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**The Italian model of the fight against the illicit trade of cultural properties
-in the light of the international system, parallel to the Hungarian structure-**

Theses of the dissertation

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1. Description of the scientific problem

The illicit trade of cultural property is an international problem that faces many difficulties and unresolved problems. The phenomenon is multifaceted, related to the illegal excavations, thefts, organized crime, armed conflict and terrorism, money laundering and the black market, as well. This diversity makes it difficult to defining, indentifying and curbing the illicit trade of workarts. However, one of the biggest problems with the illegal trade in artefacts is the need to deal with latent crime,¹ which is facilitated by the incomplete inventory of artefacts, the extent of illegal excavations, and the lack of education and technology. In addition, one has to reckon with the fact that the transport of artifacts is not as conspicuous as drugs or other smuggled items. The finds can be transported in several smaller parts, with the paintings folded out of the frame, while smaller objects can be hidden separately in parts of the vehicle or only in the trunk between their clothes of the smuggler. Professionals and the public media are less concerned about this phenomenon, one of the reasons can be that in people it can live like a special layer of crime that does not pose a threat to society as a whole.² However, the value of these objects is significant, both materially and immaterially.

In order to carry out the research, I considered that it is necessary to define two concepts: the illicit trade of cultural property and the terms cultural property, as there will be recurring motives in the analyzes.

The definition of illegal trade of works of art has been the subject for only a few researcher, the term is used only as evidence in the literature. Today, as a result of the armed conflicts in the Middle East, many people use this type of act to identify the illicit trade of cultural property, so studies on this topic have been dissected in the literature.

Several aspects need to be considered in order to define the concept of illegal trade of workarts. The first is the legislation, which is also discussed by the Nicosia Convention, Nordic Research, UNESCO and Gabriella Kármán.

The illicit trade of cultural property is the result of illegal behavior against cultural property, which undermines both national and international culture. As a result of the illegal actions committed to these values, the work of law enforcement agencies comes to the fore and the illegal trade in cultural goods is also born here. It is defined by two main activities: the theft of works of art and their unlawful transfer.³ The illicit tade of cultural properties can also be

¹ Latent crime in (Boda, 2019, 364.)

² Virág, 2012, 197.

³ Kármán,2019. 52.

linked to different types of crime, actors and processes. Crimes include theft, vandalism or embezzlement, misappropriation, attack on cultural property, unlawful transfer, falsification of documents, and the unauthorized export and import of goods subject to customs duties for profit. Illegal excavation (which can also be linked to the illegal trade in works of art) is accompanied by a special form of crime, illicit excavation.

I use several tools to define the Hungarian terms „kulturális javak”, „jóságok”, „műkincsek” and „műtárgyak”. We can also describe the phenomenon that not all „kulturális jóság” are „műtárgy”, but all „műtárgy” are „kulturális jóság”. Let's look at the legal interpretation of the word. Cultural goods are objects created by nature or man that define or contribute to the formation, cognition or character of a nation, humanity or history.⁴ Cultural properties include written, pictorial and even sound recordings, moreover archeological finds, workarts, fossils and books.⁵ The works of art belonging to the concept of cultural property are the original and limited number of works of art produced by the artist, such as fine art (painting, sculpture, engraving, etc.), applied art (carpet, glassware, ceramics, etc.), and in the field of photography.⁶

It is possible to declare the protection of the workarts which may be created by ministerial decree and last until the object is damaged, taken abroad or a valuable piece of an object is removed from the collection for some reason.⁷ The Department of the Authority for the Supervision of Artefacts under the Prime Minister's Office is responsible for, among other things, declaring cultural objects protected and issuing permits.⁸ Restitution proceedings are also conducted by the Department.

2. Research objectives

The main goal of my research is to examine Italy's methods and tools for combating the illegal trade in workarts, and to highlight points that could be used in Hungary to increase the effectiveness of cultural heritage protection. So, in addition to deriving the theoretical aspects of the vulnerability of cultural property, I have primarily kept in mind the law enforcement and law enforcement practical aspects. Based on the study of the organizational structure of law

⁴ 2001. LXIV. law 7. § 10.- Protection of Cultural property law.

⁵ *ibidem*; 1957. Legislative Decree 14 on the Protection of Cultural Property in the Event of Armed Conflict.

⁶ 1999. évi LXXVI. E § (2).

⁷ 2001. LXIV. law I. General provisions. 46. §, *ibidem* 50. §

⁸ Lukács, 2017, 94.

enforcement in Italy, to explore the possibilities offered by the 21st century and to formulate the points that can be used are also an important part of creating a more efficient system. My aim is also to define the framework of a database based on the applied good practices, which would be an innovation suitable for uniform international use, based on the technological framework used in our everyday life. For all this, I also consider it important to clarify the concepts as a milestone in curbing the illicit trade of cultural properties, because without a precise definition, we cannot formulate legislation or create, analyze and interpret data.

I formulated four research questions. These encompass the challenges of the 21st century, the Italian and Hungarian systems for cultural heritage protection, and technological developments.

- What are the security challenges posed by the illicit trade of cultural properties in the 21st century?
- What are the organizational solutions and good practices that have made Italy successful in curbing the illicit trade of cultural properties?
- How effective is the protection of cultural properties in Hungary, especially with regard to the tools and methods used?
- What are the scientific theories and applications of information technology that can be used for the effective protection of Hungarian and global cultural properties?

