quoted study by Kaesler and his co-authors, published in 2020, which tested the DFDH based on a reanalysis of a 2012 database,[8] data from eight current researches and a new experiment conducted by the authors with the participation of 589 people, and found no evidence for the superiority of the simultaneous lineup.[9]

Legal prohibition on sequential lineup in Hungary

Act XC of 2017 on Criminal Procedure (Criminal Procedure Code, CPC) and the Government Decree 100/2018 (8 June) on the Detailed Rules of Investigation and Preliminary Procedure (Joint Investigation Decree, JID) allows to perform a lineup only where the witness[10] observes the persons/objects (or images) simultaneously. In the case of the CPC, this conclusion is drawn from the following section:

[7] Wixted, John T. (2022): The Basic Science of Eyewitness Identification. In: Timothy F. Brady – Wilma A. Bainbridge (Eds.): Visual Memory. Routledge. New York,. 322

[8] Palmer, M. A., – Brewer, N. (2012): Sequential lineup presentation promotes less biased criterion setting but does not improve discriminability. Law and Human Behavior, 36(3), 247-255

[9] Kaesler et al.: Ibid. 19

[10] Under Hungarian law, carrying out a lineup is allowed with two types of observers: with a witness or with a defendant. For the sake of a more comprehensible formulation of the study I only write about lineups where the observer is a witness. It is worth noting that both the CPC and the JID contain a prejudice that is not even obvious at first sight in relation to the protagonist of the lineup. Both law norms use the expression "person making the recognition" when referring to the witness. The legislator therefore seems to assume – and unfortunately also suggests the same to the addressees of the norm – that there will certainly be recognition, that the witness will definitely choose someone from the

Section 210 (3) When presenting persons for identification, the person in question shall be presented in a group of other persons who are not related to the case, unknown to the person making recognition, and similar to the person concerned in terms of the prominent distinctive marks specified by the identifying person, in particular in terms of same sex, similar age, body shape, skin color, neatness, and clothing. When presenting objects for identification, an object concerned shall be presented among similar objects. The placement of a person or object concerned shall not be considerably different from that of other persons or objects in the same group, and shall not be prominent in any way.

The wording of the cited section of the CPC leaves no doubt that the witness shall observe a group of persons or objects during the lineup (see the expressions "*in a group of other persons", "presented among similar objects", "persons or objects in the same group"*). The third sentence in the quoted section contains a very reasonable rule regarding the placement of a person or object within the group.[11]

Consequently, the sequential lineup is not allowed under Hungarian law. However, the identification based on memories created through smell, taste, touch, and hearing is self-evidently impossible, when the witness has

persons or objects (their images) presented before them. A detailed explanation as to why the use of this expression is not right is probably not necessary, I shall just emphasize here, that this error in the Hungarian regulation needs to be corrected in the future.
Professor Csaba Fenyvesi drew attention to the prejudice in the name of the investigative act itself, he recommends the name "attempted recognition" instead of "presentation for recognition". He gave the title of his monograph on lineup in this spirit as well. Fenyvesi, Cs. (2023): Felismerési kísérlet a bűnügyekben. [Attempted Recognition in Criminal Cases] Ludovika Egyetemi Kiadó. Budapest

[11] There is a mistake in the wording of the section, where the CPC prohibits the "prominent placement" within the group. It is obvious, that every placement, which is "considerably different from that of other persons or objects" is "prominent" at the same time, and there is no such thing as "prominent placement within the group" without a considerably different position.

to sense the several items simultaneously. Let us just think about the cacophony coming from multiple voice recordings played at the same time (or from multiple persons speaking simultaneously behind a screen). In this case the identification itself is out of the question, let alone the marking of the eventually chosen voice. The voice recordings are played one by one in such cases, of course. The situation is the same with video recordings, the witness watches the recordings one by one (in this case, the simultaneous lineup is not possible even with a witness with visual memories). Beyond that, a lineup, where the situation or the scene is relevant can only be performed sequentially.[12] These cases should be part of the legal regulation, the current Hungarian law needs corrections in that regard.

Returning to the topic of visual memories and the regulation on that matter, the JID contains the following rule on the lineup with pictures:

Section 74 (2) If the lineup is done with images, the photographs of the persons or objects shall be numbered with sequential numbers. The pictures shall be fixed permanently in the photo album sheet, which will serve as annex of the report from the lineup.

All the pictures have to be shown to the witness at the same time, that is, the witness shall observe the photo album sheet with the picture of the person/object in question and the pictures of the indifferent persons/objects on it, this means the prohibition of the sequential lineup as well.

[12] A good example for that is one of the most brutal crimes committed in the history of Hungary, the bank robbery in Mór, where 8 people were killed in 2002. One of the perpetrators was standing in front of the door of Erste Bank, and five witnesses spoke with him briefly. To do a lineup with the aim of identifying him (if there had been such an investigative act during the investigation) would have been only reasonable using sequential lineup.

Moment of recognition and "double pressure" on the lineup

Recalling memories is an instinctive process, it cannot be consciously controlled when the goal is to recognize somebody or something. The witness keeps their memories – in the case of visual perception, their memory images[13] – in their memory, and in the case of repeated perception their brain compares what they saw with their previous memories. When the witness sees the previously perceived item[14] again during the lineup, his memory gets activated and indicates the sameness. This is the moment of recognition, the main purpose and the essence of performing the lineup. The witness must, of course, express the recognition that has taken place in their mind, point to the selected person or object and/or verbally state their/its number. (In this paper I will not address those cases where the recognition does take place in the witness's mind, but they do not make a statement – out of fear or for some other reason – or consciously choose a different item than the recognized person/object).

The lineup must be carried out in such a way that the moment of recognition occurs with the greatest possible probability, but only in the event that the person or object in question presented among the indifferent[15] items is really identical with the person or object whom or which the witness actually perceived during the commission of the crime or during an event related to it. Certainty must therefore be sought from two aspects: there should be recognition if it is adequate to reality, but not if the witness did not perceive the person or object in question before. From a criminalistic point of view, the implementation of a lineup is ideal if it serves both

[13] In the following, for the sake of simplicity, I will only write about visual memories. In practice they are the basis of lineups in the vast majority of cases anyway.
[14] In this paper, I only use the word "items" to refer to persons and objects together for the sake of a more comprehensible formulation, as a dedicated opponent of the objectification of human beings, I need to note this.
[15] Just like the indifferent gases in chemistry, which do not react with their environment, the function of indifferent items is also not to trigger recognition, "not to react" with the witness's memories.

requirements, if it can satisfy this „double pressure".[16] As we have seen, the literature is not uniform as to whether the simultaneous or the sequential lineup satisfies better the double pressure in question, however, based on the available data, the sequential lineup seems to be more suitable to avoid false recognition – and thus the possible miscarriage of justice. In addition to this important aspect, there are several practical considerations in favour of sequential implementation, which I will explain below.

Advantages of sequential lineup from a practical point of view

In the case of simultaneous perception of a group of persons or objects, the witness naturally receives several visual impulses at the same time, and, if the lineup is performed correctly, their intensity is equal. That is why the law prohibits significantly different positions within the group, as well as requires the presence of persons with the same main characteristics as the person in question (especially of the same sex, similar age, body shape, skin colour, neatness and clothing). In the case of objects, the legal prohibition of significantly different positions within the group also applies, as well as the requirement for the objects in the lineup to be similar. The processing of multiple impulses necessarily places a greater burden on the witness than if they had to evaluate what he saw one by one, moreover, in the case of simultaneous execution, he involuntarily begins to compare the presented persons or objects to each other, which also means an extra task for his mind and memory. The problem of "be spoilt for choice" may also occur, since in the case of persons or objects that are very similar to each other, the witness may become uncertain because of this (even the supporters of DFDH admit the fact that this can be a problem).

Neither problem exists when we use sequential lineup. Similar persons or objects (their pictures) are presented to the witness one by one, at short

[16] I borrowed the term "double pressure" from Professor Flórián Tremmel, who used it in relation to the entire criminal procedure, referring to the combined requirement of speed and efficiency. Tremmel, F. (2001): Magyar büntetőeljárás. [Hungarian Criminal Procedure] Dialóg-Campus Kiadó. Budapest-Pécs, 40

intervals, with a difference that can be measured in seconds or minutes at most. After each sighting, the witness must always state whether they recognizes the presented person or object. In case of a negative answer, another person or object is presented, until recognition occurs or until all objects are presented. Consequently, different methods of sequential lineup are known in foreign practice. In the version I mentioned first, the lineup ends when the recognition takes place, while in the case of the second implementation method, all persons and objects (their pictures) are presented, regardless of the success of the recognition. There is also a type of sequential lineup abroad, where the witness does not have to make a statement, only after seeing all the items one by one. There is also a method of implementation where the authorities allow the witness to see the persons or objects (their images) again, or even make it mandatory for the witness to do so.[17]

In connection with the sequential lineup which ends in the case of successful recognition, the problem can be raised that the object or person in question cannot be placed in the first or second place, because when it/them is recognized, no indifferent items are presented at all, or only one is presented. A legal solution to this problem is easily feasible; the presentation of at least three, but no more than six (the law should also limit the number of presented items from above) persons or objects must be a mandatory legal requirement, with the additional rule that in the event of successful recognition, the investigative act must be continued, if the number of the presented items has not reached the legal minimum yet. This would provide the investigative authorities with sufficient room for criminalistic tactics, and at the same time it would also maintain the current level of legal guarantees.

Another practical advantage of sequential lineup would be that the witness could decide the duration of the perception by their own. If the witness immediately excludes the seen item (this act in itself contains important

[17] Kaesler et al., Ibid. 2.

information), the lineup could be continued right away with the presentation of the next item, but if the witness wanted to study the current item (and only that one) for a longer period of time, they would also have the opportunity to do so.

In the case of the outlined method, the problem of *"considerably different placement within the group"*[18] would disappear, since there would be no group. Furthermore, this method of execution would presumably also significantly reduce the chance of choosing at random (provided that the witness has to make a statement after each item), since they do not know in advance how many items will be presented to them, they would only know before the lineup that there will be multiple ones. This is exactly the decreased willingness to choose that was demonstrated by the foreign experiments in relation to sequential lineup as part of the *"sequential superiority effect"* mentioned in chapter 2 of this paper.

Conclusions

The superiority of sequential lineup over simultaneous lineup is currently disputed in the literature, however, it seems very likely that the former is more suitable for reducing the number of false recognitions. From the aspect of the rule of law, the avoidance of a possible miscarriage of justice is a key issue, which carries a lot of weight on the side of sequential lineup, but due to practical considerations (for example, the problem area of *"considerably different placement within the group"*) it would be more favourable if the lawmaker lifted the prohibition existing in the current law and would at least alternatively allow sequential lineup instead of simultaneous lineup. As we could see, in the case of audio/video recordings, furthermore,

[18] Self-evidently, the following rule of JID should not and could not be applied when implementing a sequential lineup: *"Section 74 (1) The person to be presented must be warned before the start of the lineup that they shall take the place of their choice among the other people to be presented. This warning and the chosen position shall be in the report of the lineup."* However, it is worth considering to enact a legal rule, which enables the person in question to choose their own number in the process of the sequential lineup.

when the memories of the witness were created through smell, taste, touch, and hearing, as well as in the case of a lineup, where the situation or the scene is relevant, the investigative act only makes sense if it is carried out sequentially, and this should also be expressed in the legal regulation. In these cases, for the sake of dogmatic clarity – since in practice, according to common sense, no one would do the lineup simultaneously – a rule directly opposite to the current one, namely the prohibition of simultaneous lineup, would be necessary. If the *de lege ferenda* proposal outlined in the paper were to be enacted, then a regulation allowing deviations would be in force, and in the case of a witness with visual memories, the investigative authority could decide – considering the particularities of the given case – whether to carry out the lineup sequentially or simultaneously.

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NAGY, ÁGNES

The criminalistics of cybercrimes committed in cyberspace[1]

"The old robber gangs have died out, but have been replaced by large international robber barons, who are not using violence, but cunning and in any case more success in capturing often very considerable amounts of value. They are organised on a large scale and operate according to a fixed programme, every detail of which is worked out with the utmost meticulousness. They have dedicated investigative and field investigative units, as well as operational members and fences. If one of them is caught, he will never betray his associates, but they will help him as much as possible."

Pál Angyal [2]

Introduction

Thanks to the advancements in modern computing and information technology, various commercial services are now more quickly and conveniently accessible, and managing financial matters has become simpler, often without the need for personal presence. The pandemic has also contributed to the shift of the population, community life, and social relationships to the internet.

In Hungary, unlawful activities carried out in the name of financial institutions through calls targeting bank clients began to appear in January 2021. It was already evident then that the perpetrators had shifted their operations from violent money-making crimes to cyberspace, where they could conceal and obscure their identities. Unfortunately, the further shift in crime towards this direction was foreseeable, along with the continuous and

[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.

[2] Angyal, P. (1915): Criminal-etiological significance of the culture Special edition, Studies in Criminal Law, Pécs. 20

significant increase in the number of online offenses and the resulting damages.

The Fourth Industrial Revolution is an ongoing global process, as a result of which 77.41% of the population over the age of 15 uses the internet in Hungary.[3] The presence in the digital space has an impact on the dynamic rise of crimes committed on online platforms, which is primarily due to the lack of security awareness in the use of the global internet on the victims' side.

The lack of use of electronic protection systems, the peculiarities of the online space, and human gullibility are further problems for victimisation. The criminological characteristic of crimes committed in cyberspace is that criminals can exploit human factors to carry out their criminal activities by manipulative means.

With one click, fraudsters can reach thousands or tens of thousands of victims in the online space, so there is a strong need for the society's education on internet safety, and for more effective prevention solutions to effectively reduce the number of victims.

The new dimension, that is, the digital existence, poses new challenges for the whole of humanity, including, of course, law enforcement authorities. These challenges require new solutions and responses by which effective results can be achieved.

In both the national and international literature, several authors have defined cybercrime as a generic term, distinguishing two main categories within this: one is a group of criminal activities committed exclusively by using information systems. Typically, the object of these crimes is the information system, thus they are also referred to as purely IT or cybercrimes.

The second group is made up of traditional crimes committed using information systems, such as fraud, extortion, money laundering, harassment,

[3] Data published by the National Media and Infocommunications Authority on 2th May 2023. Source: https://nmhh.hu/cikk/238466/Internetes_kozonsegmeresi_adatok_2023_I_negyedev
(Internet usage among residents aged over 15 (EDME-Gemius 15+ inland – 2023. I. quarter) Accessed: 22.07. 2024

or even drug trafficking. In the case of these offences, the information system is used as a means of committing the offence.[4]

The present study deals specifically with the second category of cases, within which I will mainly focus on fraud and information system fraud

I aim to give you a brief insight in this case into the methods of perpetration, and how they are changing.

I am going to describe the procedural steps taken during the investigation and their results, as well as the successes and the difficulties that emerged.

In the subject to be covered, the focus will not be on theoretical issues and concepts, as knowledge of these is assumed, and I will build on this to present the area to be covered. I will not therefore analyse and reflect on what has already been published in the literature, but I am going to present the practical possibilities.

