

# ASEJ

## Scientific Journal

### Bielsko-Biala School of Finance and Law

Volume 26 | Number 4 | December 2022

ISSN2543-9103  
eISSN2543-411X  
[www.asej.eu](http://www.asej.eu)



Bielsko-Biala

**Bielsko-Biala School of Finance and Law**  
Wyższa Szkoła Finansów i Prawa w Bielsku-Białej

**Scientific Journal**  
Zeszyty Naukowe

**Academic Quarterly Publication**  
Vol 26, No 4 (2022)

**Bielsko-Biala 2022**

## **Scientific Journal of Bielsko-Biala School of Finance and Law**

The Journal is published by Bielsko-Biala School of Finance and Law; ISSN 2543-9103, eISSN 2543-411X.

The Journal is a quarterly publication with the scoring of 70 assigned by the Polish Ministry of Education and Science, prompting quality scientific work with local and global impacts, conducting a peer-review evaluation process and providing immediate open access to its content. The publication features original research papers as well as review articles in all areas of science, with particular emphasis on social sciences (including Finance, Economics, Business, Law, Internal Security) and technical sciences (especially IT).

### **Chairman**

prof. Yevhen Krykavskyy Bielsko-Biala School of Finance and Law

### **Executive Publisher**

Assoc. Prof. eng. Jacek Binda; President of Bielsko-Biala School of Finance and Law and Editor-in-Chief of Scientific Journal of Bielsko-Biala School of Finance and Law.

### **Volume Editor**

Dr Muhammad Jammal (Dubai)

### **Editorial Board**

The Editorial Board of the Journal includes six members of the Executive Editorial Board, four thematic editors who assist in setting the Journal's policy and the Board of Reviewing Editors affiliated in domestic and foreign research centers.

**Senior Executive Editors:** prof. dr hab. Jerzy Sielski, dr hab. Maria SMEJDA, dr hab. Aleksandr YUDIN, dr hab. Bronisław Młodziejowski, prof. WSFIP mgr Grażyna Binda-Piecka,

**This issue reviewers:** prof. dr Roman Kirin, dr hab. Liubov V. Zharova, prof. Serhii Iliashenko, prof. Olena Sadchenko, dr hab. Iryna Krykavska, dr hab. Grzegorz Grzybek, prof. UR, ft hab. Wiesław Wójcik, prof. UJD, dr hab. Arkadiusz Durasiewicz, prof. CH, prof. Olha Prokopenko, prof. Inna Deineha, doc. dr Janina Lisun,

**Editorial Web and New Media:** Assoc. Prof. eng. Jacek Binda

**Secretarial Office of the Journal:** mgr Marta Kijas

**Journal Cover Designer:** Assoc. Prof. eng. Jacek Binda

**Journal Copyeditor:** UPR PASJA, ul. Nowy Świat 23a, 43-190 Mikołów,

**Journal Proofreader:** mgr Marta Kijas

The **papers published** in the Journal are free and online open access distributed (Creative Commons Attribution CC-BY-NC 4.0 license). The Publisher cannot be held liable for the graphic material supplied. The printed version is the original version of the issued Journal. Responsibility for the content rests with the authors and not upon the Scientific Journal or Bielsko-Biala School of Finance and Law.



### **The Scientific Journal Office**

Bielsko-Biala School of Finance and Law University Press  
ul. Tańskiego 5, 43-382 Bielsko-Biała;  
tel. +48 33 829 72 42, fax. +48 33 829 72 21; <http://www.wsfip.edu.pl>; <http://asej.eu>