3. Hypotheses of the research

In connection with the research questions, I formulated three hypotheses, which also provided the backbone of the dissertation.

- 1) Understanding and solving the problem of the protection of cultural property is always possible with an accurate knowledge of the security challenges of the given age, and with the effective management of the challenges it is possible with complex problem solutions corresponding to the social, scientific and technical standards of

the given age. A critical element of these is the creation of an internationally uniform database of stolen works of art.

One of the biggest sources of problems in the analysis of stolen items, or perhaps the basis for creating a single, common international database, is that legal regulations, historical epochs, units of measure, and even timekeeping vary across nations. Beyond all this, the basics of identifying works of art are not uniform either. This would require clarification of concepts such as cultural goods or the illicit trade of cultural properties.

- 2) On the basis of research, the types of workarts that can be sold in the illegal trade of cultural property can be identified, on which the more concentrated protection of specific types of objects could be based by formulating recommendations. The distribution of Italian and Hungarian types of objects can be deduced from the proportions of stolen types of artefacts in Europe.

In my opinion, there are also different periods in the trade of works of art, when a certain type of object becomes “more fashionable”, so the law enforcement agencies can act more concentrated in defining these. The report on stolen goods issued by Interpol in 2020 contains a number of data, including a breakdown of the types of stolen goods by continent. In my opinion, the distribution of uniform European object types is proportionally the same as the types of objects stolen from Italy and Hungary.

- 3) Modern information technology applications in Hungary also create the possibility of creating a database and tool that can be used in all relevant areas of cultural protection. Improving the effectiveness of national heritage protection and combating illegal cross-border trade in works of art can be considered a priority area.

The opportunities offered by the 21st century are still untapped in terms of both database and object identification and retrieval. Laying the theoretical foundations of these and modernizing the existing tools and making proposals for them will play an important role in the new scientific results of the dissertation.

4. Research methods

In my research I used the qualitative methodology. The illegal trade in works of art, as I have written before, is an interdisciplinary field, so I have tried to look at the issue from several perspectives. The research methods were as follows:

- 1) In the initial stage, the national and international papers was searched and processed, from which I made analyzes broken down by periods and topics using science metrics. In addition to the Hungarian archives and libraries, I also researched in Italy and the Vatican, of which the Vatican Secret Archives and the Carabinieri TPC library stand out the most. To visit the Vatican's Secret Archives, Archivio Segreto Vaticano, you must submit a research plan months in advance, indicate which documents you would like to examine, and request permission.
- 2) Due to the novelty of the topic and the lack of Hungarian papers, the next milestone was to get to know the Hungarian law enforcement agencies and their work based on interviews and observation. The Asset Protection Subdivision of the National Investigation Bureau and the various departments of the National Tax and Customs Administration assisted me, and I was able to gain insight into all aspects of the control of cross-border traffic and the process of handling seized artefacts.
- 3) I had the opportunity to study abroad within the framework of the New National Scholarship of Excellence, the Campus Mundi Scholarship for Young Talents of the Nation and the KÖFOP (Közgazgatás- és Közszolgáltatás- Fejlesztési Operatív Program) research workshop. During these trips, I also conducted observation and interviews in the two buildings of the Carabinieri TPC in Rome, in the personnel, team and operations departments, and then at the Guardia di Finanza Servizio Centrale Investigazione Criminalità Organizzata (Central Organized Criminal Investigation Organization). Later in the Vatican City State, I had the Italian Episcopal Conference, the Pontifical Council for Culture, and the Commissione Permanente per la Tutela dei Monumenti Storici ed Artistici della Santa Sede (Standing Committee on the Historical and Artistic Monuments of the Holy See).
- 4) In addition to the observation, I conducted semi-structured interviews at the state border and with the listed domestic and foreign law enforcement agencies. Before the interviews, I made a sketch, then I recorded the conversations on a tape recorder and only took notes later. I considered it important to have a framework for the discussions, to focus on the main points, but it was also important for me to be able to deviate from the questions in some cases and to use a broader explanation.

5) The interviews were followed by an analysis of the databases. The very first database I examined was the Carabinieri TPC database called Leonardo, as well as its mobile application version, the iTPC. These were mainly the structural and technological designs that I was able to utilize in addition to the data on the stolen objects during the dissertation. In the next round, I examined a database called BSR, EMT, and Interpol Works of Art, the latter before and after the innovation. From these data, I made various diagrams for easier analysis as well as GIS⁹, that is, I created a so-called “crime mapping” using GIS, which is the mapping of criminal statistics,¹⁰ which from a new illumination may show a correlation or factor. I used the QGIS application for this.

In addition to the databases containing the artefacts, I examined and analyzed the information in the SHERLOC database, which differs from the data described above, as I did not observe the types of artefacts but the cases at international level: the legal consequences of the theft, the countries involved. In the illegal trade in works of art, I also examined the location of the cases on the basis of the information in the database, the years in which the cases took place, and the legal system.

In addition to the EMT, I also analyzed the Hungarian restitution cases between 2014 and 2020, from which I drew important conclusions in connection with the illegal trade in works of art.

6) I also observed another platform for illegal art trade, online sales, in the light of the eBay site to see which items are the best-selling in the market and what value they are trying to sell.