I am going to refrain from presenting the full, all-encompassing criminal procedure, and will only present the activity that takes place in the context of fraud.

In the study, I present some problems, which I hope to get solved in the near future.

Modus Operandi

a)

The perpetrators often prefer social engineering[5] attacks, such as phishing, instead of applying technical solutions.

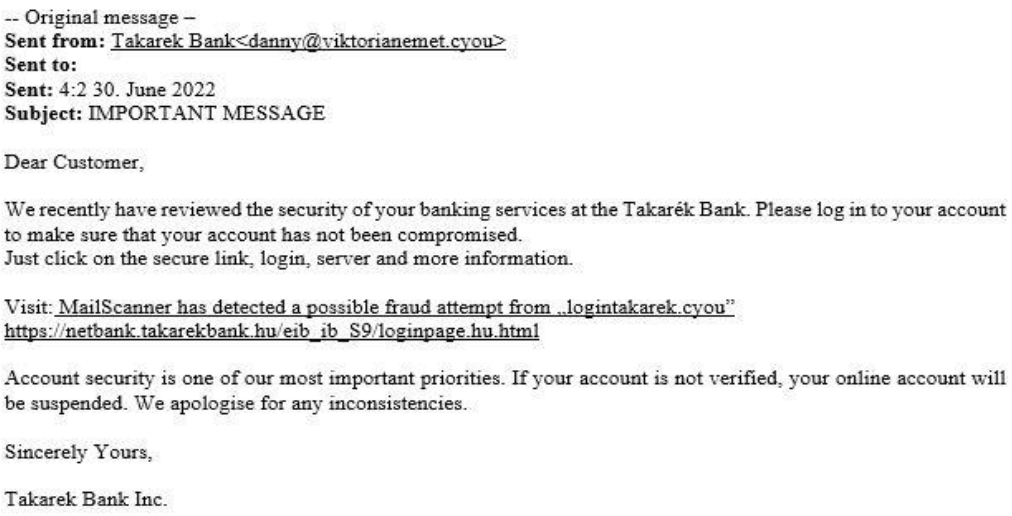
Phishing is a popular method of obtaining sensitive data such as passwords, and credit card numbers, and is often used to deliver malicious software to devices on behalf of well-known banks, financial institutions, or financial service providers. In addition, e-mail messages have recently

[4] Mezei K.(2019/4-5.): Challenges of cybercrime regulation in the criminal law, Public Prosecutors' Paper, Budapest. 22

[5] psychological manipulation, influencing

been increasingly sent on behalf of public authorities (even the police). The users are asked to log in to their accounts electronically or to provide their credit card details for data reconciliation.

The letter usually includes a link to help the victim get to the given website; however, it does not point to the real website of the bank or financial institution, but to a fake website that looks eerily similar. (Picture 1.)



-- Original message –
Sent from: Takarek Bank<danny@viktorianemet.cyou>
Sent to:
Sent: 4:2 30. June 2022
Subject: IMPORTANT MESSAGE

Dear Customer,

We recently have reviewed the security of your banking services at the Takarék Bank. Please log in to your account to make sure that your account has not been compromised.
Just click on the secure link, login, server and more information.

Visit: MailScanner has detected a possible fraud attempt from „logintakarek.cyou"
https://netbank.takarekbank.hu/eib_ib_S9/loginpage.hu.html

Account security is one of our most important priorities. If your account is not verified, your online account will be suspended. We apologise for any inconsistencies.

Sincerely Yours,

Takarek Bank Inc.

Figure 1
Phishing

b)
This can also be done by the so-called *pharming* phishing method, where the perpetrators also use fake websites to obtain the data, but by means of malicious or spy software, they redirect the user from the original site to another fake website. When the unsuspecting victim logs in on these websites, the phishers immediately get their username and password, and then by using the obtained data they access the user's bank account and then

often transfer the amounts of money from the affected bank account to other accounts within a short period of time.[6]

c)
Sending SMS messages is a simpler and faster communication channel, where the perpetrator, misusing the name of a service provider or authority, contacts the victim by pretending there was an expired service or debt. To facilitate payment, they send a link leading to a fake (phishing) website, aiming to obtain personal and banking information for fraudulent purposes. (*Smishing*).

Here's a refined version of your sentence for better flow:

These fake SMS messages often include claims like 'your package has arrived but cannot be delivered,' 'your subscription needs renewal,' or 'your bank account will be blocked. The messages are usually written in poor Hungarian and contain a link that directs to a fake, phishing website.

d)
Another method is the so-called v*ishing* scam, where IP-based telecommunication devices are used, and the perpetrators persuade the victim to provide personal or financial information, transfer money to them, or share bank card details for data reconciliation, claiming that the card has been blocked and needs to be reactivated.[7]

In almost every case, the perpetrator pretends to be a bank representative or bank security specialist, with the aim of obtaining information by using VOIP (internet-based) calls.

They can select any phone number (even ones with real subscriber data), allowing the real caller to remain hidden.

In this act, the perpetrator contacts the victims by misusing the name of the financial institution, aiming to obtain personal and banking information

[6] Kitti M. (2019/4-5.): Challenges of cybercrime regulation in the criminal law, Public Prosecutors' Paper, Budapest. 32
[7] Ibid. 32

for fraudulent purposes. This also includes cases where no data is shared, however, the perpetrator creates a false impression in the victims, leading them to transfer money voluntarily to a bank account being a part of a fabricated story. This account is controlled by the perpetrator indirectly or directly.

It is very common for the perpetrator, posing as a representative of a financial institution, to persuade the victims to install the AnyDesk program, thus unknowingly granting remote access to their computers or phones. Once the victims log into their bank accounts and provide the necessary information, the perpetrators take control of the accounts.

Another common tactic used by perpetrators, after initiating a call in the name of the bank, is to convince their victims that a suspicious transaction has been made from their accounts or that they have been attacked. They are then persuaded to transfer their money to a new account, which could either belong to the fraudsters (opened by a straw man) or, in a more advanced way, to another victim's account (donor account). Unfortunately, in many cases, the victim doesn't even realize that they are transferring money to a different financial institution instead of their bank.

e)
In crimes related to online marketplaces, the perpetrator contacted the victim under the pretence of making a purchase, then sent a link to a fake (phishing) website to the victim's email, misusing the name of the online marketplace or the shipping company. The aim was to obtain personal and banking information for fraudulent purposes (so-called Foxpost scams).

f)
Investment fraud through fictitious websites is becoming increasingly common, where perpetrators exploit the victim's gullibility and greed to obtain significant sums of money, often promising investments in Bitcoin.

g)

The so-called Nigerian fraud[8], where the perpetrator asks for the transfer of a certain amount of money on the grounds of need, has also not disappeared (this includes the classic "asking for help" scams, "romance" scams, and scams where money is cheated from the victim with the promise of a reward or inheritance). In Nigerian scams, the perpetrators use some forms of misleading communication, typically by email, to persuade the victim to transfer money. The fake letters and requests usually ask for help: to recover refugee property or unlawfully taken inheritance, to obtain money that is temporarily unavailable for some reason, etc. Social media sites and online dating portals have been used to spread a version of the Nigerian scams, where the perpetrator builds a romantic relationship with the prospective victim before asking for money with a touching story. They intend to underpin the deceptive story with fake social media profiles, and fictitious documents that appear to be real.[9]

h)
In the past, targeted phishing was very common, where a network of perpetrators targeted a specific company. The emails sent were created in such a way that their unique features do not arouse suspicion. The perpetrators often posed as the heads of the targeted company and sent emails to the persons in charge of the finances, asking them to carry out an urgent transaction. These were the so-called CEO frauds, but nowadays the number of these cases has declined and the new methods described above have come to the fore.

[8] The "Nigerian-style" scam is one of the oldest forms of deception, which became widespread in the late 19th century and is also referred to as the Nigerian letters or 419 scam. Initially it spread by traditional mail or fax, but the development of telecommunication devices, and the spread of the Internet and e-mail have made the online space the main platform for this type of fraud. Hungarian National Bank Financial Navigator 20. July 2023. Source: https://www.mnb.hu/fogyasztovedelem/digitalis-biztonsag/az-adathalasz-csalasok-legjellemzobb-tipusai/nigeriai-csalas Accessed: 23.07. 2024

[9] Hungarian National Bank Financial Navigator 20. July 2023. Source: https://www.mnb.hu/fogyasztovedelem/digitalis-biztonsag/az-adathalasz-csalasok-legjellemzobb-tipusai/nigeriai-csalas Accessed: 23.07. 2024

i)
Marketplace fraud is still one of the most common methods of perpetration today. The offenders post fake advertisements on various online marketplaces, often for non-existent products, and then persuade interested buyers to transfer the requested amount in advance. After the successful transaction, the victim is strung along for several days with promises that the purchased item will be delivered by mail within a few days. However, this does not happen, and after a certain amount of time, the perpetrators break off all contact with the buyer.

j)
In invoice-switching fraud (*Business Email Compromise*), perpetrators attempt to obtain large sums of money from various organizations by using deceptive emails. The attackers often impersonate a leader or business partner of an organization, sending instructions to pay an invoice, and requesting the transaction to be made to an account they control. To increase the effectiveness of the method, the perpetrators often assess the internal structure and procedures of the targeted organization to send the most credible message possible to the victim.

k)
Ransomware attacks still occur today. These are malicious programs that encrypt data stored on infected systems making access to them impossible. The perpetrators demand a ransom for decrypting the data, typically requesting payment in hard-to-trace cryptocurrencies. Such attacks can lead to significant data loss and operational disruptions, especially if the victim does not have proper data backups. However, paying the ransom does not always guarantee the recovery of the files, making ransomware a serious threat to both individuals and organizations.

l)

In an online survey scam, perpetrators post fake surveys or questionnaires on various platforms (social media, website ads) to obtain confidential information such as banking details or passwords. The scammers often promise rewards, gifts, or cash prizes to motivate people to provide their personal and financial data. The information collected can then be used to commit further fraud or sold on illegal online markets, which is a common occurrence.

m)
The Wangiri call is a type of fraud where perpetrators make a brief call to a potential victim from a foreign or unknown number with the intent of prompting the recipient to call back. The return call is directed to a premium-rate service line with high per-minute charges, resulting in significant costs for the victim, who is often unaware of the call's expense. The fraudsters profit from the phone charges generated. Additionally, when victims attempt to call back, it may appear that the call was unsuccessful, leading to the line not being properly disconnected, causing further financial losses.

The investigation

All the cases of the above-mentioned methods of perpetration were revealed during the investigation, and the testimonies of victims, bank employees who were interrogated as witnesses, and the statements of suspects have shed light on the perpetrators' methods.

The crimes presented showed that today's criminalist (Fenyvesi) needs a very different way of thinking than 10 years ago and that with the changing crime structure, some investigative tactics need to change.

From 2nd March 2020, the Immediate Payment System (Azonnali Fizetési Rendszer – AFR) has been introduced in Hungary, which is mandatory for all financial institutions according to the regulation of the Hungarian National Bank, under which a transfer made in the frame of a banking

transaction is completed within five seconds, 24 hours a day, and 7 days a week.

The most important task of the law enforcement authorities in case of the offences described in this study is to take immediate rapid response measures during the investigations, while keeping in mind the urgency and timeliness, and to act as quickly and efficiently as possible following the information provided by the victim or the bank.

Once the person concerned informs the authority that he/she has become a victim of an "online fraud" and provides the necessary information for the investigating body, the first and most important procedural step that has to be taken to separate the victim and to compensate the damages, is to seize and recover the amount of money obtained criminally, as soon as possible, and to prevent further criminal acts (e.g., money laundering).

This also requires very close cooperation between the financial sector and law enforcement authorities, so that the decision on the coercive measures concerning property, taken by the investigating authority can be implemented by the affected bank in question without delay and any further transactions can be suspended. The primary objective is to keep the funds in question within the domestic banking system.

Of course, financial institutions also need to communicate and cooperate, as in many cases transactions involving the amounts concerned, can be interrupted and the amounts recovered can be returned to the victim.

During the criminal procedure, seven fundamental criminological questions must be clarified to fully establish the facts of the case. Without addressing these questions, prosecuting authorities cannot confirm that they have an accurate understanding of the relevant facts, the historical past, and the facts to be prosecuted.[10]

The most important aspect is the application of the "first strike" (erster Angriff)[11] formulated in criminology, which is implemented by initiating a

[10] Fenyvesi, Cs. – Herke Cs. – Tremmel, F.(2022): Eds.: Criminalistics Publisher Ludovika, Budapest. 44
[11] Ibid. 45

seizure and conducting immediate data collection and background research.

In these procedures, the analysis of previous actions, the prompt acquisition and evaluation of bank account numbers, phone numbers, straw men, and other data is essential, as experience has shown that crimes are committed in an organized and serial manner, making their complete detection a difficult task.

During the investigation, the proper evaluation of digital traces, the introduction of covert tools, the application of correct interrogation tactics, and the implementation of coercive measures concerning assets are of great importance.

The characteristics of the committed crimes are that the previously mentioned emails did not come from a bank's email address, the subject line is inaccurate, there are spelling and grammatical errors/poor in Hungarian, and they direct the recipient to a fake website.

If the deception occurs over the phone, the call usually comes at an inconvenient time (at work), and the victim is misled by the "helpful employee" and the use of "technical terms," often resulting in the installation of the AnyDesk program or the transfer of necessary information. The phone calls are long, and they do not hang up even if waiting is required – this ensures that the victim cannot call their bank. They exploit the victim's lack of experience, who rarely logs into online banking, is unfamiliar with it, and has limited computer knowledge.

The knowledge of the methods presented also creates difficulties in the investigation and in reducing the number of crimes, as the perpetrator's helpfulness and use of technical terms often convince the victims. They then say they will "connect the appropriate colleague" or the call centre, where similar tactics are used, but at this point, the data is already being extracted, as if for a security check, and during the long conversations, the victim is not allowed to hang up. The perpetrator who completes the crime is also helpful, reassuring the victim that everything is fine with their account, that it is now secure, and claiming to be the "real bank employee," even directing the victim to the police immediately.

Assets subject to seizure or freezing are increasingly found in foreign accounts, Revolut accounts, or cryptocurrency, making asset recovery a lengthier process in such cases.

Summary

One of the most important goals is the comprehensive development and strengthening of society's resilience to cybercrimes. To achieve this, knowledge and tools must be provided that help people understand the importance of cybersecurity and establish appropriate protections. In addition, users must recognize cyber threats and receive effective management methods at all levels of society. Therefore, it is necessary to widely develop citizens' awareness of safe internet use and their ability to respond to such threats.

The police aim to engage society as a whole, achieve nationwide reach, and prevent all offenses occurring in the online space. Every age group and target audience must be reached, regardless of geographical conditions.

Digital awareness and education are key to addressing cybersecurity challenges. Whether it's members of institutions and organizations or individuals, they must be continuously informed about the latest threats and best practices.