ISSN 2543 – 9103 eISSN 2543-411X

December – 2022

# Contents

<b>Tomasz Jabłoński</b> <i>"Family office" development in Poland - true or fiction? Legal analysis</i> .....	6
<b>Joanna Toborek-Mazur</b> <i>Mergers and acquisitions on the example of the PKN Orlen in 2022</i> .....	12
<b>Karol Partacz</b> <i>Creating value through synergy in mergers and acquisitions</i> .....	18
<b>Rafał Lach</b> <i>Written witness testimony</i> .....	26
<b>Zbigniew Tetlak</b> <i>Municipal waste management in the light of C. Wolf's non-market supply features</i> .....	30
<b>Wojciech Jakubiec</b> <i>Cybercriminals and criminal structures in the world of organized crime</i> .....	36
<b>Rafał Lach</b> <i>Courts of the peace within the legal system of the Republic of Poland</i> .....	40
<b>Aleksander Sapiński, Mariusz Kuliński, Piotr Pindel</b> <i>Cooperation of psychology and criminology in investigative activities</i> .....	45
<b>Zbigniew Tetlak</b> <i>The role of innovation in reducing dependence on crude oil?</i> .....	50
<b>Aleksandra Kurak, Dariusz Szydłowski</b> <i>Criminological aspect of suicide in Poland in the period 2014-2019</i> .....	60
<b>Monika Lisiecka</b> <i>Draft Law on civil protection and the state of natural disaster – constitutional analysis</i> .....	71
<b>Tomasz Ślarczyński</b> <i>Artificial Intelligence in science and everyday life, its application and development prospects</i> .....	78
<b>Kateryna Kalynets, Yevhen Krykavskyy and Hasanov Gikmat Bachman oglu</b> <i>E-sports marketing as an Integral Part of Virtual Development of Modern Society</i> .....	86
<b>Jacek Binda, Lidia Bolibrukh</b> <i>Pandemic covid-19 as a catalyst of the global logistic crisis and digitalization systems</i> .....	91
<b>Jolanta Pochopień</b> <i>Potential for implementation of the development of integration concepts economics and ecology in the economic activity of social systems</i> .....	96

<b>Paweł Ostachowski, Sabina Sanetra-Pólgrabi</b> <i>Specificity, conditions and trends in modern public financial management in Poland</i> .....	103
<b>Yevhen Krykavskyy, Kateryna Stasiuk</b> <i>Digital transformation in the automotive supply chain: trends and cases</i> .....	113
<b>Justyna Fibinger-Jasińska</b> <i>Implementation of the right to court and conducting remote hearings in civil proceedings.</i> .....	118
<b>Waldemar Wagner, Stanisław Ciupka</b> <i>The importance of gantiscopy in forensic technology</i> .....	122
<b>Beata Hoza</b> <i>Determinants of the VAT gap - part 2</i> .....	125
<b>Władysław Świątek</b> <i>Digitization of Administration in Poland on the Example of Services Rendered by the Social Insurance Institution (ZUS)</i> .....	131
<b>Piotr Pindel</b> <i>Suicide by hanging - methodology of proceeding during the examination of the event</i> .....	141
<b>Serhii Kasian, Kateryna Pilova Yurii Makukha</b> <i>Promotion of the global Mobil brand: information technologies in marketing, analysis of marketing activities</i> .....	145
<b>Robert Samsel</b> <i>Cardinal August Hlond the spiritual mentor of John Paul II?</i> .....	151
<b>Illia Klinytskyi</b> <i>Language rights and official language in constitutionalism. Do bilingual states give us more rights for our language?</i> .....	157

## ***Editorial Words***

*Dear esteemed readers,*

It is my great pleasure to welcome you to the latest edition of ASEJ, the academic journal that brings you the latest research in the fields of law, economics, logistics, finance, psychology, criminology, computer science, and security. This issue features a diverse range of articles from leading experts in these fields, showcasing their latest research and insights into current trends and challenges.

As we continue to face unprecedented challenges and rapidly evolving technological advancements, it is more important than ever to stay up-to-date with the latest research and trends in these fields. This issue of ASEJ offers valuable insights and perspectives that are essential for anyone seeking to stay at the forefront of their respective disciplines.

We would like to take this opportunity to express our sincere gratitude to the authors for their hard work and contributions to the advancement of knowledge. We would also like to acknowledge the invaluable support of the Bielsko-Biala School of Finance and Law for their continued commitment to publishing this journal, which serves as a platform for the exchange of the latest knowledge and insights.

Virtual reality (VR) technology has been advancing at a rapid pace, and with its growth come a range of challenges in various fields, including economics, law, security, and computer science. In the realm of economics, one challenge is determining how to integrate VR technology into existing business models. VR has the potential to revolutionize the way companies conduct business, but it also requires significant investment and infrastructure to do so. Additionally, there are concerns about how VR will impact the job market, as it could potentially eliminate the need for certain types of jobs while creating new ones in the VR industry.