7) Furthermore, based on my personal description and my knowledge of archeology, I considered it important to examine and develop a system of criteria that helps to digitize, define and categorize artefacts so that law enforcement agencies can make object descriptions and analyze and interpret data on artefacts in a simple way.

5. Structure and brief overview of the dissertations

In the introduction of the dissertation, I explore the domestic and foreign literature with the help of scientific metrics, I also introduce the concept of illegal trade in works of art and the relationship between value and culture within the theoretical framework.

The research consists of three main chapters: an international part, an Italian part and a Hungarian part. The first, entitled “**International Challenges and New Opportunities for Art Defense in the 21st Century**,” addresses international challenges such as the relationship

⁹ Geography Information System

¹⁰ Mátyás, 2017b. 165-167.

between armed conflict, terrorism, organized crime, or money laundering and art protection. I then explained the development and forms of the art trade. In the sub-chapter on international struggle, I describe organizations and their databases that are working hard against the illegal trade in works of art. I explained the structure of the databases as well as the difficulties of identification, which I concluded by defining the subject description. Considering the possibilities offered by the modern age, I have described the untapped potential of AI, machine learning, 3D printing, and scanning and social media.

The second main chapter is entitled "**Italy and the Vatican City State**", which presents the law enforcement and artefact authorities of the two countries and the databases they manage. In addition to the Italian Guardia di Finanza, a special unit of the Carabinieri is emerging, which is slowly taking over the tasks used to curb the illegal trade in works of art. The Guardia di Finanza now deals only with matters relating to economic crime. The Carabinieri TPC is one of the main values of the dissertation. The organisation's complex artefact protection program is not only important in curbing the illegal trade in Italian art, but has also achieved a number of successes internationally, including reforming and modernizing the Interpol Works of Art database within , and with their exhibitions they color and promote the work of law enforcement and non - governmental organizations in the field of artefact protection. The driving force behind the system is the Italian Ministry of Culture, which provides the material and expert background for the protection of works of art. I examined whether there were anomalies among the Italian art thefts, and then described the operation of the Vatican City State and the BeWeB catalog in relation to religious objects.

The third main chapter is entitled "**Hungary**". In this section, I present the domestic legal regulations related to the curbing of the illegal trade in works of art, and then I describe the tasks and relationship of the National Bureau of Investigation, the NEBEK, the National Tax and Customs Administration, the Prime Minister's Office and the Unified Art Gallery. In this chapter, I analyze the types and other factors of artefacts stolen from Hungary on the basis of the Interpol database with the help of GIS.

In addition to the research and scientific results, I conclude the dissertation with recommendations.

6. Research results

I formulated three hypotheses, which I examined within the framework of the dissertation.

1) Understanding and solving the problem of the protection of cultural property is always possible with an accurate knowledge of the security challenges of the given age, and with the effective management of the challenges it is possible with complex problem solutions corresponding to the social, scientific and technical standards of the given age. A critical element of these is the creation of an internationally uniform database of stolen works of art.

In the 21st century, a number of difficulties may arise in curbing the illegal trade in works of art, such as damage caused by natural disasters and armed conflict, and the identification of works of art. By joining Unite4Heritage and creating the BeWeB catalog and Leonardo database, the Italians have developed a practice that is proving effective in the cases mentioned above.

Understanding the phenomena and processes of the illegal trade in works of art is necessary and possible on the basis of the sources and the data recorded in the database. Several studies mention the creation of a single international database of stolen goods and the creation of common rules. However, in outlining this on a theoretical level, a number of issues have arisen, such as different cultural, legal and linguistic backgrounds. These factors make it difficult to apply a unified database where it would be necessary to work with the same time and unit of measure. However, after analyzing the databases, I found points that serve as a starting point for setting up a theoretical framework for a unified database. Although the Leonardo database has different languages in Italian, the WOA database and the SHERLOC database in different cases (e.g. Arabic, English, French, etc.), I believe that English, as a unified international language, can cover such a large, unified database. Just as the system works at Interpol offices, in addition to the need for English language skills for database managers, a unified database could also be managed. The size of stolen objects is important data, which is denoted by different units of measure in each database, such as inch or cm. Using the international SI system, the centrally used unit of measure would be created, and then the unit of measure used by the automatically converted country could be displayed as a second unit of measure for each country. The time of creation of objects is also indicated differently in the databases. There are places where years, often centuries, but historical eras also appear in databases. Prehistory and Roman times are most often mentioned when marking historical periods. For a single international database, year and century categories would be necessary. Knowing the year, the century can be filled in automatically, but vice versa. We cannot deduce the year from the knowledge of the century, so it is necessary to indicate the unknown signifier in this case or, if we know the creator, the period from birth to death. The start of timing varies

from country to country, so different starting points are possible in parts of Asia and Europe, for example. In the interests of a uniform database, it would be necessary to use terms before and after our most widespread use of time, which, like the unit of measurement, could be supplemented by an indication of the time in that country. An internationally unified database could be created under these conditions, however, if the database also contained legally relevant data, it would not, in my opinion, be able to be created under today's regulations. The legal regulation of the illegal trade in cultural goods differs from nation to nation, as reflected in the analyzes and descriptions in the SHERLOC database. The economic, political and social background influences the relationship between the nation and the works of art, including their legal regulation. However, the collection of legal information from SHERLOC is not necessarily an element of the database containing stolen objects, so I suggest omitting this category from the contents of the single international database.