In 2022, a comprehensive nationwide project called "CyberSHIELD" (KiberPAJZS) was launched to raise awareness about online user consciousness and the importance of basic digital security knowledge. One of the founding members of the project was the National Police Headquarters. The Project supports the achievement of its goals through coordinated, consistent efforts with unified branding elements, by sharing existing experiences, utilizing them internationally, and through process development.

In today's active cyberwarfare, investigative authorities require continuous (both open and covert) digital data collection and up-to-date comprehensive databases. Using this data, crime detection is carried out by specialized units with the most powerful computers and programs available.

Criminologists must also participate in fast, efficient, and continuous (priority) training and practice. It will not be enough to rely solely on a specially trained team of experts; individual investigators must also learn the key knowledge related to hardware, software, the internet, data storage devices, and PC accessories. In our view, this will be the greatest challenge for criminologists worldwide in the coming years and decades.

Beyond all this, criminology increasingly requires highly skilled so-called ethical hackers—those who conduct digital intrusions to help map, detect, and identify digital criminals, servers, and systems. At the same time, they are capable of disrupting and disabling the operational scope of these threats.[12]

[12] Fenyvesi, Cs. (2024): The system of criminalistics. Jura 2024/1. 116

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NÉMETH, ÁGOTA – ROTTLER, VIOLETTA

The role of artificial intelligence in securing popular music festivals[1]

Introduction

The Government Decree 23/2011 (III.8.) on making the operation of music and dance events safer was created to ensure the successful organisation of events. It applies to occasional or regular music and dance events that are held in a building for mass accommodation, as defined in Government Decree 253/1997 (XII. 20.) on national settlement planning and building requirements, or that are held outdoors and are expected to be attended by more than 1,000 people at any time during the event. A music and dance event is defined in the Government Decree as an event held regularly or on a specific occasion or date, which is open to the public, not a private event, providing a musical service as a main service by means of a selected record release or live performance, and where it is not necessary to have a reserved seat to attend.[2]

Organising, running and securing public events, including various festivals and concerts, is a complex task that can be successfully achieved through the joint cooperation of several bodies and authorities. From a legal point of view, the provision of events is based on detailed regulations, on the basis of which the bodies involved have developed their own professional protocols.

[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.

[2] The Biggest and Best Music Festivals from Across the World, Source: https://www.slingo.com/blog/lifestyle/biggest-and-best-music-festivals-2024/ Accessed: 04.08.2024

In order to ensure the smooth running of festivals, law enforcement agencies and private security providers have separate responsibilities, and effective cooperation is essential.

Event security is perhaps the most complex of the private security activities. It covers personal security, perimeter security, and sometimes property protection, but can also include disaster prevention. Its complexity is characterised by the diversity of its content. It requires great care in organising cooperation between the various law enforcement agencies, organisers, and security organisations. The main objective of event security is to protect the safety of the persons and property of the people gathered.

Nowadays, artificial intelligence (hereinafter: AI) is increasingly present in our lives. Law enforcement and complementary law enforcement actors are constantly examining how and to what extent they can utilize the opportunities provided by AI in their work. In this study, we would like to show how AI can help the work of bodies involved in the organization and smooth running of festivals, and what dilemmas may arise during its application.

The actors involved in securing the festival

In order to ensure the successful organization of the events, Decree 23/2011 (III.8.) on making the operation of music and dance events safer was created. Its scope extends to occasional or regular music and dance events that are held in a building intended for mass residence, as defined in Government Decree 253/1997 (XII.20.) on national town planning and building requirements, or an open-air event, i.e., held outdoors, and during the event, there is expected to be a date when the number of participants exceeds 1,000 people.[3] According to the Government Decree, a music and dance event is defined as an event providing music services as a main service held regularly or on a specific occasion or time, provided by public, non-private,

[3] 23/2011. (III.8.) Government Decree on Making Music and Dance Events Safer § 1

selected album release, or live performance, in which you do not need to have a purchased seat to participate.

Based on the norm, it is the organizer's duty to make the necessary announcements to the competent authority according to the nature of the event, to obtain permits, to conclude the contract with the appropriate property protection company to perform the organizing tasks, to organize the site tour with the police, the organizer, the representatives of the competent authority, and other contributors, to specify the subtasks of the organization of the event, the responsible persons, to determine the number of contributors and directors, and the tasks, and to provide the infrastructural needs of the contributors and the necessary technical tools.[4]

The provision of these events requires special attention, as the large number of participants, open spaces, and various hazards pose an increased risk.[5]

AI is present in almost every aspect of life today. Just as law enforcement agencies and private security providers seek to explore the potential of AI in their daily work, this intention also applies to securing mass gathering events.

Music and dance events are growing in popularity worldwide, adding to the number and complexity of security challenges.

The combination of law enforcement agencies, the private security sector, and artificial intelligence (AI) technologies can also bring significant progress in addressing these challenges.

Here is an overview of how these tools can help keep events safe.

It is obvious from the text of the above norm that two segments play a key role in event securing: the police and private security (property protection) companies, which are responsible for the internal security of events.

[4] 23/2011. (III.8.) Government Decree Ibid, § 8

[5] Christián, L. (2019): Rendezvénybiztosítási gyakorlat.[Exercise in securing public events] In:– Dr. Szalay, F. – Kutsera, P. – Miklós, I: Szakmai módszertani ismeretek a közszolgálati pályaorientációs képzés oktatói számára III. MAGÁNBIZTONSÁG Nemzeti Közszolgálati Egyetem, Budapest,18

In the following, through the provision of the previously mentioned Sziget Festival, we will show what tasks law enforcement agencies and private security service providers perform during the festival, and in which activities AI can support them.

Participant bodies in the securing of a festival

Preparations for securing the Sziget Festival begin months in advance. The police coordinate with the main organizer, the organizer, and the property protection companies. As state actors, the police, secret services, and disaster management, and as non-state actors, in addition to organizing and private security service providers, the ambulance service, civil guards, public utility providers, the public safety office, and municipal policing units also participate in the collaboration.

Before the start of the festival, the securing task also includes a preliminary site visit, which, in addition to determining and installing the necessary personal and material conditions of operation, also includes the search for items previously brought into and hidden (e.g. buried) on the site, e.g. drugs.

Since 2013, we can talk about internal and external securing at Sziget. The police primarily carry out external securing for the Island. During the day, a smaller number of people are on duty in various electric vehicles and patrolling the Island on foot or even in golf carts. They are responsible for external securing. They are uniformed, supervise the large number of festival attendees and the traffic to minimize restrictions on crowds entering the festival grounds via Bridge K. To this end, partial or total closures of traffic are carried out if necessary. In addition to traffic policing tasks, they also perform crime prevention tasks so that no crime is committed against visitors in the vicinity of the festival and in the surrounding housing estate.[6]

[6] Wieszt Ferenc r. ezredes a Sziget fesztivál biztosításáról, 2024. augusztus 1. [Ferenc Wieszt pol. colonel on securing the Sziget festival, August 1, 2024]. Budapesti Zsaruk Podcast. Source:
https://www.youtube.com/watch?v=-RuDJ8l2k2c Accessed: 04.08.2024

On the festival grounds, the colleagues of the criminal service wear plain clothes, mingling with festival-goers, watching and trying to detect and prevent various violations. If action is necessary, they themselves take action or report it to law enforcement personnel. Secret service staff also work undercover, in plain clothes, and in the case of a protected person, special units of the Rapid Response and Special Police Service are also present.

The police operate an outpost outside the festival grounds to provide security outside. This is where the various signals come in, from which the police take over the action from the security service staff.

Private security providers are responsible for (internal) securing of the festival area. In-Kal Zrt. and Valton-Sec Zrt. have been performing securing tasks at the Sziget Festival for several years. Valton is responsible for securing the surroundings of the stages, while In-Kal is responsible for access control. They control entry and exit to the Island, check the safety of persons and objects entering, and react quickly to any incidents. When an incident or act is detected where a security guard can take action, the first measures are taken, but police forces are also notified at the same time. They don't have any weapons, but they can use a gas spray or physical force if there is a fight or disorder. Members of the security service patrol the Island both in plain clothes and uniform, which plays an indispensable role in crime prevention. They have a task force. They are also entitled to take action, but it is mostly carried out jointly with the police, who act on their signal.

On the territory of the Island, the security services operate the complaint office. If any incident happens inside and the person concerned wants to file a report, the security service will escort him out of the territory of the Island and hand him over to the police, who will inform him where he can file a report (Budapest, 3rd District Police Station).

It is our common interest that festivals end smoothly, i.e., without negative events. Securing preparation is impossible without joint analysis and evaluation of the data of the organizational elements involved in its implementation, as well as previous and other similar events.

At a joint command point with the participation of the bodies involved in the smooth running of the event, the data received are analyzed and evaluated, decisions on the movement of response units are made, and measures are taken based on this.

Technological equipment in securing

According to Act CXXXIII of 2005 on the Rules of Personal and Property Protection and Private Investigator Activities, organizers must record the personal data and facial image of participants of musical events with more than 25,000 people requiring the purchase of an entrance ticket.[7] The purpose of the provision is to help prevent and detect criminal offences and terrorist acts, and to help identify and apprehend wanted persons. This also applies to popular music festivals, i.e. Sziget. Information can be obtained by request from the police, the Counter-Terrorism Centre, the National Tax and Customs Administration, the prosecutor's office and the court.

Metal detector gates are also used for entry, as it is forbidden to bring various dangerous objects into the festival area.

The work of festival operators is also supported by the installation of surveillance and other property protection camera systems providing fixed surveillance. The cameras are installed for live and recorded surveillance of major nodes, access control sites, and cash desks. Footage taken in day and night lighting conditions of sufficient quality can greatly help to map the movements, activities, and relationships of offenders.[8] In the case of minor-offence or criminal proceedings, camera recordings are forwarded to the authorities and courts conducting them.

[7] Act CXXXIII of 2005 on the rules for the protection of persons and assets, as well as private detective activities. § 72/C.

[8] Tóth, L. (2016): Limitation in the Application of High Resolution Image Sensors. National Security Review. 2016 (2) 110
Source: https://www.knbsz.gov.hu/hu/letoltes/szsz/2016_2_NSR.pdf
Accessed: 30.07.2024

These days Hungarian police forces also use drones, primarily in the field of traffic policing, traffic management, and accident prevention. When used around the festival, they can play a prominent role in traffic and parking management.

The drones are capable of providing a bird's-eye view of the festival grounds, allowing security personnel to monitor crowd movements in real time, quickly identifying crowded areas that may require intervention. The drones can also be equipped with infrared cameras, which allow effective surveillance even at night. This is especially important on festival nights when darkness makes it more difficult to observe the area using traditional methods. Drones are also useful in the field of communication; with their help, instant information can be transmitted to participants, for example, through digital displays on the festival grounds. This can help guide and inform the audience.

The role of artificial intelligence

Automated license plate readers make it possible to identify a vehicle by automating license plate runs, whether the vehicle is associated with various alarms, wanted persons, stolen vehicles, or other signs. This also enables the police to take action in real time based on license plate recognition if the system predicts where the vehicle is going or where it is parked.[9]

AI systems can be integrated with existing security infrastructure, such as CCTV cameras and access control systems. Based on the analysis of videos and images taken with AI of people attending events, festivals, and concerts that attract crowds, it is possible to analyse the movement of the crowd and detect objects dangerous to public safety. AI can be a huge help from the moment an individual enters the festival area, as AI-based facial recognition systems can easily identify the identity of those entering the

[9] Roberts, D. J., – Casanova, M. (2012): Automated License Plate Recognition (ALPR) Use by Law Enforcement: Policy and Operational Guide, Summary. 239605. Alexandria, VA: International Association of Chiefs of Police, 3.
Source: https://www.ojp.gov/pdffiles1/nij/grants/239605.pdf Accessed: 08.12.2023

events and allow or restrict access to certain areas based on biometric data. Images taken with the drone can also be fed into the facial recognition app. During behavioural analysis, they can identify suspicious behavioural patterns, such as unusual movements or even signs of panic, but they can also quickly filter out potential threats. In the event of an emergency, AI can help plan the most effective evacuation routes and minimize panic.

Integrated systems improve coordination and communication between different security teams. AI-enabled communication platforms can share information and coordinate team activity in real time. This enables the central collection and analysis of data and a rapid and efficient response. AI-based systems can share data with security personnel in real time, enabling quick decision-making and intervention.

Drones can be quickly sent to the site if any incident is reported. With real-time images, they help security personnel control the crowd, minimizing panic and ensuring the evacuation of the event venue quickly and safely. The information they collect from drones can be transmitted in real time to a central control system, where security managers can make decisions immediately.

The use of drones can also help in GIS, as the data generated during the processing of the images taken by them, as well as the representation of measurement data from sensors on a map, can help to understand the information. The simplest solution is to overlay the images taken by drones with the map and depict them "on top of each other."[10]

The various applications of AI in predictive analytics and risk assessment are outstanding. AI algorithms are able to analyse large amounts of data, including those available at the driving point and incoming data, and predict potential safety risks. This data may include, in addition to the above data, social media activity, data on previous incidents, and local crime statistics.

[10] Déri, A. (2022): Drónok alkalmazhatóságának lehetőségei a rendőrségen [Possible applications of drones in the police], Rendvédelem 2022(2) 26. Source: https://bm-tt.hu/wp-content/uploads/2022/12/2022_2_teljes-szam3.pdf Accessed: 04.08.2024

AI language models may be able to understand and communicate with foreigners speaking different languages, since most of the visitors are foreigners, either when informing individual persons or even the masses.[11]

Summary

Securing music, and dance events is a complex and challenging task that involves physical presence, proactive measures, and the use of advanced technological tools. The integrated use of the private security sector and artificial intelligence technologies can significantly increase the effectiveness of security measures. Predictive analytics, real-time monitoring, and access control provided by AI systems offer significant benefits that enable you to effectively address security challenges and conduct events safely. Such integrated solutions not only increase the safety of participants but also contribute to the smooth and successful running of events.

The involvement of AI in the provision of events attracting large crowds, including pop music festivals, can be useful not only in the work of law enforcement agencies and private security services but also in the work of all relevant bodies. If we only think about the various sources and types of information received at the centre, each unit can formulate forecasts or even take action if necessary. It is suitable for accelerating work processes and increasing their efficiency. It can also replace human power in some cases.

Based on the above, can almost certainly be said that in the case of securing large-scale events, the automated application of AI is not possible; it can only be used under the control of human power. Guarantees must be

[11] Bezerédi, I. (2024): Komplex rendvédelmi MI politikai stratégiai és technológiai javaslatok a ChatGPT és más LLM-ek szempontjából [Complex law enforcement AI policy strategy and technology proposals for ChatGPT and other LLMs]. RENDVÉDELEM TUDOMÁNYOS FOLYÓIRAT (ON-LINE) 2024(1) 51.
Source: https://bm-tt.hu/wp-content/uploads/2024/04/2024_1_Bezeredi-Imre-cikk.pdf
Accessed: 04.08.2024

put in place that in areas where AI is successfully applied in decision-making situations, the final decision is always made by human power, i.e. humans.