In this issue, we also explore the growing significance of virtual reality in law, economics, finance, and security. As VR technology continues to evolve, it presents both opportunities and challenges in these fields. For example, in economics, VR has the potential to revolutionize the way businesses operate, but it also requires significant investment and infrastructure. In law, the use of VR raises important questions around data protection, privacy, and intellectual property rights. In finance, VR can be used to enhance customer experiences and provide new insights into investment opportunities. In security, VR presents new risks and challenges, such as ensuring the safety of users and protecting sensitive data from cyber threats.

We hope that this issue of ASEJ will prove insightful and informative for our readers, and we look forward to your feedback and contributions in future editions.

Sincerely,

*Dr Muhammad Jammal*  
*Editor of the ASEJ, Issue 4, Volume 26, 2022*

# The importance of gantiscopy in forensic technology

Waldemar Wagner<sup>1</sup> Stanisław Ciupka<sup>1</sup>

<sup>1</sup>Bielsko-Biala School of Finance and Law  
Poland

**Abstract**— The article discusses the field of forensic technology known as Gantiscopy, which focuses on identifying traces of gloves left at a crime scene. The article emphasizes that criminals often use gloves to avoid leaving fingerprints, but they may not realize that gloves can leave their own unique traces. The article presents methods for examining traces of leather gloves and highlights the importance of identifying the type of glove based on its material, cut, purpose, and structure. The article also notes that the examination of glove traces can be a valuable part of forensic evaluation and typing expertise, even if the evidentiary value of such evidence is limited. Ultimately, the article suggests that the use of modern forensic technology can help identify perpetrators of crime by analyzing a wide range of traces left at a crime scene, including traces of gloves.

**Keywords**— gloves, security, police, forensic.

## I. INTRODUCTION

Gantiscopy is a branch of forensic technology whose primary task is to reveal traces of gloves as well as their identification. The conduct of perpetrators of various crimes is very well known, and they often use gloves to avoid leaving fingerprints at the crime scene. Criminals do not realize that the use of gloves does not protect them from leaving traces of gloves at the crime scene (Gruza, Goc, Moszczyński, 2020, p. 385). This article aims to present the issue of examining traces of leather gloves and to present the methods of their use in forensic expertise. It is intended to present the problem of the reproduction of skins that may occur as reproductions at the scene of the incident. Forensic traces present at each scene of the incident make it possible to reconstruct the course of the prohibited act and, above all, to identify the perpetrators of the crime. They are the subject of more and more comprehensive research, which is possible thanks to modern forensic technology. At present, the most frequently secured traces are biological traces and fingerprints. Equally important for determining the perpetrator of the crime may also be other traces left at the scene, including mimics of gloves. In the

absence of comparative material, these traces are often examined as part of forensic evaluation and typing expertise:

“Although the evidentiary value of such an expert opinion is insignificant, it can significantly direct the conducted preparatory proceedings (Wroński, 1994).

It should be noted that the perpetrators at the crime scene may use various types of gloves, hence it is necessary to present them accurately due to the type of materials used, cut, purpose and structure of the traces they leave. Currently, there are gloves on the market in a wide range. According to the methodology of conducting examinations of glove marks, we can distinguish the following groups of gloves:

- leather gloves, leather-like gloves with a knitted or fabric insert,
- leather gloves, imitation leather without insert,
- suede gloves,
- cloth gloves,
- rubberized fabric or knitted gloves,
- woven or knitted gloves with grip-enhancing elements,
- knitted gloves,
- combination gloves,
- rubber work gloves,
- surgical latex gloves,
- foil work gloves,
- nitrile work gloves.

After these initial remarks, we wanted to dwell on the following problem for a moment.

## II. LEGAL AND TECHNICAL ASPECTS OF SECURING EVIDENCE.

During procedural activities conducted by the Police and other law enforcement authorities, evidence is secured at the scene.

The traces of gloves are often revealed. Their technical protection is no different from securing other dactyloscopic traces. They are recorded using commonly recognized forensic methods both at the crime scenes (CPC, Art. 207) and in





laboratory conditions as part of a visualization expertise (CCP, Art. 193, 194, 198).

Evidence also includes gloves secured at the scene of the incident during procedural activities such as:

- visual inspection (CPC, art. 207);
- and secured during the search:
- search of a place and a person (CCP, art. 219, 220);
- delivery of things (CIC, art. 217).