I consider the hypothesis to be true under the above conditions.

2) On the basis of research, the types of workarts that can be sold in the illegal trade of cultural property can be identified, on which the more concentrated protection of specific types of objects could be based by formulating recommendations. The distribution of Italian and Hungarian types of objects can be deduced from the proportions of stolen types of artefacts in Europe.

To test the first half of the hypothesis, I used the reports of Carabinieri TPC for Italy, where I analyzed the object types of art thefts between 2017 and 2020. During the analyzes, different proportions emerge each year: the book category appears in the figures at 23 percent in 2017, 33 percent in 2018, 3 percent in 2019, and again in 2020. Perhaps the biggest variation is in numismatic findings: they were 3 percent in 2017, 11 percent in 2018, 69 percent in 2019, and 10 percent in 2020. Fine arts items were stolen at a much higher value in 2017 (22%) and 2018 (25%) than in 2019 (9%) or 2020 (10%).

After evaluating the data, it can be stated that there is no clear trend among the types of stolen objects due to the change in annual proportions, so in my opinion the market does not have a permanent range of types in Italy that can later be sold on the black market.

In the Hungarian context, between 2012 and 2014, I analyzed the types of objects of crimes related to cultural property found in the BSR database as counties. The crimes included theft, organ economy, misuse of protected cultural property, budget fraud and embezzlement, so in contrast to the investigations in Italy, I examined the crimes committed on works of art in

a wider spectrum in Hungary. In the course of the analyzes, similarly to the Italian studies, no tendency can be detected here, only the subject group of “furniture” stood out every year, but this cannot be considered the main “target” either, as Gabriella Kármán examined its details on the basis of criminal records in which the number of paintings had already risen.

To test the second half of the hypothesis, I used the Interpol database and then coordinated the development of object categories in all three cases. I analyzed the data for the trio of Europe, Italy and Hungary. I supplemented the figures of the Italian object types on the basis of the data found in Leonardo, so I include two types of information for the Italian values. I saw the need for this in the fact that, although the analyzes were based on information from Interpol and the WOA is linked to Leonardo, Interpol registered only 7309 objects for Italy, while the Carabinieri TPC database contained 17,787 works of art. I therefore considered it necessary to examine the large data set of the Italians separately.

The highest value among the Hungarian data is given by works of fine art (79%), which is only 13 percent of the European data, 45% in the Italian Leonardo and 58% in the Interpol database. In Europe, numismatic objects were the most abducted (35 percent), but in Hungary there were 1 coin in the Interpol database containing stolen objects, which was classified as an archaeological find due to its Roman age. In the Leonardo database, only 2 percent of stolen cultural goods were numismatic findings, while in Interpol, the figure was only 1 percent. The other category is 7 percent in Hungary, 26 percent in Italy (Leonardo) and 14 percent (Interpol), and 15 percent in European data. Books in Hungary, like the other category, account for 7%, in Europe for 13% and in Italy for 4% (Leonardo) to 4% (Interpol). In Hungary, 4% of religious objects and 3% of statues were also stolen, as well as a small number of archaeological finds. At the same time, 14 per cent of archeology, 6 per cent of religious objects, 4 per cent of sculptures and a negligible number of paleontological finds occur in Europe. According to the Italian data, the Leonardo database contains 14% of statues, 8% of religious objects and 1% of archaeological finds. In the Interpol database, these percentages are about the same: 13 percent of statues and 10 percent of religious objects can be discovered in the database.

In Italian and Hungarian statistics, the largest number of art objects was stolen, while in European data this category of objects is only in the middle. The proportions of European (4%) and Hungarian (3%) sculptures show similarity, but in Italy 14% and 13% have already been stolen. There is no match for the three categories at once, only for 1-1 areas at a time. Based on the above analyzes, I consider the hypothesis to be false, so I reject it.

3) Modern information technology applications in Hungary also create the possibility of creating a database and tool that can be used in all relevant areas of cultural protection. Improving the effectiveness of national heritage protection and combating illegal cross-border trade in works of art can be considered a priority area.

Among the databases of stolen cultural goods still in use, the Italian Leonardo stands out, which can also compare images with images. The advantage of the Italian model has already been recognized internationally, so Interpol has asked for their help. Finally, as part of the Psyche Project, a new formation of WOA was created based on the Italian model, allowing them to compare images using MI in addition to text search. The advantage of this step is faster and more accurate filtering, but there are still problems here. For easier transportation and sale of large-scale paintings, perpetrators split the images and then, in some cases, make minor modifications to the paintings. Then the database algorithm may not be able to identify the painting with the changes, so I would like to highlight a novelty in Google Arts & Culture, an application still in use today, to filter the results more accurately. With this application, you can take a photo of yourself and then upload it to the database to present the art subjects you most like on canvases with a percentage of thousands of paintings. I therefore consider it essential to apply the importance of the percentage determination to stolen cultural goods in order to identify the modified works of art with greater probability. It is also difficult to recognize the program if the photo in the database was taken at a different angle than what we uploaded. This can be a cumbersome procedure, especially for sculptures and ornate vases. The solution to this problem is to have a three-dimensional version of the object in the best possible quality. To do this, we must strive for the most accurate documentation possible during the production of the home catalog. The easiest way to create a 3D effect is to download it to your phone (such as Photogrammetry, Capture 3D, or Scandy Pro). In this method, it is worth mentioning that it is not always accurate to scan the point clouds defined by the mesh mesh, and using shadows and highlights only achieves a three-dimensional effect. Using the camera gives you a sharper, more detailed and accurate picture of the work of art that can be taken with a camera when the subject is digitized from all sides, and with multiple cameras when taking pictures from multiple angles at once. When documenting with the camera, you should note the following:

- Illumination is created on some objects such as painting, jewelry and metal. To eliminate this, it is recommended to use dust, which reduces the reflection of the flash and the lamp, and can be easily removed from the subject after the operation. Elimination of glare is important because the camera calculates the depth of the model

based on the color depths and will detect the area as a white color range in the event of glare.