The above could be significantly influenced by the AI Regulation adopted by the European Parliament on 21 May 2024. The primary purpose of the norm is to protect fundamental rights and the rule of law against high-risk AI. The Regulation lays down obligations for AI based on potential risks and their magnitude. It prohibits the use of AI in certain areas where there may be an unacceptably high risk. An example of such a segment is certain types of predictive police control. Another prohibited application is facial scanning in public by the police using remote biometric identification systems with AI, except for more serious crimes.[12]

Based on this, it is necessary to develop a methodology for the application of AI in the field of law enforcement and private security and to adapt its elements to the implementation of the tasks of event securing based on the description of this study.

[12] Source: https://eur-lex.europa.eu/legal-content/HU/TXT/HTML/?uri=CELEX:52021PC0206&from=EN
Accessed: 30.07.2024

DOI azonosító: https://doi.org/10.53304/PS.2024.1-2.14

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Lawfare in criminal law and law enforcement[1]

Introduction

During a time when the lines separating law politics and warfare are becoming less distinct, the idea of 'lawfare' – utilizing law as a tool in conflict – has become increasingly relevant. This study investigates the complex strategies involved in legal warfare demonstrating how legal structures can be used to accomplish goals usually seen in conventional military confrontations. Through analysing strategic 'battlefields' and impactful 'weapons' within the realm of law this research shed light on the diverse nature of modern warfare.

The study presented here provides a thorough evaluation of different strategies used in legal warfare such as baseless lawsuit, unjustified pretrial detention, overcharges in legal cases, and the denial of legal representation. It also delves into the influential function of media on influencing public opinion and the significant effect of lawfare on criminal law and law enforcement procedures. This extensive study not only illuminates the advanced techniques employed in legal warfare but also prompts important inquiries about the reliability of legal frameworks and the difficulty encountered by democratic nations in upholding justice despite these manoeuvres.

By examining these occurrences, the article adds to the expanding collection of methods on lawfare and its effects on global affairs, legal systems, and adherence to laws. Its goal is to offer academics, lawyers, and

[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.

decision-makers important perspectives on the changing dynamics of conflict where legal processes and courtrooms hold as much importance as conventional battlegrounds.

Choose beneficial battlefields and efficient weapons

In every war, strategic locations get chosen thoughtfully by considering pros and cons. In legal disputes, opting for the right plan and techniques hold significant weight.[2] Here, the term "strategic location" pertains to the jurisdiction in question. Picking jurisdiction thoughtfully can impact law enforcement strategies as it sets the stage for legal warfare.[3] Equally crucial is selecting relevant criminal and procedural laws that, similarly to weaponry in armed conflicts, play a vital role in this scenario. The upcoming section explores the key legal establishments and strategies in legal warfare.[4]

Unfounded Lawsuits

Legal warfare involves baseless and aggressive tactics like slander and hate speech, claims against various individuals, including writers, politicians, journalists, and cartoonists. This targets often express their view boldly or crudely using satire on issues related to national security or public concern. This lawfare strategy also applies to action taken against scholars and experts discussing radicalisation that may lead to legal disputes such as work-

[2] Van Emde Boas, P. et al (2022): Sun Tzu and the Art of War. In: Analyzing the Logic of Sun Tzu in "The Art of War", Using Mind Maps, Studia Logica Library, Springer Publishing, Singapore, 80–94, Source: https://doi.org/10.1007/978-981-19-6250-9_2 Accessed: 18.08.2024

[3] Van Emde Boas, P. et al (2022) Ibid, 80–87

[4] Carr, J. (2012): Inside Cyber Warfare: Mapping the Cyber Underworld. O'Reilly Media, Inc., 35–44; Van Emde Boas, P. et al (2022) Ibid, 88–94.

place harassment lawsuits. These legal proceedings can also involve personal matters, thus eroding the unique aspect of lawfare in international public law.[5]

Unfounded Pre-trial Detention

A pre-trial detention, which could nominally even be justified, but is in fact unfounded, meaning that a person is detained without reasonable or sufficiently serious grounds or explanation for the offence.. This legal action limits a person's freedom according to law, typically affecting those who are accused of a crime but have not faced trial yet. Detention can only be authorised under strict circumstances, especially if the release of the person being prosecuted would make the investigation more difficult, if he or she might escape or commit a new offence. While detained before trial, an individual's personal liberty is curtailed; however, core rights such as the right of defence are still upheld. In situations where prerequisites for pre-trial detention are partially or entirely missing, this purpose of detention is to obtain the detainee's cooperation. Unproven and overly extended detainment could be seen as a form of torture. This mistreatment not only undermines the validity of information gathered through statements but is also widely recognised that individuals subjected to such practices may provide inaccurate details and make a statement only to alleviate their situation and possibly end their detainment even at the cost of a confession. A tell-tale sign of legal warfare might be when a person is set free shortly after making a statement, because it is hard to imagine that the grounds for his detention

[5] Aust, H. Ph. (2021):Abuse of Rights: From Roman Law to International Law? Comments on the Contribution by Andrea Faraci and Luigi Lonardo. In: Cynical International Law. Berlin, Source: https://doi.org/10.1007/978-3-662-62128-8_17. Accessed: 31.07.2024

have suddenly disappeared. In essence, this type of legal tactic aims to ignore the legitimate grounds for arrest resulting in infringements of suspects' rights and coercing collaboration along with eliciting confessions.[6]

Overcharging

In legal battles during criminal cases, the prosecution might use tactics to pressure the accused by employing the strategy called "overcharging". In legal studies, two forms of overcharging are discussed: vertical and horizontal.[7] Vertical overcharging involves overly harsh charges that surpass what is appropriate for the crime or the defendant's situation. For instance, the accused could face charges carrying excessive penalty or lengthy imprisonment. Horizontal overcharging entails filing numerous charges simultaneously for a single action. In certain situations a defendant may face multiple charges like corruption, money laundering, negligence, misappropriation of assets and embezzlement. Prosecutors leverage the threat of harsh penalties to encourage the defendant to confess to a lesser or fabricated crime. The idea is that if the accused admits to a minor or untrue offence, the charges for the more serious offences will be dropped. This tactic can result in defendants acknowledging actions they are not responsible for in return for leniency and decreased charges. Consequently, the accused might agree to a prearranged reduced penalty through a plea bargain to evade initial consequences.[8] For example, a well-known entrepreneur who faces legal charges may find the legal process to be mentally taxing. The press is now treating him as a criminal and he wants to end his case by confessing. In sum, it can be concluded that, to rule out the above

[6] Martins, M. et al (2010): Reflections on 'Lawfare' and Related Terms, Lawfare Blog. Source: https://www.lawfareblog.com/reflections-lawfare-and-related-terms. Accessed 07.31.2024

[7] Faust, T. – Daftary-Kapur, T (2022): Prosecutorial Decision-Making. In: Prosecutorial Decision-Making Routledge, Source: https://doi.org/10.4324/9780367198459-REPRW145-1. Accessed: 23.07.2024

[8] Lippke, R. L. (2011): The ethics of plea bargaining, Oxford monographs on criminal law and justice, New York: Oxford University Press, 31

abuse, the accused and his defence counsel should intervene at the very beginning of the proceedings.[9]

Exclusion of Legal Counsel

Authoritarian rulers and administrations often use the strategy of sidelining legal advisors, regularly viewing lawyers merely as hired abettors. This kind of warfare methodically obstructs detainees' access to legal defence with the intent to undermine their right to defence. Unwarranted limitations are frequently imposed, which prevent lawyers from sharing "confidential information" with clients. In reality, this does not mean passing any essential details or breaching confidentiality obligations. The prosecution understands that without communication and discussions between lawyer and client forming an effective defence is impossible. As well as not being able to meet their legal representative, the accused is often isolated from others (relatives, friends etc.) and may not receive mail. Legal representatives must be able to carry out their responsibilities freely for the justice system to function properly.[10]

Amplifying Role of Media

During times of war various presumed factual or fabricated atrocities are often brought to light in the media. This portrayal transforms the adversary into a figure resembling pure evil, thus validating one's own actions in war

[9] Kiyanitsa, V.M. – Gunko, K.O. (2023): Regarding the Defense Counsel's Participation in Criminal Proceedings at the Pre-Trial Investigation Stage, Analytical and Comparative Jurisprudence, no. 4 (September 14, 2023) 465–470, Source: https://doi.org/10.24144/2788-6018.2023.04.75. Accessed: 31.07.2024

[10] Camp Keith, L. – Tate, N. –. Poe, S. C. (2009) Is The Law a Mere Parchment Barrier to Human Rights Abuse? The Journal of Politics Vol. 71 No. 2 644–660, Source: https://doi.org/10.1017/S0022381609090513;
García-Sayán, G. (2017): Report of the Special Rapporteur on the Independence of Judges and Lawyers, Source: https://typeset.io/papers/report-of-the-special-rapporteur-on-the-independence-of-29axsa9ukf. Accessed: 07.31.2024

and justifying military operations. Even in peacetime, there is a common public outcry similar to that of war crimes: corruption.[11]

Corruption incidents tend to attract exclusive focus. Inquiry into corruption can lead to widespread media coverage, which may harm the reputation, privacy and financial situation of those involved. Various types of media coverage, such as tabloid reports, investigative journalism, opinion pieces and television programmes can turn corruption into a scandal in the public eye.[12] Scandals are media-driven events that involve multiple stories with extensive detail, like information, statement, anecdote, and legal proceeding.[13]

The media and the internet can enhance legal battles by spreading scandalous information and going beyond their usual role as information providers. This is the multiplier effect offered by the media or by certain segments of the media, the key to which is the sophisticated communication tactics of the media. Overall, the media equipped with sophisticated tools for mass communication has a strong influence in shaping public perspectives in support of or against various agendas.[14]

[11] Forest, J. (2021): Political Warfare and Propaganda: Political Warfare and Propaganda: An Introduction. Journal of Advanced Military Studies. 12. 13-33. 10.21140/mcuj.20211201001
Mutonyi, G. P. (2021: Warpreneurship: War as a Business, Path of Science Vol. 7 No. 9 Source: https://doi.org/10.22178/pos.74-11. Accessed: 07.31.2024.)

[12] Jain, A. K. (2001): Corruption: A Review, Journal of Economic Surveys Vol. 15 No. 1, 71–121. Source: https://doi.org/10.1111/1467-6419.00133. Accessed: 11.07.2024

[13] Breit, E. (2010): On the (Re)Construction of Corruption in the Media: A Critical Discursive Approach, Journal of Business Ethics Vol. 92 No. 4. Source: https://doi.org/10.1007/s10551-009-0177-y. Accessed: 01.07.2024

[14] Caled, D. –Silva, M. J. (2022): Digital Media and Misinformation: An Outlook on Multidisciplinary Strategies against Manipulation, Journal of Computational Social Science Vol. 5 No. 1, 123–59. Source: https://doi.org/10.1007/s42001-021-00118-8. Accessed: 23.07.2024

Impact of Lawfare on Criminal Law

Criminal law is essential for upholding social order and ensuring justice as highlighted by Prof. Paul H. Robinson, who states that it gains its ethical legitimacy by prioritising justice above everything else. Changes in societal values is mirrored in the development of criminal law, which seek to redress various forms of harm including physical injuries, property loss and broader community concerns.[15] They uphold that justice requires a constant revision of legal principles and procedures and is not just a theoretical concept. High-profile cases add layers of complexity to criminal law. Such cases frequently involve constitutional matters such as fair trial guarantees and protection against unwarranted searches and seizures forcing higher courts to manoeuvre through intricate legal territory. The public scrutiny and the media focus on them highlight the delicate balance between legal procedures and public perceptions heightening the difficulty in seeking justice. A judgment in a well-known case underscores the challenge of balancing truth seeking with finality in legal processes. Those cases offer important insights for legal professionals and policymakers influencing future strategies for justice within changing legal and societal frameworks.[16]

Impact of Lawfare on Law Enforcement

In the last few years, some police headquarters have come under increased public scrutiny. This focus on activities of law enforcement officials has

[15] Robinson, P: (2024): American Criminal Law: Its People, Principles, and Evolution News & Events Penn Carey Law, March 18, 2024, Source: https://www.law.upenn.edu/live/news/16545-american-criminal-law-its-people-principles-and. Accessed: 31.07.2024

[16] Appeals in High-Profile Cases - Criminal Justice - iResearchNet, Criminal Justice, January 8, 2024, Source: https://criminal-justice.iresearchnet.com/criminal-justice-process/appeal-and-post-conviction-remedies/appeals-in-high-profile-cases/. Accessed: 11.08.2024

led to calls for prompt changes at various levels. Law enforcement professionals must navigate their crucial duty of serving communities while also meeting the rising public expectations for openness and responsibility.[17]

Policy and Reform Efforts

Efforts are being made to improve policing practices through legislative and policy changes, such as George Floyd Justice in Policing Act of 2021. This act aims to enhance accountability and decrease the use of excessive force by introducing measures like National Police Misconduct Registry. It also seeks to reform U.S. police practices by banning tactics like no-knock warrants and making it easier for prosecuting officers involved in violent acts. The act was named in honour of George Floyd who was killed by Minneapolis police officers in May 2020 that triggered nationwide demonstrations. The legislation aims to ban chokeholds among federal law enforcement agencies and requires state and local police departments that receive federal funding to adopt similar protocols. These requirements include outfitting officers with body cameras instituting anti-discrimination initiatives, and minimizing the use of lethal force. Despite being approved twice by the House during Democratic governance periods, the bill has faced obstacles in the Senate, primarily related to disputes surrounding "qualified immunity" which shields officers from civil litigation. The recent tragedy involving Tyre Nichols at the hands of Memphis law enforcement has reignited pleas for approval. If the Congress does not take action, President Biden has already signed an executive order addressing certain policing reforms, although contentious voices argue that it lacks efficacy, since it solely pertains to federal officers. The enactment is consid-

[17] Rowley, M. (2022): Current Issues in Law Enforcement: What Will Departments Face in 2022? The Link, February 14, 2022, Source: https://www.columbiasouthern.edu/blog/blog-articles/2022/february/current-issues-in-law-enforcement/, .Accessed: 11.08.2024

ered crucial for guaranteeing uniform police reform and accountability nationwide.[18] The registry seeks to tackle the problem of "roaming officers", who are reinstated by various departments after being fired for misconduct.[19]

The Role of Technology and Data

Modern technologies and the use of large datasets in law enforcement offer advantages and hurdles. Although these technologies can improve crime prevention tactics, they also raise worries about privacy and possible biases when interpreting data.[20] Law enforcement agencies must balance these concerns with the need to deploy new crime prevention methods effectively.

Training and Culture

Changing law enforcement to meet modern standards requires emphasis on accountability education and cultural changes within ther Police. Experts from various backgrounds agree on the need for these updates to establish a more equitable approach to public safety. The essential component of these endeavors include impactful training initiatives and fostering a culture that values integrity and public confidence.[21] Effective training programmes and a cultural emphasis on integrity and public trust are vital components of these efforts.