Process activities related to the disclosure and technical protection of traces of gloves and gloves are documented in the following protocols: visual inspection, search or seizure of items. When securing gloves, we prepare a trace record, permanently connected to the evidence.

When securing gloves, remember that they must not be destroyed, damaged or change their properties. Gloves in forensic examinations can be used not only in the expert opinion in the field of glove traces, but also in microtraces, DNA, osmological and other tests.

As part of the commissioned expert opinion in the field of examining glove marks, one of the basic activities is to make comparative mappings with evidence gloves.

Before proceeding with the preparation of the comparative material, we make an initial assessment of the evidence mapping in order to select the part of the glove from which it comes. The next step is to make copies of the appropriate fragments of the glove. Comparative projections are performed many times to obtain satisfactory results. Such results are considered to be the achievement of the same characteristics (group, individualizing, specific) on the evidence and comparative material or characteristics showing differences.

We try to make comparative projections using the same techniques as secured evidence. The purpose of these activities is to demonstrate the same nature of the representations on the evidence and comparative materials. Therefore, we use the same means, methods, substrates and try to obtain the same or similar conditions as existed when securing the evidence, i.e., when performing comparative mappings, it is advisable that the person putting on the gloves have hands of a similar size to the hands of the person who could have left the evidential mappings with these gloves. For the completeness of the evidence, or in the event of difficulties in determining the size of the hand of the person who used the gloves, the mappings are made by several people with different hand sizes.

Currently, the following gloves are the most widely available on the market. According to the methodology of conducting examinations of glove marks, we can distinguish the following groups of gloves:

- leather gloves, leather-like gloves with a knitted or fabric insert,
- leather gloves, imitation leather without insert,
- suede gloves,
- cloth gloves,
- rubberized fabric or knitted gloves,
- woven or knitted gloves with grip-enhancing elements,
- knitted gloves,
- combination gloves,
- rubber work gloves,

- surgical latex gloves,
- foil work gloves,
- nitrile work gloves.

In the literature on the subject, there is also another division of gloves, namely:

- full gloves - the basic pattern is made of one piece of material,
- one-finger gloves - gloves with a separate cover for the thumb and other fingers joined together,
- combined gloves - top and bottom are made of leather in combination with other materials or their elements are made of different materials,
- Marlenka gloves - the basic pattern consists of two components (top and bottom),
- five-finger gloves - gloves with separate covers for each finger,
- leather gloves - made entirely of natural leather, except for the lining,
- vampire gloves - made of knitted fabric coated with rubberized material,
- suede gloves - made of thick leather with flesh on the outside.

Another division into the types of gloves used is made due to the commonness of use, which is illustrated in the table below.

After a general discussion of the types of gloves used in everyday life, we want to move on to discussing the types of traces people leave at a crime scene.

### III. TYPES OF GLOVE MARKS – CONCLUSION

In the comments below, unless we cite another source, we will rely on the views of the authors mentioned above, i.e. E. Gruza, M. Goc, J. Moszczyński (2020).

In the literature on the subject, due to the mechanism of glove marks, the following marks are distinguished: applied with a sweat-fat substance, greasing substances and other substances (e.g., colored), delaminated, and recessed. We will now briefly try to discuss the essence of these traces. Criminals, using gloves, apply a sweat substance to their surface, which is present on the hands or other parts of the body. We must also remember that leather gloves are already greased at the time of their manufacture in order to provide them with high resistance to the effects of humidity and additionally provide them with considerable flexibility. Similar lubricating substances are used in the production of latex and rubber gloves. Lubrication is not carried out in relation to gloves made of fabric or knitwear. When examining the traces on the gloves, we must take into account the fact that their surfaces may be soiled with various substances, for example: blood, grease, paint. The applied dirt is called traces on gloves in gantiscopy. The second type of traces on gloves that we encounter at the crime scene is the so-called detached traces. This type of marks is created when touching a surface covered with dust, grease or other substances. The third type of glove marks is the so-called indented marks, which were created during the contact of gloves with soft surfaces, such as wax, putty, fresh paint, etc. (Bartnicki, 1973, Jagielska, Łabaj, 1977, Kałwak, Tomanek,



1977, Gruza, Goc, Moszczyński, 2020). The division of glove marks is also made taking into account the material from which the gloves were made. The aforementioned M. Wroński distinguishes the following types of traces:

- traces of gloves made of leather and leather-like materials (with or without an insulating insert) - this type of traces shows the plot structure of the skin. E. Gruza, M. Goca, J. Moszczyński, however, indicate that in the case of gloves with a woven or knitted insert and made of soft and thin leather that is poorly greased, a trace of the insert is sometimes formed in the form of lines running perpendicular to the axis of the trace, instead of a plot structure or with it. Additionally, seams are also reproduced on these traces (2020, p. 386).
- traces of suede gloves - when used by a person at the crime scene, they are the only leather gloves that do not leave traces in the form of a plot structure, and only stains with characteristic reproductions of hairs and possibly damage, bends, refractions are left, and therefore, according to specialists, they are of rather low value for identification purposes.
- traces of gloves made of polyvinyl chloride - in general, their traces are similar to traces on leather gloves and reflect the plot structure.
- traces of fabric gloves - have the appearance of intersecting lines forming a grid in the form of squares, rhombuses, etc. or lines running parallel to each other. A seam can also be mapped on the trace.
- traces of gloves made of fabric with a protector made of rubber (or a similar material), increasing their grip and resistance to damage (work gloves), usually reflect the structure of regularly located geometric figures
- traces of knitted gloves - they have the appearance of characteristic chains or wavy lines. In principle, we do not find any reproduction of seams in these traces. However, similar marks can come from a sweater, socks, etc.
- palm parts of latex (rubber) gloves - they are covered with a protector in the form of symmetrically arranged dots or other geometric figures and in many cases, they resemble traces left by fabric gloves with a rubber protector.
- surgical latex gloves - they most often leave traces in the form of stains, but of little identification usefulness, although, as it is said in the literature, sometimes piercing fingerprint lines are visible on them. If it was possible to secure this type of gloves used by the perpetrator of the crime, then, according to gantiscopy specialists, there is a possibility of revealing his fingerprints on their inside, with one caveat that their palm part should be carefully cut off from the top, or they should be used for genetic research.

To close this point of our considerations, let us add that the same methods and means are used to reveal and secure glove marks that are used in dactyloscopy to visualize fingerprints.

#### IV. REFERENCES

Bartnicki E., 1973. Comparative studies of glove marks, in: *Problemy kriministyki*, No. 106, p. 748.

Gruza E, Goc M., Moszczyński J., 2020. *Criminalistics, or modern methods of proving crimes*. Warsaw. ed. Wolters Kluwer.

Jagielska W., Labaj E., 1977. More attention to the traces of leather gloves, in: *Problemy Kryminalistyki*, No. 126, p. 263.

Kalwak W., Tomanek W., 1977. A few remarks on glove marks, in: *Problems of Criminalistics*, No. 127-128, p. 434.

Wagner W., 2009. The structures of glove leathers, which may be reproduced at the scene of the incident. Warsaw. Central Forensic Laboratory of the Police Headquarters.

Wroński M., 1994. *Forensic examination of glove marks*. Warsaw. ed. CLK KGP.

## WSFiP conducts research and educates students in the following fields:

### **Finance and Accounting**

- Treasure Administration
- Banking
- Corporate Finance
- Accountancy
- Accounting and Finance in Public Sector Institutions
- Corporate Accounting and Controlling
- Audit
- Management and Finance in Real Estate

### **Cyberspace and Social Communication**

- Communication and Image Creations
- Safety in the Cyberspace

### **Internal Security**

- Administration and Management in Security
- Security and Public Order
- Security and Development in Euro-region
- Security of Information and Information Systems
- Security in Business
- Criminology and Investigative Studies
- Criminology and Forensics
- Protection of People and Property
- Public Order Agencies

### **Law**

- this program gives strong legal foundations to undertake further professional training for judges, prosecutors, attorneys, notaries, bailiffs.

### **Administration**

- Fiscal Administration
- Local Government Administration

### **Logistics**

- this program gives good preparation for work in logistics companies as well as in other economic and administrative units.

### **Information Technology**

- Databases and Net Systems
- Computer Graphics and Multimedia Techniques
- Design of Applications for Mobile Devices
- IT Services in Public Administration Units

### **Postgraduate courses**

- Administrative studies
- Fiscal Administration
- Law and management in health service