- For good lighting, you should illuminate the subject from two different sides. One of the flashes should be a softbox. If not, dim the light with tracing paper.
- Set the aperture as long as possible so that all points on the subject are sharp.
- It is recommended to use a tripod to take pictures.
- Use white or gray as a background to highlight the subject.

The completed images can be enhanced with editing programs. One such program is Photoshop or Lightroom.

In addition to the camera, we can use laser scanners and CT to get the most accurate picture of cultural goods. The use of CT and MR machines requires the expertise of a radiologist, and not only the surface of the object but also the internal structure comes to life on the completed images, so that the cross-section of the artefact can be examined. The dimensions of the object can also be determined with the lasers.

After describing the digitization of objects, it is important to talk about state digitization in addition to making a home inventory. The catalog of the Vatican City State was initiated by the Ufficio Nazionale per i beni culturali ecclesiastici e l'edilizia di culto in the 1990s and is still managed by them. Here, people are sent from the dioceses who, after mastering the system, begin to digitize objects and artifacts in their own diocese. The Ufficio Nazionale per i beni culturali ecclesiastici e l'edilizia di culto, the Carabinieri TPC and the Ministry of Culture have access to the full collection of the BeWeB online catalog. When digitizing churches, the database shows the exact locations of the objects, so in the event of a natural disaster or armed conflict, you can immediately see which objects need to be evacuated. In the event of the disappearance of objects, the documentation on the work of art is automatically uploaded to the Leonardo database.

Object descriptions can also make it easier to learn and record artefacts. Within the framework of the dissertation, the analysis of archeological ceramics by neck, body, shoulder and rim types was included in the international chapter. The description of persons, typological types and archeology, which are still known today, also contributed to the development of the method.

I consider the hypothesis to be true based on the studies.

7. New scientific results

1) During the comparative analysis and evaluation of the data and specific cases of several relevant national and international databases, I proved that there are differences and shortcomings in the international practice of combating the illegal trade in works of art in several points and areas. **I have proved that the professional application of modern information technology procedures in the field of artefact protection for the correction of these offers new possibilities and is available as an efficiency-increasing factor.**

2) Based on my widely used personal description and my knowledge of archeology, **I developed a practical system for describing workarts** Based on this, it becomes possible to more precisely define, categorize, professionally digitize, compare and identify works of art. Law enforcement and art conservation professionals will be able to create object descriptions and analyze and interpret data on artefacts on a simple interface and based on transparent points..

3) Based on the third research question, I **proved** that the effective law enforcement protection of cultural property justifies **placing the EMT's database** containing stolen objects **in the hands of the Police Department, including the Treasury Protection Division of the National Investigation Bureau.**

4) As a result of the processing of the Criminal Statistics System and the Interpol Works of Art data, I **determined the territorial distribution of the art objects stolen in Hungary**, according to which the largest number of art objects were stolen in and around Budapest, while religious objects were stolen along the northern and southern border. During the examination of the second hypothesis and the third research question, the finding was analyzed.

5) Examining the second research question, **I found that regions in Italy that are more prone to theft are also more susceptible to the digitization of cultural goods.** The number of stolen objects in Italy, broken down by region, correlates with the number of BeWeB's digitized cultural assets. In this sense, the regions of Tuscany and Lombardy are the most vulnerable to theft, so they have created the most digitized works of art to prevent and speed up detection.

6) Based on the analysis and evaluation of the Italian model of the fight against the illegal trade in art treasures, **I concluded that the most important component of success is the complex treatment of the problem. I have shown that each of the elements is particularly effective:**

- creation and use of databases at the professional and scientific technological level of the age;
- wide-ranging cooperation between authorities and organizations interested in the protection of works of art;
- wide-ranging and sufficiently differentiated prevention activities, including education, the media and social media;
- the rapid and sufficient action of the bodies detecting the infringement, the high level of special expertise of the persons carrying out the activity and, in particular, their ability to identify objects.

Enforcement of these in Hungary would be justified in order to act more effectively. The investigations related to the finding were performed in connection with the second research question.

8. Recommendations

8.1. International recommendations

I suggest rethinking and clarifying the concept of cultural goods using the elements examined in the dissertation. The technological development that surrounds our everyday lives is also reflected in art, at the level of creation, and the artefacts market is also in demand for these objects. Thus, taking into account Raymond Williams' thoughts that the concept of culture must also be periodically reinterpreted in relation to the economic, political and social level of a given age.