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[18] Greve, J. E. (2023): What Is the George Floyd Justice in Policing Act and Is It Likely to Pass? The Guardian, February 6, 2023, sec. US news, Source: https://www.theguardian.com/us-news/2023/feb/06/george-floyd-justice-in-policing-act-explainer-tyre-nichols. Accessed: 31.07.2024

[19] Seo, S. - Richman, D. (2021): Toward a New Era for Federal and State Oversight of Local Police. Lawfare, June 1, 2021, Source: https://www.lawfaremedia.org/article/toward-new-era-federal-and-state-oversight-local-police. Accessed: 11.08.2024

[20] Rowley, M. (2022): Ibid.

[21] Rashawn, R. - Orrel, B. (2021): A Better Path Forward for Criminal Justice: Police Reform - A Report by the Brookings-AEI Working Group on Criminal Justice Reform,

Summary and Conclusions

This research delves into the concept of 'lawfare' in contemporary legal procedures exploring its effects on criminal justice, law enforcement and democratic societies. It aims to identify and analyse specific strategies used in legal warfare, their consequences on individuals and institutions and wider implications for the rule of law. The main research inquiry focuses on how legal procedures and systems are manipulated to achieve strategic goals. Through a qualitative analysis approach, various tactics such as unfounded lawsuits, unfounded pre-trial detainment, overcharges in legal proceedings and exclusion of legal counsels are examined. Furthermore, the paper investigates how the media influences public perception and evaluates the impacts of lawfare on criminal law and law enforcement procedures. The approach includes extensive examination of current literature on lawfare, and the evaluation of recent legislative and policy changes in law enforcement.

The conclusion indicates that effectiveness of lawfare is greatly influenced by the strategic choice of legal battlefields and weapons with the media playing a vital role in amplifying its effects through scandal-mongering and shaping public opinion. Additionally, lawfare has shown to have significant impacts on criminal law, questioning its moral authority and complicating the pursuit of justice while simultaneously pressuring law enforcement agencies to reforms, due to these tactics and increased public scrutiny. These findings highlight the intricate and widespread implication of lawfare on legal systems, public perception and institutional practices within democratic societies. The study suggests that lawfare poses a substantial challenge to democratic institutions and the integrity of legal systems. It proposes further research into countermeasures along with establishing strong legal frameworks to guard against the abuse of legal procedures for strategic purposes. By exploring lawfare, it enhances our

(American Enterprise Institute, March 2021), Source: https://www.brookings.edu/articles/a-better-path-forward-for-criminal-justice-police-reform/, Accessed: 31.07.2024

comprehension of how conflicts are managed presently and the difficulties democratic nations encounter in upholding justice and legal principles. The study offers a complete review of lawfare strategies, their execution and outcomes along with an assessment of the larger significance for legal and law enforcement matters.[22]

[22] Martins, M et al (2010): Ibid, 47-52

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SZÉKELY, E. ÁRNIKA

Magical journey from hemp to cacti and mushrooms[1]

Introduction

In 2013, the Laboratory of Forensic Geology and Botany was established within the Department of Physics and Chemistry at the Hungarian Institute for Forensic Sciences (HIFS). In the year of its founding, six botanical expert appointment orders were received, and this number steadily increased in the following years, surpassing 300 orders per year from 2021 onwards. Approximately 90% of the botanical expert appointment orders submitted to the laboratory involve the identification of narcotic plants, hallucinogenic fungi, or their remnants and fragments. Among the known narcotic plants and hallucinogenic fungi, the following have been most frequently encountered in our laboratory in recent years: hemp (*Cannabis sativa L.*), peyote cactus (*Lophophora williamsii* (Lem. Ex Salm-Dyck) J. M. Coult), Peruvian torch cactus (*Cereus macrogonus* Salm-Dyck), Hawaiian baby woodrose (*Argyreia nervosa* (Burm. F.) Bojer), and psilocybe mushrooms (*Psilocybe spp*.), with hemp being the most commonly represented.

Hemp

The hemp plant belongs to the family Cannabinaceae. The two most well-known genera in this family are Cannabis and Humulus. The most famous and widespread species of the Humulus genus is common hop (*Humulus lupulus* L.), which differs significantly from hemp in terms of morphological characteristics. One of the most accepted classifications distinguishes

[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.

two subspecies of hemp (*Cannabis sativa* L.). One is Indian hemp (*Cannabis sativa ssp. indica*), and the other subspecies (Cannabis sativa ssp. sativa) has two known varieties: fibre and seed hemp (*Cannabis sativa ssp. sativa var. sativa*), which is cultivated under regulation, and wild hemp (*Cannabis sativa ssp. sativa var. spontanea*), a feral form that grows like a weed and can be found on forest edges, near fields, and on neglected land.[2] The term "wild hemp" is widely used, although many mistakenly refer to Indian hemp by this name, when in fact wild hemp is the weedy variety. Different subspecies, varieties, and strains of hemp are crossbred for the cultivation of narcotic hemp varieties, resulting in thousands of hybrids today. Hemp contains delta-9-tetrahydrocannabinol (THC), a psychoactive substance.[3,] In recent years, an increasing number of hemp plants have been found to contain significant amounts of cannabidiol (CBD), a non-psychoactive substance.

Based on cannabinoid content, three chemotypes of hemp can be distinguished: THC-dominant, THC and CBD equivalent, and CBD-dominant. The difference between these chemotypes lies in the ratio of THC to CBD. THC-dominant plants contain a higher proportion of THC, while CBD-dominant plants have a higher CBD content. In the case of THC and CBD equivalent hemp plants, the THC and CBD levels are nearly identical. One of the goals of an ongoing joint research project between the HIFS's Drug Investigation Department and the laboratory is to determine whether it is possible to predict chemotype based on micro- and macromorphological characteristics.

[2] UNODC ID (2022): ST/NAR/40 Recommended Methods for the Identification and Analysis of Cannabis and Cannabis Products, Vienna, Chapter 3

[3] 1979. évi 25. törvényerejű rendelet a pszichotróp anyagokról szóló, Bécsben az 1971. évi február hó 21. napján aláírt egyezmény kihirdetéséről, I. jegyzék [Decree-Law No 25 of 1979 promulgating the Convention on Psychotropic Substances, signed at Vienna on 21 February 1971, Schedule I]

78/2022. (XII. 28.) BM rendelet az ellenőrzött anyagokról, 2. Pszichotróp anyagok 2. jegyzék [78/2022.(XII. 28.) BM Decree on Controlled Substances, Psychotropic Substances 2, Schedule 2]

During botanical examinations in the field or laboratory, the 4-aminophenol (4-AP) rapid test can be used to determine whether THC or CBD is predominant in the tested hemp plant. The test result is only indicative and does not replace analytical examinations that quantify the active ingredients. The 4-AP rapid test produces different colour reactions based on the ratio of active ingredients: for THC-dominant plants, the colourless solution turns blue, for CBD-dominant hemp it turns pink, and for THC and CBD equivalent plants, it turns purple.[4]

Legislation distinguishes two categories of hemp based on active ingredient content: high-THC and low-THC hemp. Low-THC hemps are fibre and seed hemp varieties of the species *Cannabis sativa* L., whose THC content, based on tests conducted during the state recognition process or for inclusion in the Community Variety List, does not exceed 0.2% in the air-dried, homogenized parts of the plant (excluding roots and stems). High-THC hemp varieties are those that do not qualify as low-THC.[5]

Legislation also differentiates between the following terms: cannabis plant, cannabis, cannabis resin, and marijuana. Cannabis plant refers to any plant belonging to the Cannabis genus. Cannabis refers to the flowering or fruiting tops of the cannabis plant, regardless of the name used (Figure 1). Cannabis resin is the resin extracted or separated from the cannabis plant. Marijuana refers to the parts of the cannabis plant that are free from the low-THC elements (seeds, stems, roots). Marijuana is also a widely used term in everyday language. The key difference between cannabis and marijuana is that cannabis may contain low-THC parts of the plant (e.g.,

[4] Lewis, K. – Wagner, R. - Rodriguez-Cruz, S. E. – Weaver, M. J. – Dumke, J. C. (2021): Validation of the 4-aminophenol colour test for the differentiation of marijuana-type and hemp-type cannabis, J Forensic Sci. 2021. 66:285-294

[5] 162/2003. (X. 16.) Korm. rendelet a kábítószer előállítására alkalmas növények termesztésének, forgalmazásának és felhasználásának rendjéről, [Government Decree 162/2003 (X. 16.) on the regulation of the cultivation, distribution and use of plants suitable for the production of narcotics] 1. § i)

stems), while marijuana is a processed product ready for "consumption." Both cannabis and cannabis resin are classified as narcotics on their own.[6]

Hemp is an annual, herbaceous, short-day plant. Short-day plants require at least 12 hours of darkness to initiate flowering. By adjusting the ratio of light to darkness, the flowering time can be modified according to the grower's needs. Seed-grown hemp plants develop a taproot system (Figure 2). In cases where propagation is done through cuttings, the resulting clones develop adventitious roots (Figure 3). The plant's shoot system is branching, and its stems are ribbed and twisting. During the vegetative phase, the leaves are arranged oppositely, and during the generative phase, they are alternate. Hemp has palmately compound leaves, with the "fingers" consisting of leaflets, the number of which depends on the cultivar and the plant's age. Typical leaflet counts are 3-5-7-9-11-13. The leaflets are lance-shaped, with serrated edges, and the veins are prominent on the underside. The plant's surface is covered with characteristic cystolith hairs and glandular hairs, which vary in distribution depending on the part of the plant.[7] The significance of glandular hairs lies in the production and accumulation of cannabinoids. Three types of glandular hairs can be distinguished, with the so-called long-stalked glandular hairs being the primary site of cannabinoid production.[8]

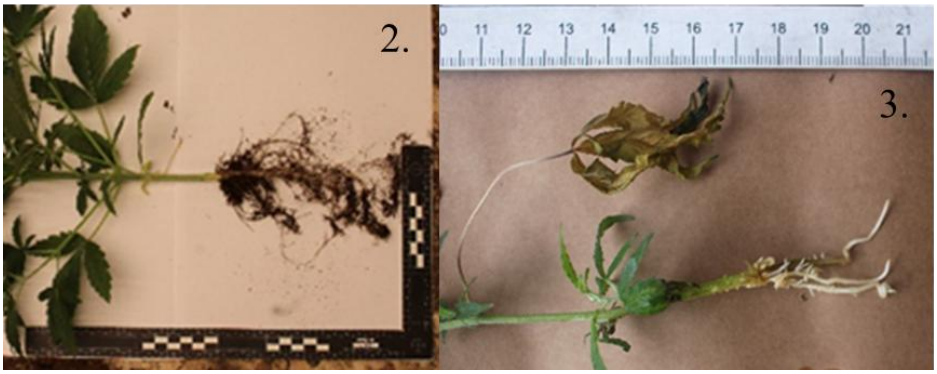
Based on morphological characteristics, the species can be identified, and the method of propagation and the plant's developmental stage can be determined. However, morphological traits cannot be used to determine the subspecies, variety, or THC content.

[6] 1965. évi 4. törvényerejű rendelet a New-Yorkban, 1961. március 30-án kelt Egységes Kábítószer Egyezmény kihirdetéséről, I. jegyzék, IV. jegyzék [Legislative Decree No. 4 of 1965 proclaiming the Single Convention on Narcotic Drugs, signed at New York on 30 March 1961, Schedule I, Schedule IV]

[7] Bócsa, I. (2004): A kender és termesztése [Hemp and its cultivation], Argoinform Kiadó és Nyomda Kft.

[8] UNODC ID: ST/NAR/40 (2022): Ibid. Chapter 5

Figure 1
Female cannabis flowering tops. Source: HIFS



Figures 2 and 3
Taproot (2) and adventitious roots of the cannabis plant (3). Source: HIFS

Hemp is typically a dioecious plant, although monoecious specimens also occur. In dioecious hemp, male and female flowers are found on separate plants. Male flowers are arranged in paniculate clusters, while female flowers form spike-like inflorescences. The colour of the female flower stigmas changes as they mature, ranging from white to deep purple. Male flowers bloom earlier than female ones, and hemp is wind-pollinated.[9] The

[9] Bócsa, I. (2004): Ibid. Chapters. 4.5, 5.3

plant's sex cannot be determined until the flowers develop. The resin-producing glandular hairs, which contain THC and CBD, are most abundant on the bracts surrounding the female flowers (Figure 4).

Hemp produces a single-seeded fruit known as an achene. The hemp seed is oval-round, slightly flattened on two sides, with a blunt edge and a slightly pointed end opposite the scar, featuring a smooth surface with a characteristic net-like pattern (Figure 5). The seed's germination ability decreases over time, and hemp seeds contain no psychoactive substances.[10] Despite this, hemp seeds are available for purchase in illegal markets, and many websites offer them for sale. Popular brands include Royal Queen Seeds, Sensi Seeds: Cannabis Seeds Bank, and Green House Seed Company, among others. Retailers offer four main seed types: feminized, autoflowering, CBD, and F1 hybrid seeds. Feminized seeds guarantee the development of female plants, which are also photoperiodic. The goal in breeding autoflowering seeds was to produce plants that begin flowering independently of the light cycle. CBD seeds produce plants with a high concentration of cannabidiol (CBD). F1 hybrid seeds are created by crossing two pure genetic lines, ensuring that plants grown from these seeds consistently produce stable, uniform yields.[11]

Each seed type has various strains, differing mainly in active ingredient content, flavour, and intensity of effect. The morphological characteristics of hemp seeds do not indicate whether the resulting plant will have a high or low THC content.

In hemp plant remnants submitted for examination, stem, leaf, and fruit fragments, as well as stigmas, are most frequently found (Figure 6). Among the morphological traits required for species identification, cystolith hairs and glandular hairs on the surface of the remnants are most commonly available. In many cases, amber-coloured resin droplets can be observed on either seed coat fragments or pieces of bracts. When examining hemp remnants, an analytical test is also necessary for thorough characterization.

[10] Bócsa, I. (2004): Ibid. Chapter 4.6
[11] Source: https://www.royalqueenseeds.com

Figures 4 and 5
Female inflorescence of the cannabis plant with glandular trichomes (4) and seeds (5). Source: HIFS

Figure 6
Cannabis plant remnants. Source: HIFS

Peyote cactus and Peruvian torch cactus

The peyote cactus (*Lophophora williamsii* (Lem. Ex Salm-Dyck) J. M. Coult) belongs to the family Cactaceae. Commonly referred to as peyotl, bad seed, ciguri, or mescaline cactus, it has several synonyms, such as *Lophophora fricii* Habermann and *Lophophora williamsii var. lewinii* (Hennings) Coult. Although sold as a decorative plant in nurseries and online, it

is native to desert areas from Texas to Central Mexico. It is a slow-growing cactus, although horticultural techniques can accelerate its growth. Germination can take weeks, and it can be planted year-round, though it cannot tolerate frost. Peyote holds significant cultural importance in Central American indigenous rituals due to its psychedelic effects.