In addition to rethinking the concepts, I also call for the creation of an internationally uniform database of stolen objects, the theoretical framework of which I have laid out in my dissertation. The foundations of the database are already modeled on Leonardo, but three-dimensional digitization can help identify and filter stolen objects. Tools such as VR goggles or holograms are recommended to facilitate analysis.

For the description of the object, I propose the classification grouped by external marks according to a system of criteria developed separately for each type of object.

In addition to data and technological innovation, the importance of training and education for professionals is coming to the fore. One form of mass media for Italians is educational education, which begins in primary school. I consider it important to introduce this at international level in order to curb the illegal trade in cultural goods.

8. 2. Recommendations for Italy

Although beyond its age, the Leonardo database is an IT achievement at international level that greatly contributes to the protection of cultural goods, but needs to be modernized and developed. To this end, I suggest adapting the percentage definition in the Google Arts & Culture database, among other things, to make it easier to filter transformed objects.

Based on the high number of art thefts in the regions of Lombardy and Tuscany, targeted action in these areas is more highly recommended.

8. 3. Recommendations for Hungary

In the course of my research, due to the weight of the law enforcement aspects of the topic, I consider it justified to place the database containing the stolen objects in the hands of the Police Treasury Protection Division of the National Investigation Office. I also consider the development of the database and the expansion of the stock to be essential in order to curb the illegal trade in cultural goods.

Following the Italian model, I would find it useful to renew not only the development of the database but also the organizational structure. For this, I would take the situation of the offices established by Carabinieri TPC by region as a basis, so I recommend the establishment of a special department of at least a few people in Hungary at the county level as well. Using GIS, it is easy to see that crimes against artefacts in the Northwest, for example, are few, so it would be appropriate to merge counties in these cases. In the Italian regions, with the exception of the province of Abruzzo, the lowest thefts were in regions without a Carabinieri TPC Office (Molise, Trentino A.A., Basilicata, Valle D'Aosta). Due to the low values, other regions can take over the investigative tasks, but there is also the possibility that due to the lack of a local controlled organization, the latency may increase and the actual number of cases is higher than the data in the report.

I recommend promoting digitization similar to the BeWeB catalog created by the Vatican City State, which would speed up the identification of artefacts in the event of theft and

the restoration of monuments. In the event of a natural disaster, armed conflict, or other incident, police would immediately have access to digitized documents about the objects found in the property and their location, which facilitates effective situation assessment and rapid response.

Based on the Italian model, it would also cause a boom in the protection of works of art if, in addition to the database, an application were established and all forms of mass media were implemented in Hungary, which is carried out by Carabinieri TPC. These processes include the availability of exhibitions, studies and annual reports, and the development of education.

Education is justified for both law enforcement professionals and the civilian population, as both parties play an integral part in the protection of illegal works of art, based on the Italian model. The training of law enforcement professionals can also be carried out with the help of the Italian Carabinieri staff, as they offered to help train students and police officers when they came to Hungary through a network of contacts established during my study trips.

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- [6] Lukács D. (2017). Régészeti lelőhelyek rendészeti védelme. In: *Pécsi Határőr Tudományos Közlemények* XIX. Pécs, 2017. 93-99.
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Legislations and conventions

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10. Publication list of the author of the doctoral dissertation on the topic

- 1) Lukács D. (2017). Régészeti lelőhelyek rendészeti védelme. In: *Pécsi Határőr Tudományos Közlemények XIX*. Pécs, 2017. 93-99.
- 2) Lukács D. (2018a). A kulturális javak védelmének rendészeti eszközrendszere Magyarországon. In: *Magyar Rendészet* 5. 113-123.
- 3) Lukács D. (2018b). Kulturális javak védelmi típusai Magyarországon. In: *Belügyi szemle*. 12. 120-133.
- 4) Lukács D. (2018c). Recenzió Luciano Luciani: A Guardia di Finanza munkássága a nemzeti művészeti örökségek védelmében az első és második világháború után. In Czene-Polgár V., Zsámbokiné F. Á. (szerk.): *Innováció, elektronizáció, tudásmenedzsment. Tanulmánykötet*. A Magyar Rendészettudományi Társaság Vám- és Pénzügyőri Tagozata, Budapest. 229-304.
- 5) Lukács D. (2019a). Az olasz műkincsrendőrség a komplex műtárgyvédelmi projekt. In: *Belügyi Szemle*. 67. évf. 5. 71-81.
- 6) Lukács D. (2019b). Műtárgylopások Magyarországon a Psyche project tükrében. In: *Haza Szolgálatában konferenciakötet*. Budapest. 136-146.
- 7) Lukács D. (2019c). Az egyházi kulturális javak védelme a Vatikánvárosi Állam és Olaszország területén. *Tavaszi Szél*. III. kötet. 492-496.
- 8) Lukács D. (2020a). A kulturális javak hatékony rendészeti eszközei Olaszországban az adatbázisok és a tömegtájékoztatás tükrében. In: *Belügyi Szemle* 68. évf. 4. szám. 37-48.
- 9) Lukács, D. (2018d). The Italian Law Enforcement system used to protect cultural properties with particular reference to database and mass media. In: *Criminal Justice Issues Journal of Criminal Justice and Security Year XVIII, Issue 5-6, 2018*. p. 243-250
- 10) Lukács, D. (2020b) Criminal geographical research of the stolen cultural properties from Hungary - based on the Psyche Project. In: *Criminal Geographical Journal*, 2.szám. 19-30.
- 11) Varga J., Lukács D. (2017). A Schengeni Információs Rendszer lehetőségei az illegális műkincskereskedelem elleni fellépésben. In: *Határrendészeti tanulmányok*. 14. 42-52.

11. Professional resume

Name: Dalma Lukács
Mobile: +36 30 748 37 93
Email: lukacs.dalma.93@gmail.com



Main research areas:

- Protection of the illegally exported cultural property
- The Italian heritage protection system
- The Hungarian heritage protection system
- Archaeology
- Early Christian and Byzantine iconography and culture

Education:

2019 Focus Training Center, OKJ training
Photographer and photo product merchant

2016-2020 National University of Public Service
PhD School of Law Enforcement

Thesis topic: The Italian model of the fight against the illicit trade of cultural properties
-in the light of the international system, parallel to the Hungarian structure-
Expected date of graduation: 2022 autumn
Supervisor: János Varga col.
Andrea Szabó col.

2019 Focus Training Center
Photographer and photo products seller

2014-2016- University of Pécs
MA , Faculty of Art, Archaeology
Thesis topic: More recent data about the interpretation of the representations of the disc
brooches in the late antiquities
Supervisor: Dr. Levente Nagy
Dr. Zsolt Visy

2011 - 2014 University of Pécs
BA History - Archaeology

2007 - 2011 Batthyány Lajos Grammar School, Nagykanizsa

Professional experience:

2019- 2020 Photographer and communication officer of the Department of Law Enforcement, Doctoral Student Self-Government and National Association of Doctoral Students, National University of Public Administration

April 12, 2018- November 30, 2020 ULTINOUS Information Technology Ltd. - student work

January 29, 2018 - 31.08.2018. Salisbury Archeology Ltd - restorer assistant

September 2017 – 28 February 2018 Researcher of Interior Ministry trainee

Museum trainee

Jan. 1-15, 2014 Janus Pannonius Museum, Pécs

- Archeologist at the excavation of the Mosque
- Creating records, collecting data, inventory

1- 29 August 2014 György Thúry Museum, Nagykanizsa

- Chemical analysis of organic and inorganic archaeological materials
- Making notes, collecting data, inventory

Excavations

July 2016, Környe

Leader: Szabó Ádám, Hungarian National Museum

- Discovering the Roman Age Watchtower

July-August 2015, July-August 2014, SAX, Százhalombatta Archaeological Exploration

Chiefs of staff: Dr. Vicze Magdolna, Matrix Museum; Professor Marie Louise Stig Sørensen, University of Cambridge; Professor Joanna Sofaer, University of Southampton

- excavated the Bronze Age tell

October 1-16, 2014 RómanVilla, Szabadszentkirály

Leader: Máté Szabó, University of Pécs

September 10 - October 5, 2013 Rescue, St. John the Baptist chapel

Leader: Béla Simon, Jannus Pannonius Museum, Pécs

- Discovering the medieval chapel with five graves

June 2013 Rescue excavation near Orosháza, Árpád's cemetery

Leader: Zoltán Rózsa, Szántó Kovács Museum, Orosháza; Viktor Csányi, János Tornyai Museum

July 2012 Esztergom

Instructor: Tari Edit, Balassa Bálint Museum, Esztergom

- Exploration of prehistoric, roman and medieval sites

Membership/ other

2017-2020 NKE PhD school Local Government Representative (Law Enforcement)

2017-2020 National Association of Doctoral Students (DOSZ)

2017-2020 National Association of Law Enforcement PhDs (RDOE)

Participated in the courses of the 5th of October, 2016. 23rd of November, 2016 HENT series of lectures "Do not fall in" Workshop or Practice

September 23, 2016 - 21 October 201 BÁV master course: Glass counterfeiting today

2014-2016 Working in the University (scanning, copying, etc)

2013- Part of the Junior Member of the Association of Hungarian Archaeologists (MRSZ IT)

2012-2013 Erasmus mentor

Conferences

- | | |
|-------------|--|
| 26.05.2022. | Az olaszországi műtárgyvédelem és annak adaptálási lehetőségei Magyarországon. Műtárgyak éjszakája, Budapest. |
| 22.11.2019 | Műtárgylopások Magyarországon a Psyche Project tükrében. Haza Szolgálatában konferencia. Budapest. |
| 21.09.2019 | The protection of ecclesiastical cultural goods. European Society of Criminology. Gent, Belgium. |
| 14.06.2019 | Az egyházi kulturális javak védelmének helyzete és fejlesztési lehetősége Olaszországban, valamint Magyarországon. ÚNKP záró konferencia. Budapest. |
| 03.05.2019 | Az egyházi kulturális javak védelme a Vatikánvárosi Állam és Olaszország területén. Tavaszi Szél konferencia. Debrecen. |
| 25.04.2019 | Az egyházi kulturális javak védelme és fejlesztése lehetőségei Magyarországon. Rendészet- Tudomány- Aktualitások konferencia. Budapest. |
| 21.11.2018 | A térinformatika használata a kulturális javak védelmében. A Haza Szolgálatában konferencia. Budapest. |
| 20.11.2018 | Megelőzés és tudatosságnövelés az olasz rendészeti műtárgyvédelmi projektben. A kulturális javak védelmének rendészeti eszközzrendszere konferencia. Budapest. |