Morphologically, the peyote cactus is a small, flattened, spherical plant with a fleshy body and areoles (spine cushions). Its colour is bluish-gray, and it has a taproot. A key feature is the ribs along the body, whose number changes with age (5-8-10-13). Along these ribs, dirty white tufts of hair (trichomes) can be observed (Figure 7). The cactus produces light pink flowers from its center and soft, red fruit containing few seeds. [12,] Peyote seeds are black, broad, triangular, and slightly rough (Figure 8).

The peyote cactus contains over fifty alkaloids, with mescaline — a phenylethylamine derivative — being the primary psychoactive substance. The alkaloid is produced and stored in the plant's body but is absent in the seeds. The cactus is consumed fresh, dried, powdered, or as tea after soaking or boiling, regardless of the method, it has an intensely bitter taste. The effects of mescaline last 6-9 hours after absorption, and the plant retains its potency over time, regardless of storage conditions.[13] Due to overharvesting for traditional rituals, the wild peyote population has been declining, earning it a "Vulnerable" (VU) status on the IUCN Red List as of 2009.[14]

Apart from peyote, other mescaline-containing cacti belong to the Cactaceae family, such as the Peruvian torch cactus – *Cereus macrogonus* Salm-Dyck (syn.: *Trichocereus macrogonus* (Salm-Dyck) Riccob., *Trichocereus peruvianus* Britton & Rose, *Echinopsis peruviana* (Birtton & Rose)

[12] Rätsch, Ch. (2005): The Encylopedia of Psychoactive Plants, Etnopharmacology and Its Applications, Park Street Press, 821-857
Anderson, E. F. (1969): The biogeography, ecology, and teaxonomy pf Lophophora (Cactaceae), Brittonia,. 21:299-310

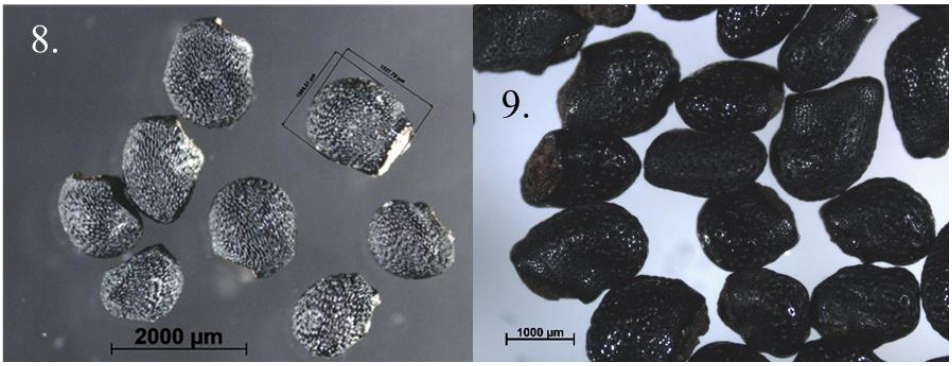
[13] Recommended Methods for Testing Peyote Cactus (Mescal Buttons) Mescaline and Psilocybe Mushrooms/Psilocybin – Manual for Use by National Narcotics Laboratories, United Nations, New York, 1989

[14] Source: https://www.iucnredlist.org/species/151962/121515326

H. Friedrich & G. D. Rowley). Based on the literature, the taxonomic classification and naming of the Peruvian torch cactus remain disputed to this day.[15] This cactus is native to Peru, Bolivia, and Ecuador, growing both in the wild and under cultivation. Also known as San Pedro, this is its local name.[16] According to archaeological descriptions, it was used in spiritual ceremonies due to its psychoactive effects, which are attributed to its mescaline content. Phenotypic differences exist between wild and cultivated varieties, as does mescaline distribution within the plant. The seeds of the Peruvian torch cactus are black, shiny, wide, and ovoid with a rough surface. They are flattened on both sides, and the dorsal side is convex with a ridge. The hilum (seed scar) is moderately slanted, with a diameter similar to the seed size. The seed coat is porous, with intermediate grooves giving it a rough texture, and under a microscope, it appears finely dotted[17] (Figure 9). Like peyote, the seeds do not contain mescaline. While the seeds retain their viability for a long time, the exact duration is not well documented.

Figure 7
Ribs of peyote cactus with dirty white tufts of hair. Source: HIFS

[15] Albesiano, S. – Kiesling, R. (2012): Identity and Neotypification of Cereus macrogonus, the type species of the genus Trichocereus (Cactaceae), Haseltonia 17: 24-34
[16] Rätsch, Ch. (2005): Ibid. 1276-1286
[17] Friedrich, H. – Glaetzle, W. (1983): Seed-morphology as an aid to classifying the genus Echinopsis Zucc., British Cactus and Succulent Society, Bradleya, 1:91-104. Source: https://doi.org/10.25223/brad.n1.1983.a9



Figures 8 and 9
Seeds of peyote cactus (8) and Peruvian torch cactus (9). Source: HIFS

Hawaiian baby woodrose

The Hawaiian baby woodrose (*Argyreia nervosa* (Burm. F.) Bojer) is a perennial climbing plant belonging to the family Convolvulaceae and the genus Argyreia. It is known by several common names, including elephant creeper and Hawaiian woodrose. The plant is native to India, but it has since become naturalized in various other regions, including Hawaii and parts of Africa. In addition to its wild populations, it is also cultivated as an ornamental plant. However, indoor-grown specimens generally do not produce flowers. Due to its decorative appearance, it is commonly used as a garden plant and is also applied in Ayurvedic medicine.

The plant exhibits rapid growth and can reach heights of 9 to 10 meters. Its stem becomes woody with age, and the leaves are arranged alternately. The leaves are bright green, measuring 15–25 cm in size, and are heart-shaped (Figure 10). A notable morphological feature of the leaves is their densely hairy, silvery undersides, while the upper surface is smooth. The size and shape of the leaves have inspired the common name "elephant creeper." The flowers are funnel-shaped and vary in colour from white to purple, with sepals that are also covered in hairs. The fruit is spherical and

berry-like, containing 1–4 seeds. The seeds are dark brown, with a characteristic quarter-circle shape. Their dorsal side is convex, while the ventral side is flat, meeting in a rounded edge. Both the apex and base of the seed are blunt, and the hilum, located at the base, is circular and lacks a surrounding ridge (Figure 11). The plant primarily reproduces by seeds, and their dispersal is facilitated by frugivorous birds and other animals.[18]

The Hawaiian Baby Woodrose contains lysergic acid amide (LSA), a psychoactive compound present in the seeds and the roots. LSA is chemically related to lysergic acid diethylamide (LSD), and is sometimes referred to as "natural LSD".[19] It has strong hallucinogenic properties, and in certain cultural contexts, such as Hawaiian traditions, the seeds are used in religious ceremonies. The seeds can be consumed whole, crushed, or mixed with hot water prior to ingestion. The effects of the compound typically last for 6–8 hours, although they may persist for longer. The psychoactive effects of Argyreia nervosa resemble those of the Ipomoea genus, particularly in species that also contain similar compounds.[20]

Figures 10 and 11
Leaves (10) and seeds (11) of Hawaiian baby woodrose. Source: Internet, powo.science.kew.org, HIFS

[18] Rätsch, Ch. (2005): Ibid. 137-145
[19] Paulke, A. – Kremer, Ch. – Wunder, C. – Wurglics, M. – Schubert-Zsilavecz, M. – Toennes, S. W. (2015): Studies on the alkaloid composition of the Hawaiian Baby Woodrose *Argyreia nervosa*, Forensic Science International, 249:281-293
[20] Rätsch, Ch. (2005): Ibid.

Psilocybe mushrooms

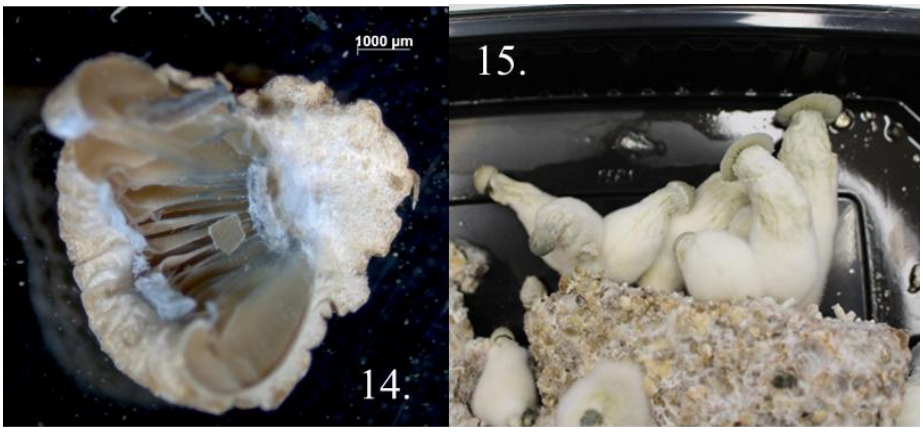
Psilocybe mushrooms (*Psilocybe spp.*) are Basidiomycete, cap-bearing fungi belonging to the family Strophariaceae and the genus Psilocybe. This cosmopolitan genus is found worldwide, predominantly in temperate regions. The genus comprises over 140 distinct species, but only about half of these contain psychoactive compounds. The use of psychedelic mushrooms in various ceremonies dates back thousands of years, with evidence showing their use by the inhabitants of the Aztec Empire. In the traditional practices of Mexican indigenous peoples, psychoactive species of Psilocybe, particularly *P. mexicana*, are still employed today. The most commonly encountered species in cases of drug-related abuse include *P. semilanceata*, *P. cubensis*, *P. mexicana*, and their hybrids.[21]

At the HIFS, samples of these fungi arrive in various forms for analysis: dried or fresh cap-bearing mushrooms (Figure 12), mushroom grow kits with substrates secondarily colonized by fungal mycelium, spore prints, spore suspensions, and sclerotia (Figure 13). The identification of these mushrooms requires extensive mycological expertise.

Due to the high species diversity within the genus, the morphology of Psilocybe mushrooms can vary widely. Their stipe can be whitish, yellowish-pink, or yellow, often with a bluish discolouration near the base, and may be hollow. Cap sizes range from 20 to 60 mm in diameter. The shape of the cap also varies, and may be conical, bell-shaped, shell-like, or expanding. The gills underneath the cap can range in colour from pale greyish-purple to dark gray or dark purplish-brown. A characteristic feature of psychoactive Psilocybe mushrooms is the appearance of a bluish discolouration at sites of injury (Figure 14).

[21] Recommended Methods for Testing Peyote Cactus, Ibid.
Rätsch, Ch. (2005): Ibid. 1652-1667
Guzmán, G. – Allen, J. W. – Gratz, J. (1998): A worldwide geogtaphical distribution of the neurotropic fungi, an analysis and discussion, Ann. Mus. civ. Rovereto, Sez.: Arch., St., Sc. nat., Vol. 14, 189-280, 2000

Figures 12 and 13
Dried specimens of Psilocybe mushrooms (12) and sclerotia (13). Source: HIFS



Figures 14 and 15
Halved, bluing Psilocybe cap (14) and Psilocybe grown on nutrient medium (15). Source: HIFS

Based on the hyphae found in mushroom cultivation boxes containing substrate that is secondarily colonized by hyphae, the identification of the species in question is not possible. This is because the hyphae do not possess morphological characteristics that would allow for species determination. In the case of mushroom boxes, the best method is to cultivate the

inoculated species and observe the morphological characteristics of the fruiting bodies that develop (Figure 15).

The spores of some species of Psilocybe do not show significant differences but may vary in colour and size. The characteristic morphological features of the spores are: dark brown, dark purplish-brown, reddish-brown colour; oval shape; double-walled; with a single germ pore; smooth surface; and size of 9–14×6–10 μm. Species identification based on spore morphology poses a significant challenge because these characteristics are also found in many other non-Psilocybe species.

Some fungal species are capable of forming what is known as a sclerotium. The sclerotium is a persistent structure of the fungus, representing an asexual reproductive form. It serves to enable the organism to survive under unfavourable conditions and also plays a role in nutrient storage.[22] The sclerotium consists of an outer, hard, melanized hyphal compaction (cortex) and an inner, thinner-walled, non-melanized hyphal network (medulla). Certain species of Psilocybe are capable of producing sclerotia (e.g., *P. mexicana*, *P. tampanensis*, *P. galindoi*). The Psilocybe sclerotium, like truffles, is an underground, dark brown, irregularly shaped substrate. The similarity in appearance is the reason for the name given by vendors and users, suggesting a resemblance to truffles; however, the two are not the same species. In commercial trade, the Psilocybe sclerotium is mostly marketed under the names "magic truffle" or "Philosopher's stone." The sclerotium, like the fruiting bodies, also contains psychoactive substances, but in lower amounts compared to the traditional fruiting bodies with cap and stipe.[23]

Among the psychotropic substances, some species of Psilocybe contain the active compounds psilocybin and psilocin.[24] According to literature, in

[22] Jakucs, E. (2003): A mikológia alapjai [The basics of mycology], ELTE Eötvös Kiadó, 30, 153, 165

[23] Pellegrini, M. – Rotolo, M. C. – Marchei, E. – Pacifici, R. – Saggio, F. – Pichini, S. (2012): Magic truffles or Philosopher's stones: a legal way to sell psilocybin?, Drug Testing and Analysis, 5(3):182-185

[24] Recommended Methods for Testing Peyote Cactus, Ibid.
Rätsch, Ch. (2005): Ibid. 1652-1667

addition to these compounds, some Psilocybe species – such as *P. semilanceata* – also contain psychoactive phenylethylamine (PEA).[25,]

Summary

The diversity of botanical mandates at the Laboratory of Forensic Geology and Botany, established in 2013 at the Department of Physics and Chemistry of the HIFS, has led to the continuous expansion of forensic botanical expertise. For the identification of various psychoactive plants and hallucinogenic mushrooms, it is necessary to review and develop existing methods and to create new procedures. Based on the experiences accumulated over the years since the Laboratory's establishment, the limitations beyond which progress is not possible have been clarified, while new, forward-looking solutions have also emerged.

[25] Presence of Phenethylamine in Hallucinogenic Psilocybe Mushrooms: Possible Role in Adverse reactions Journal of Analytical Toxicology, Vol. 22, January/February 1998. 78/2022. (XII. 28.) BM rendelet az ellenőrzött anyagokról, [78/2022.(XII. 28.) BM Decree on Controlled Substances] Annex 3

DOI azonosító: https://doi.org/10.53304/PS.2024.1-2.16

VOLARICS, JÓZSEF

The formation mechanism of entry wounds on human skin surface[1]

Introduction – the background to the experiment

Forensic medicine explains the mechanism of entry wound in the following way:

"The conical projectile that impacts the body surface with high energy and in a rotating motion first presses the skin that is stretched on its surface, then stretches it, crumbles it in its central part, then pierces it through like a prodding tool, thus creating a mostly circular skin gap, the so-called entry hole. At the edge of the entry hole, where the skin comes into contact with the projectile, the skin is abraded to form a so-called epithelial abrasion rim. The rotating projectile sweeps the epithelial surface inward, in the direction of the projectile's movement, from the vicinity of the entry wound, which is circularly stretched on"[2].