- 28.09.2018 A kulturális javak illegális kereskedelme a XXI. században. Kutatók éjszakája. Budapest.
- 2018.08.29-09.01. The importance of the cultural properties' digitalisation. 18th Annual Conference of the European Society of Criminology. Sarajevo, Bosnia and Herzegovina.
- 28.06.2018 Az adatbázis fontossága a kulturális javak védelme során. Pécs, A XXI. század biztonsági kihívásai című nemzetközi tudományos konferencia.
- 04.12.2017 'Kulturális javak illegális kereskedelme elleni fellépés Magyarországon, illetve Olaszországban' című kutatás módszertani szempontjai. Budapest, Módszertani szempontok rendészettudományi témákban
- 13-16.09. 2017 The current situation and development opportunities of the illicit trade of cultural property in Hungary. 17th Annual Conference of the European Society of Criminology. Cardiff, Wales.
- 29.06.2017 The law enforcement protection of the archaeological sites. Pécs, Szent Lászlótól, a modernkori rendészettudományig
- 05.04.2017 The fight against the illicit trade of cultural property in Hungary, compare Italy. Budapest, National Conference of PhD students at the National University of Public Service

Publications

- 2020 A kulturális javak hatékony rendészeti eszközei Olaszországban az adatbázisok és a tömegtájékoztatás tükrében. Belügyi Szemle. 68: 4 különszám. 37-48.
- 2020 Criminal geographical research of the stolen cultural properties from Hungary - based on the Psyche Project. Criminal Geographical Journal, 2020,2.szám. 19-30.
- 2020 Műtárgylopások Magyarországon a Psyche project tükrében. Haza Szolgálatában konferenciakötet. (ISBN 978-615-5586-63-7) 2019. 136-146.
- 2019 Az egyházi kulturális javak védelme a Vatikánvárosi Állam és Olaszország területén. Tavaszi Szél. III. kötet. 492-496.
- 2019 Az olasz műkincsrendőrség és a komplex műtárgyvédelmi project. Belügyi Szemle 2019/5. 71-81.

- 2019 A kulturális javak védelmének rendészeti eszközrendszere Magyarországon. Magyar Rendészet 2018/5. 113-123.
- 2018 The Italian Law Enforcement system used to protect cultural properties with particular reference to database and mass media. In: Criminal Justice Issues Journal of Criminal Justice and Security Year XVIII, Issue 5-6, 2018. p. 243-250 ISSN 1512-5505
- 2018 Kulturális javak védelmi típusai Magyarországon. In: Belügyi Szemle. 2018/12. 120-133. (ISSN: 1789-4689).
- 2018 Recenzió - Luciano Luciani: A Guardia di Finanza munkássága a nemzeti művészeti örökségek védelmében az első és második világháború után. In: Czene-Polgár Viktória - Zsámbokiné Ficskovszky Ágnes (szerk.): Innováció, elektronizáció, tudásmenedzsment. Tanulmánykötet. A Magyar Rendészettudományi Társaság Vám- és Pénzügyőri Tagozata. Budapest, 2018. (ISBN: 978-615-80567-3-1) 299-304.
- 2017 Régészeti lelőhelyek rendészeti védelme. In: Pécsi Határőr Tudományos Közlemények XIX. (HU ISSN 1589-1674) Pécs, 2017. 93-99.
- 2017 [A schengeni információs rendszer lehetőségei az illegális műkinckereskedelem elleni fellépésben.](#)
Varga János – Lukács Dalma
In: Határrendészeti Tanulmányok XVI. Budapest, 2017. (HU ISSN 2061-3997 (Online) 42-52.
- Not yet published:
- 2022 - Schiebenfibel mit christlichen figürlichen Darstellungen in: Frühes Christentum in Ungarn . L. Nagy- R. Pillinger- Zs. Visy (Hg.)
- Frühchristliche Ikonografie (Krisztina Hudák- Levente Nagy- Renate Pillinger- Dalma Lukács- Nikolett Besenyi)
in: Frühes Christentum in Ungarn .L. Nagy- R. Pillinger- Zs. Visy (Hg.)
- 2022 -The Iconographic Interpretation of Two Brooches from The Avar Period in Pannonia In: 'Artificia et Mirabilia' Anteus: Communicationes ex Instituto Archaeologico Academiae Scientiarum Hungaricae

Language skills:

Hungarian (mother tongue)

English (Fluent: Speech, Writing, Reading and Translating), State-Approved Intermediate Language Exam (B2)

Italian (Fluent: Speech, Writing, Reading and Translating), State-Approved Intermediate Language Exam (B2)

Scholarships

June 2015 / Rome, Tivoli, Ostia- Italy
Campus Hungary

2009. Sønderborg, Denmark

I participated in the BGY program, which was an environmental project with the participation of Danish politicians and the Duke.

Other projects

- 2017-2018 KÖFOP research workshop

Title: The illicit trade of workarts in Hungary

The results of the research can contribute to the prevention of organized crime, including illegal trafficking. An important part of the research is the construction of the Italian art and heritage protection system and its success. On this basis, I would like to show how the Hungarian organizations could improve and thus develop in other sectors as well.

- During the BA and MA studies, I was a member of the "Heuréka Society" and the College, in which students shared their own field of research and themes.

Budapest, 01. 06. 2022

Dalma Lukács