The question is whether human skin behaves as an elastic material during the impact of a high-velocity projectile. Literature on the subject objects to that, saying that *"the mass inertia of the hit skin at impact velocities of 200-300 m/s precludes significant deformation of the skin"*[3].

The second question is whether the rotating movement of the projectile has its role during the formation of an entry wound. If we approach the problem on a theoretical level, we take a projectile fired from a 9 mm Luger

[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.
[2] Sótonyi, P. (ed.) (2011): Igazságügyi orvostan [Forensic medicine]. Budapest, 190
[3] Halasi, F. (1998): Sebballisztika. Főiskolai Jegyzet [Wound ballistics. College Course Notes] Bolyai János Katonai Műszaki Főiskola, Hadtudományi Tanszék Budapest, 40-45

caliber handgun as an example, the muzzle velocity of the projectile is 350 m/s, and its axis rotation after leaving the muzzle is 3000/sec, the projectile completes an axis rotation while travelling approximately 116 mm on its trajectory. In light of the data, in the case of human skin with a thickness of about 1-5 mm, we hypothesized that the effect of the axis rotation of the projectile could be ruled out.

To understand this phenomenon, we designed and carried out a shooting range test.

An attempt to model the formation of the entry wound

Due to its similar anatomical and physiological properties, pig skin was used to replace human skin. To achieve anatomical accuracy, the shots were fired on pig knuckles, thus ensuring the natural support of the skin tissue. The experiment was carried out in a field shooting range, the outside temperature was 24.5°C. The pork knuckles were used without cooling, having the same temperature as that of the environment.

We used a bow, a percussion revolver, two semi-automatic pistols, and a semi-automatic carbine to model the effect of projectiles of different velocities. We used firearms of approximately 9 mm caliber, except for the AK carbine in caliber 7,62 mm, which was used to demonstrate the effect of high-speed impact.

By using a projectile velocity measurement device we calculated the average muzzle velocity of each firearm. Several shots were fired from the bow and the firearms, the velocity of the projectiles was measured at a distance of 1 m from the muzzle (in the case of the bow, from the tip of the arrow) with a ProChrono shooting chronograph, and the average was calculated for each weapon. During the shots fired at the knuckles from a distance of 1 m, we documented the effect of the impacting projectiles with a high-speed camera.

The data of the test shots with each device were as follows:

1) Weapon: recurve, fiberglass bow with 38# draw weight[4].
   Projectile: wing stabilized arrow with 8.8 mm diameter softwood shaft and conical mild steel arrowhead.
   The average starting velocity of the arrow: 35 m/s.
   Framing rate: 16,000 fps.[5]
   Description of the impact (based on the recording): the head of the impacting arrow presses the skin in the shape of a cone, then pierces it in the center and penetrates the tissues under the skin.

2) Firearm: Pietta's replica of a Colt Navy single action, percussion revolver with rifled barrel.
   Projectile: .36, parabolic, lead.
   Charge/chamber: projectile, corkwood wad, 15 grain (0,971 g) black powder, and percussion cup. Chambers were closed with wax-based ointment to prevent the chain fire.
   The average muzzle velocity: 170 m/s.
   Framing rate: 16,000 fps.
   Description of the impact: the projectile hits the surface of the skin and breaks through it, at the same time a concentric shock wave starts from the center of the impact.

3) Firearm: FÉG B9RK semi-automatic pistol.
   Caliber: .380 ACP (9 mm Browning short).
   Projectile: parabolic, FMJ with copper-base alloy.
   The average muzzle velocity: 270 m/s.
   Framing rate: 16,000 fps.
   Description of the impact: the projectile breaks through the skin surface, during which small pieces of tissue tear off the edge of the

[4] Draw weight is the force needed to pull a bow.
[5] Frame per second.

entry wound and are ejected from the skin surface in the shape of a coronet. At the same time, a concentric shock wave starting from the center of the impact is observable.

4) Firearm: CZ P-07 semi-automatic pistol.
Caliber: 9 mm Luger.
Projectile: parabolic, FMJ with copper-base alloy.
The average muzzle velocity: 350 m/s.
Framing rate: 16,000 fps.
Description: the impacting projectile breaks through the skin, and small pieces of the skin tissue splash out around the entry wound in a coronet shape. The formation of a shock wave is possible, but it does not appear in all cases.

5) Firearm: FÉG ÖR SA85M semi-automatic carbine
Caliber: 7,62 x 39 mm (43 M).
Projectile: ogival, FMJ with copper base alloy.
The average muzzle velocity: 700 m/s.
Framing rate: 30,000 fps.
Description: during the hit, the projectile breaks through the skin. From the edge of the entry wound, small pieces of skin tissue splash out at high speed in the shape of a coronet.

Characteristics of the entry wounds

After the test shootings, we compared the size and shape characteristics of the entry wounds.

The entry wound of the 8.8 mm diameter, 35 m/s speed arrow is a 10 x 4 mm size spindle-shaped material discontinuity with inverted, fitting edges.

The size of the entry wound of the .36 caliber, 170 m/s speed parabolic lead projectile is a 5 x 3 mm, irregularly shaped wound, with inwardly inclined, torn edges.

The entry wound of the .380 ACP caliber, 270 m/s speed FMJ projectile has an 8 x 6 mm size, rounded contour, and crater-like characteristics, – tapering in a funnel shape in the direction of the trajectory.

The entry wound of the 9 mm Luger caliber, impacting at a speed of 350 m/s projectile has a diameter of 6 mm. The shape of the wound is round and has crater-like characteristics, and there are 1-3 mm long radial tears at the edges.

The size of the entry wound of the 7.62 mm caliber, 700 m/s speed projectile is 4 x 3 mm. It is round and crater-like in shape. There are radial tears at the edges of the wound, the length of which, on occasion, reaches 10 mm.

Conclusions

Cone-shaped indentation and elongation of the skin were only observed when arrows with an average speed of 35 m/s hit the target. It corresponds to the scheme reported in the cited literature.[6] The test shots were carried out with three different types of arrowheads with no edge or blade (field-, bullet-, and conical), and the result was a spindle-shaped entry wound in each case. (In a previous test conducted in 2017, the inlet opening of shots fired from a 50# draw weight crossbow with field-type arrowhead showed similar characteristics.) For these test shots, we used wing-stabilized arrows as projectiles, so they had no axis rotation. However, a projectile of a firearm fired from a long distance can also provide this type of entry wound. An example of this is a case, in which the entry wound of a parabolic FMJ projectile fired from a 9 mm Luger caliber self-loading pistol

[6] Sótonyi, P. (ed.) (2011): Ibid, fig. 9-74. 190

from a distance of 880 m was diagnosed by the physician as a stabbed wound by a pointed rod.[7]

During the impact of the projectile fired from the percussion revolver at an average speed of 170 m/s, the skin surface at the edges of the entry wound moved inward in the same direction as the trajectory of the projectile, and then outward in the opposite direction. The entry wound is irregularly shaped, with inwardly inclined, torn edges.

During the impact of projectiles fired from modern firearms at an average velocity of 270 m/s, 350 m/s, and 700 m/s, pieces of skin tissue are ejected in the vicinity of the entry wound in the form of a coronet, i.e. they do not move inwards, in the direction of the projectile's movement, but almost in the opposite direction, outwards. The phenomenon becomes more characteristic as the impact velocity increases, with the ejection of tissue fragments during the impact of a projectile with an average velocity of 700 m/s similarly to a splash of liquid material. The ejection of the skin tissue results in the cratered, funnel-shaped characteristics of the entry wounds. The movement of the skin surface in the opposite direction to the projectile causes the radial tears around the entry wound from the impact velocity of 350 m/s.

Summary

No direct effects of projectile axis rotation, such as inward drift of epithelial tissue, were observed for shots fired from rifled firearms.

During the impact of projectiles fired from modern firearms with an average speed of 270 m/s, 350 m/s, and 700 m/s, the pieces of skin tissue are ejected in the shape of a coronet, the movement of the pieces of skin tissue in contact with the surface of the projectile is predominantly outward rather than inward.

[7] Fojtášek, L. (2019): Long distance transfer of GSR particles. In: Lamoš, R. – Loužecká, M. – Lehocká, T. (eds): 14th International Symposium on Forensic Sciences. Institute of Forensic Science, Slovak Police Force, 129

Skin impression or elongation was observed only for arrows impacting at an average speed of 35 m/s, but not for firearms projectiles fired at 170 m/s, 270 m/s, 350 m/s, and 700 m/s. This phenomenon can occur for firearm projectiles at very low impact velocities, e.g. when fired from a long distance.

Members of the team carrying out the experiment:

- Pol. Maj. Gábor Gönczöl, a judicial expert on firearms, supervisory officer, and forensic technician. Rapid Response Special Police Services, Operational Service, National Bureau of Investigation, Criminal Forensics Department.
- Mr. Tamás Szabolics, lead development engineer, and communications officer. Fusion Plasma Physics Department, Atomic Energy Research Institute, Centre for Energy Research, Eötvös Lóránd Research.
- Dr. Bálint Morlin, Assistant professor, historical reenactor. Budapest University of Technology and Economics, Department of Polymer Engineering.
- Pol. Lt. Col. József Volarics, forensic technician, firearms expert, supervisory officer, historical reenactor. Criminal Forensics Department, National Bureau of Investigation, RRSPS Op. Service.

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ZSILÁK, BALÁZS ZOLTÁN

Manipulation on duty – Social Engineering and Police Science[1]

Social engineering, or psychological manipulation

"Social engineering" [pronounced: ˌsəʊʃl endʒɪˈnɪərɪŋ] is an English term defined by author and IT security consultant Christopher Hadnagy as "the act of manipulating a person to take an action that may or may not be in the target's best interest"[2]. In Hungarian literature and the field of IT security, the term „psychological manipulation" is often used, but in my opinion, it does not fully encompass the meaning of the term "social engineering", and therefore in this paper, I use the English term „social engineering" instead of „psychological manipulation" to refer to this discipline.

When examining the field of social engineering, it is worth noting the words used in Hadnagy's definition. To begin with, he refers to this act as „manipulating", which indicates that social engineering does not „force" someone to do something at all, it merely suggests, guides, and negotiates. The next element to be highlighted in the definition is about „an action", which suggests that the application of social engineering is active, not inadvertently applied. However, the final and perhaps most important element of the definition is that social engineering is not exclusively negative or offensive. One of the outstanding problems of our time is that certain words have taken on a negative connotation in the vernacular, contrary to their original meaning. Josef Kirchner, in his book *Manipulation: eight ways to control others* (in Hungarian: *A manipuláció művészete*) describes

[1] This study is the English version of the presentation delivered at the conference 'The Science and Practice of Law Enforcement' held in Pécs 27.06.2024.

[2] Hadnagy, Ch. (2011): Social Engineering: The Art of Human Hacking. Wiley Publishing, Indianapolis. 32

manipulation as follows: *„In common parlance, it is understood as a sneaky ruse, a trick by which devious persons crucify others."*[3]

However, social engineering techniques are not only hostile, their use can also serve the interests of the target, as can be seen in many cases of everyday life from parents, teachers, and psychologists. The science of social engineering is as neutral as the science of chemistry, biology, or physics, and its effects are only positive or negative depending on who uses it and for what purpose.

Social engineering in everyday life

Social engineering is a multidisciplinary science. At its heart are the fundamental theses of sociology and psychology, which form the core of the discipline, the theoretical basis of the techniques used. However, social engineering is not only a theoretical, but also a practical science, meaning that rhetoric, management theory, political science, communication and media science, and a myriad of other disciplines that serve to build and maintain purposeful relationships between people are also key components of it. Police science is no exception to this endless array of disciplines.

When a parent tries to get a child to do their homework; when a teacher tries to encourage a student to study harder; when an investigator wants to get details of a case from the person being questioned – they all become enthusiastic practitioners of social engineering, even if they don't always realise it. At its core, social engineering is about the relationship between two or more people in communication, but knowledge of social engineering can provide a significant advantage even if one party is merely a „receiver" in the communication model[4], unable to take on the role of „transmitter". When we watch television, this is precisely the kind of one-way communication pattern that is created, yet we may be able to determine the truthfulness of the message being sent, often with the help of the non-verbal cues

[3] Kirschner, J. (2023): A manipuláció művészete. Lazi Könyvkiadó, Szeged. 15
[4] Shannon, C.E. – Weaver, W. (1964): The Mathematical Theory of Communication. The University of Illinois Press, Urbana. 13

that come from the sender of the message (from the newsreader for example), which are an integral part of our everyday life.

Social engineering in law enforcement

When examining social engineering in law enforcement, one of the most important factors is the individuals between whom the relationship is established. Is it between two civilians who are unaware of the presence of a law enforcement officer (for example, during covert surveillance)? Is it between a police officer and a civilian (for example, during an interrogation of witnesses)? Between two commissioned officers (for example, during a conversation between a superior and a subordinate)? The answers to these questions are essential to determine which actors may have which status in the context of social contact, which form of subordination may be established between the actors, and which social engineering techniques may be used to achieve the desired objective.

Social engineering in law enforcement differs from everyday manipulation techniques in one very important aspect, namely that its use is strictly limited by law. This is particularly the case when a member of the investigating authority is trying to obtain evidence from the perpetrator of a crime. If evidence is not obtained lawfully, it cannot be used in a subsequent trial and may even lead to the termination of the proceedings. For this reason, the basic requirement for the use of social engineering in law enforcement is that the person using the manipulation techniques must be familiar with the relevant statutes and be able to shape the application of the techniques so that they are used lawfully.

The body language

Although there is some variation (around 5-7%) between researchers, it is generally accepted that around two-thirds of our communication is non-verbal (i.e. we do not convey information by making sounds, words, and

sentences).[5] Non-verbal communication is undoubtedly one of the oldest forms of communication between humans, rarely limited by language barriers, and it is precisely because of this that it is the proper observation and decoding of these signals that can provide the most valuable information.

For example, the way someone tilts their head when telling a story, the way their facial expressions change, where they look, how often and for how long they make eye contact, how they hold their hands, how they gesture, the position of their feet, etc., can tell you almost perfectly whether they are telling the truth, what their relationship is to the people in the story, what their relationship is to their audience, and how tense they are. These subtle signs can provide information not only for an investigator but also for patrols at the scene of relationship violence or for border guards trying to prevent smuggling, who can easily spot the perpetrators and quickly bring them to justice.

Making psychological contact

Whichever educational literature on forensic issues we examine, "rapport building" (the rapid and effective establishment and maintenance of trust between people) is prominent in all of it, and is particularly central to the interrogation of witnesses and suspects. This is because, as with most social engineering techniques, the establishment of the necessary relationship between the investigators and the interrogated party is of paramount importance to achieve the objectives of the interrogation. Studies have shown that the average person can form a picture of the other party in the blink of an eye (6 milliseconds), but in most cases in 30 seconds maximum, even if their acquaintance has not extended beyond a single glance.[6] The so-called "7/11 Rule", which states that the average person answers 11 questions in the first 7 seconds of a first encounter, is a popularly used term in marketing circles and tries to determine a number of highly personal characteristics,

[5] Pease, B. – Pease, A.(2004): The Definitive Book of Body Language. Pease International, Australia. 27
[6] Hadnagy, Ch. (2011): Ibid. 267

ranging from upbringing through religion to sexual orientation. Although the renowned and widely cited researcher, Dr Michael R. Solomon has repeatedly called the "7/11" Rule a mere urban legend and believes that people use his research to support their own opinions, the "7/11 Rule" is a great illustration of the many different decisions the human brain can make in a very short period for the express purpose of minimizing the presence of unknown variables in an equation.[7]

It is also well known, especially among those working in commerce and marketing, that once a first impression has been made, it is difficult to change, and that a bad first impression needs to be followed by several good impressions to be overridden. However, for those who are familiar with the power of first impressions, a properly constructed and planted impression is more valuable than anything else. An experienced social engineer will shape his own identity at will, depending on the goal he has in mind, thus creating the impression he wants to make. On the scale of goals to be achieved the most common extremes used by police officers are the opposite pairs of "reassurance" and "fear". The presence of the police can be either reassuring or frightening.

The ever-classic "good cop, bad cop", which is a popular practice in interrogations, is a form of social engineering, which builds its entire operation around the first impression.[8] In the well-known trick, the two interrogating officers are in stark contrast to each other; the 'bad cop' tries to threaten the person being interrogated, visibly rejects, pigeonholes, and dislikes him, while the 'good cop' wants to help the person being interrogated, supports him, is sympathetic to him and protects him from the 'bad cop'. It is a natural human reaction that the person being interrogated starts to dislike his attacker and becomes friendlier towards his defender, and in many cases confesses specifically because the 'good cop' treated him humanely,

[7] The Myth of the Seven-Eleven Rule – Manage By Walking Around, Source: https://jonathanbecher.com/2018/01/07/myth-seven-eleven-rule/

[8] Brodt, S.E. – Tuchinsky, M.(2000): Working Together but in Opposition: An Examination of the "Good-Cop/Bad-Cop" Negotiating Team Tactic. Organizational Behaviour and Human Decision Processes. Academic Press, Massachusetts. 81(2), 155-177

fairly, and was understanding. The biggest pitfall of this eternal classic, however, is that not everyone can fully identify with the role they have been assigned, so the discrepancies between the mask they put on and their real identity become visible and the illusion soon dissipates, leading to mistrust towards both interrogators.

Pretext and legend

The "pretext" is a social engineering technique whereby the social engineer not only assumes a role but identifies with it as deeply as possible.[9] Not only in the way he dresses but in his gait, body language, accent, gestures, and every external characteristic he tries to match the role. This technique is, of course, all the more effective the less the actor is distanced from his real self, since even the slightest deviations can be extremely striking and discredit the actor.

In the Hungarian literature in the field of criminology, the closest thing to this technique is the creation of a "legend", the essence of which is that a member of the investigating authority, during the course of a soft inquiry, a covert viewing or a hearing, develops a cover story to conceal the proceedings, which covers, either in part or in whole, his relationship to the authorities and the real purpose of his actions.[10]

Preloading

Preloading is a technique commonly used in marketing to prepare the target (audience) to receive a stimulus and to guide them toward a particular response or emotion. Christopher Hadnagy uses the following example in his book:

„You stand in line to buy your $10 movie ticket and are barraged with a sensory overload of posters of upcoming movies. You stand in line to buy

[9] Hadnagy, Ch.: Social Engineering (2011): Ibid. 265
[10] Nyeste, P. – Szendrei, F. (2019): A bűnügyi hírszerzés kézikönyve. [The Criminal Intelligence Handbook] Dialóg Campus Kiadó, Budapest. 100

your $40 worth of popcorn and drinks, see more posters, and then you push your way through to get a seat. Finally, when the movie starts you are presented with a series of clips about upcoming movies. Sometimes these movies aren't even in production yet, but the announcer comes on and says, "The funniest movie since…" or the music starts with an ominous tone, a dense fog fills the screen, and the voiceover intones, *"You thought it was over in Teenage Killer Part 45….". Whatever the movie is, the marketers are telling you how to feel – in other words, preloading what you should be thinking about this movie – before the preview starts."*[11]

However, preloading is a technique that can be seen not only on the cinema screen but also in everyday conversations, because there are some topics that people don't like to talk about. For example, a financial crisis, a bad relationship, problems at work, or maybe the death of a relative. To talk about these things more openly and easily, you first need to "break the ice" and only after you have relaxed enough, and you do not feel threatened, should you start to talk about them.

Elicitation, the softening

Elicitation means *"the subtle extraction of information during an apparently normal and innocent conversation."*[12] Elicitation is one of the most powerful social engineering techniques, which, building on the techniques described above, extracts valuable information from the target without raising doubts about the social engineer's intentions.

Christopher Hadnagy himself has a high regard for this technique because it is not simply a matter of one person in a conversation asking questions from another person, who then answers them. The danger of elicitation is that it works unnoticed, by distracting the target, by building trust between the target and the social engineer.

"Elicitation works so well for several reasons:

[11] Hadnagy, Ch.(2011): Ibid. 93-94
[12] Ibid. 87

- *Most people have the desire to be polite, especially to strangers.*
- *Professionals want to appear well-informed and intelligent.*
- *If you are praised, you will often talk more and divulge more.*
- *Most people would not lie for the sake of lying.*
- *Most people respond kindly to people who appear concerned about*
- *them."*[13]

This technique goes back to the oldest human desires, the desire to be understood, to be listened to, to be heard. So, it is no coincidence that the US Department of Homeland Security has produced a special leaflet for its agents to raise awareness of the dangers of this technique and how to detect and defend against it.[14]

Summary

The science of social engineering is an integral part of our everyday lives, and learning about it is as useful for all of us as learning about table etiquette or our own culture. Because the theses of this discipline can be applied by anyone, we cannot say that social engineering is only 'good' or only 'bad'; its results vary depending on who uses its techniques and for what purpose.

Because social engineering is the science of social relations between people, its impact is particularly evident in law enforcement, where problems affecting society as a whole are as often dealt with as the problems affecting individual members of society. In my view learning about the science and techniques of social engineering can only have a positive impact on the work of police forces, as it not only allows for the judicious use of social engineering techniques but also makes people more alert to such techniques.

[13] Ibid. 87

[14] Elicitation: Would You Recognize It? Source:https://www.social-engineer.org/wiki/archives/BlogPosts/ocso-elicitation-brochure.pdf

Summary

Árpás, Béla: Expedient system of homicide prevention
In this article, the author discusses the special, preparatory stage of homicide. The author presents the main stages in the legal history of homicide and preparation for homicide. The work covers the current situation of investigation, especially the exceptional material and procedural legal tools of discovery and proof.

Barátki, László Attila: International dimensions of AML/CFT supervision in Hungary
International organisations are mostly set up to solve problems arising from a combination of political and economic aspects. Such organisations are typically established in the framework of cooperation initiated by a major power or various unions. The fight against money laundering and terrorist financing appears to be an unsolvable problem at national level, which is why the European Union has sought to take control of it into its own hands. The paper briefly describes the reasons for the international establishment of the AML/CFT supervisor, the tasks and competences of the supranational organisation and the preparation process in Hungary.

Czifra, Botond: Would it be more effective to sanction traffic violations by day-fines? - Law and Economics considerations
In my paper, I sought to answer the question of how to incentivise the wealthy drivers to obey traffic rules more effectively. I approached the research question from the perspective of economics, since the drivers' decisions are well modelled by the cost-benefit theory.

The present study describes the issue of the diminishing marginal utility of income with respect to traffic violations. In conclusion, the utilization of the day-fine punishment system on public roads could be effective, but in order to achieve true efficiency, it would be necessary to eliminate several anomalies that also affect the domestic criminal justice customs.

The present paper undertakes to examine the everyday intuitions regarding traffic violations, makes the attitude of wealthy drivers towards monetary sanctions more comprehensible, and it helps to understand the calculation of the domestic fines. The results can facilitate the discussion between the legislator and the law enforcement in favour of the solution, and they could serve as basis for further research that can promote the appropriate incentive through the adequate distribution of police capacity.

Fenyvesi, Csaba – Fábián, Vanessza:
The study shows remarkable real criminal cases, which included crime scene investigation as well. During the crime scene inspection, the law enforcers considered not only visually correct but invisible clues, too. From these clues they were also able to draw conclusions that aided the investigation. The tell-tale signs of the absence of clues often indicated the perpetrator, too.

Dudás-Boda, Eszter – Fullár, Alexandra: Examination methods at the intersection of forensic anthropologist and forensic mark expert competences in Hungarian practice
The areas of competence of forensic anthropology and forensic mark examination overlap with each other in terms of peri- and post-mortem injuries of bone remains, as well as identification of persons and objects based on photographs and camera recordings. The examination results of the two fields can be synthesized. We present this exciting process through case studies.

Fülöp, Péter: The anatomy of falls
The study focuses on the psychological thriller *The Anatomy of a Fall*, which has garnered numerous prestigious awards at recent film festivals (including the Palme d'Or, Oscar, and César Awards). The film's two-and-a-half-hour runtime delves into forensic questions that pose significant challenges in forensic physics practice, requiring considerable experience to find answers. Drawing parallels with the film's theme, the physics of falls

from heights, factors influencing the process of falling and impact, and forensic implications are presented through a recent real-life case study.

Gömbös, Sándor: "Refugee or Migrant? – Law enforcement context and implications in the application of asylum-related legislation"
Based on the judgement of the Court of Justice of the European Union declaring the legislation on asylum in Hungary illegal, and thus imposing a lump sum and a daily penalty payment; as well as on the evolution of the number of illegal border crossings registered in the European Union and in Hungary and of the number of applications for recognition as a refugee therein, the presentation attempts to answer the question why the EU law is not capable of taking effective action against illegal migration.

The author concludes that current EU legislation does not take into account the fundamentally changed behaviour of illegal migration and its actors in recent years. The EU's response to this is the adoption of the Pact on Migration and Asylum. However, even before its entry into force, there are doubts as to whether it will be effective. Criticism and proposals for further development of the Pact are substantially converging towards the legislation of Hungary, which is deemed to be in breach of EU law.

Kalmár, Ádám: The vulnerability of the Danube region in the light of the Russian-Ukrainian war
The Danube Region, containing 14 countries, is one security complex itself. Any change to any element of the system has an impact on it as a whole. The management of risks in the Danube Region is a shared responsibility of the EU, but its most important spot is Hungary's Schengen external river border. The Russian-Ukrainian war has brought new strategic importance to the Danube. The study examines the changes in river transport, reviews the new threats during and after the war and makes proposals for managing them.

Kiss, István: The system of opportunities for expert cooperation in international and national practice

Some European forensic institutes' (for example Dutch, English, Estonian) organizational structure will be used to illustrate how institutionalized support for joint expert opinions can be practically facilitated. The author provides an overview of the framework of forensic expert cooperation for Hungarian criminalists for focusing on both quality management and forensic perspectives.

Mágó, Barbara: The citizenship procedure as a special public administration procedure

Citizenship procedures are complex in nature. Most of the preparatory work, both in terms of its nature and the body responsible for it, can be classified as an administrative procedure. The decision-making mechanism, however, follows a very different set of rules and is often considered to be a constitutional procedure because it belongs to the powers of the President of the Republic. The alien law link between the citizenship field and the asylum and immigration procedures is not disputed. However, looking at the similarities and differences, it can be concluded that citizenship procedures constitute a special administrative authority procedure with its own specific characteristics, a so-called *sui generis* procedure.

Mészáros, Bence: Possible criminalistic advantages of sequential lineup

Police lineup is an important and often used investigative method to identify perpetrators (and other relevant persons or objects) in criminal cases. Several researches conducted abroad in the past decades found that the sequential lineup led to significantly fewer eyewitness misidentifications than the simultaneous lineup. This phenomenon is called the “sequential superiority effect”. In the paper I introduce the scientific debate about the sequential superiority effect, based on foreign experiments and studies, and outline the practical and tactical advantages of the sequential method, which is currently not allowed by law in Hungary.

Nagy, Ágnes: The criminalistics of cybercrimes committed in cyberspace

Unlawful acts committed against bank customers by calls made on behalf of financial institutions started to appear in Hungary in January 2021, when it became apparent that the perpetrators had moved from violent money-obtaining acts to cyberspace that concealed and disguised their identity. There is a shift in crime rates in this direction, with a steady and significant increase in the number of offences committed in online spaces and the value of the damage they cause. One of the most important aims is to fully develop and strengthen the society's flexible resilience to cybercrime.
Investigating authorities need continuous (open and covert) digital data collection and up-to-date, comprehensive records, which are used to carry out criminal investigations with the help of the most powerful computers and software by specially trained units.

Németh, Ágota – Rottler, Violetta: The role of artificial intelligence in securing popular music festivals

Tourism is a dynamically developing business, with festival tourism being one of its key segments. In terms of festivals, Hungary has a prominent position, as Sziget is one of Europe's largest popular music festivals. More and more tourists, mainly from abroad, attend these events. To ensure the smooth running of the event, law enforcement agencies and the private security sector have different tasks. Nowadays, artificial intelligence (AI) is increasingly present in our lives. Law enforcement and complementary law enforcement agencies are also constantly examining how and to what extent they can make use of AI in their work.

The paper presents how AI can support the work of the bodies involved in the organization and smooth running of festivals, and what dilemmas may arise in its use.

Petruska, Ferenc: Lawfare in criminal law and law enforcement
Enforcing criminal law is crucial for maintaining democracy, legal certainty and the rights of individuals and groups. However, it is not always upheld in countries outside Europe. Sometimes laws get twisted for political or ideological goals, using measures like groundless investigations and lawsuits which aim to force opponents into desired outcomes.

Székely, E. Árnika: Magical journey from hemp to cacti and mushrooms
In this study, we gain insight into the daily work of the Laboratory of Forensic Geology and Botany, established in 2013 at the Hungarian Institute for Forensic Sciences. The aim of the study is to provide effective and practical assistance to professionals working in the field of forensic science who are not familiar with the subject matter, helping them navigate in the world of narcotic plants and hallucinogenic mushrooms. The expertise required for this practice is far from simple, as the identification of these plants and fungi can sometimes present challenges. The author explores the beauty and limitations of botanical expert examinations through their general botanical characteristics.

Volarics, József: The formation mechanism of entry wounds on human skin surface
The goal of the experiment described in the study was to document and analyse the formation mechanism of entry wounds. During the test shooting different firearms and a bow were used to shoot pork knuckles from the same distance. The velocity of the projectiles was measured, and an average was calculated for each weapon. The hits were documented with a high-speed camera, the records show the impact of the projectile and the reaction of the skin surface in detail.

Zsilák, Balázs Zoltán: Manipulation on duty – Social Engineering and Police Science

The aim of the study is to demonstrate how social engineering appears in law enforcement, as well as to outline the advantages of recognizing and applying manipulation techniques for those working in law enforcement.