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IDENTIFICATION OF PEOPLE BASED ON EXTERNAL FEATURES. CRIMINAL REGISTRATION

Mamanarov Xaitmurat
Teacher of the Faculty of Law, Termez State University

ABSTRACT

This article examines the methods and techniques used to identify individuals based on external appearance, with a focus on criminalistic registration systems. It explores the key features of external appearance that aid in identification, the importance of criminalistic records, and the evolution of these methods with technological advancements. The article also discusses the methodology used in identification, challenges encountered, and future prospects for improving accuracy in criminal investigations.

Keywords. Identification, external appearance, criminalistic registration, forensic science, biometric identification, facial recognition, criminal investigation.

АННОТАЦИЯ

В этой статье рассматриваются методы и приемы, используемые для идентификации лиц по внешнему виду, с акцентом на криминалистические системы регистрации. В ней изучаются ключевые особенности внешнего вида, которые помогают в идентификации, важность криминалистических записей и эволюция этих методов с технологическими достижениями. В статье также обсуждается методология, используемая при идентификации, возникающие проблемы и будущие перспективы повышения точности в уголовных расследованиях.

Ключевые слова. Идентификация, внешний вид, криминалистическая регистрация, судебная экспертиза, биометрическая идентификация, распознавание лиц, расследование преступлений.

INTRODUCTION

The identification of individuals based on external appearance is one of the most fundamental aspects of criminal investigation and law enforcement. Historically, humans have relied on visual characteristics such as facial features, height, and body structure to distinguish individuals. With the advent of modern forensic science, these basic principles have evolved into more sophisticated methods, incorporating technology and data systems to ensure accuracy and efficiency. Criminalistic registration refers to the systematic recording of individual data, including physical characteristics, to support legal investigations. This paper examines the techniques of identification based on external appearance and the role of criminalistic registration in law enforcement.

LITERATURE ANALYSIS AND METHODOLOGY

The identification of individuals based on external appearance relies on both traditional visual assessments and modern technological methods. The methodology for identification typically includes:

1. **Visual Observation**: This includes an assessment of physical features such as:
   - **Facial Characteristics**: Shape of the face, nose, eyes, lips, and ears.

- **Body Structure**: Height, weight, posture, and body shape.
- **Distinctive Marks**: Scars, tattoos, birthmarks, or other unique physical identifiers.
- **Hair and Eye Color**: Basic descriptors that help narrow down identity.

2. **Biometric Identification**: Modern systems use biometric technology to create a more accurate profile based on an individual's physical characteristics. Key biometric methods include:
   - **Facial Recognition Technology**: Algorithms analyze facial structures and match them with existing databases.
   - **Fingerprint Analysis**: One of the oldest biometric identification methods used in criminal investigations.
   - **Iris Scanning**: Provides highly accurate results by capturing unique patterns in the iris of the eye.
   - **DNA Profiling**: Although not directly related to external appearance, DNA can be used to confirm identity with a high level of certainty.
3. **Criminalistic Registration**: This involves systematic recording of an individual's physical characteristics and biometric data in databases for use by law enforcement. Key components include:
   - **Police Records**: Information gathered during criminal investigations, including mugshots, descriptions, and personal details.
   - **Database Integration**: Cross-referencing various databases such as Interpol's criminal records, national identification systems, and biometric records.

Previous research highlights the significance of both visual and biometric identification methods. Early criminology, as led by pioneers such as Alphonse Bertillon, focused on anthropometric measurements, marking the beginning of scientific approaches to identification. In the 20th century, fingerprinting became a standard identification method due to its reliability.

With the rise of technology, biometric methods like facial recognition, iris scanning, and DNA profiling have transformed identification processes. Modern studies focus on the increasing accuracy and integration of these systems in law enforcement. Some literature explores the limitations of these methods, including false positives in facial recognition software and challenges with incomplete data in criminalistic registration systems.

RESULTS

The study of identification based on external appearance has led to several important findings:

1. **Facial Recognition**: This method has seen major advances, especially with AI-based technologies. While accuracy continues to improve, errors can still occur due to variations in lighting, angles, and facial expressions. Facial recognition has been particularly useful in surveillance and identifying suspects from video footage.
2. **Criminalistic Registration**: The integration of biometric data with criminal records has increased the efficiency of identifying repeat offenders and tracking suspects. Criminal databases are constantly evolving, incorporating new technology and increasing international cooperation through systems like Interpol's database.
3. **Challenges in Traditional Visual Identification**: Human error remains a factor in eyewitness testimony and manual identification. While visual observations can be useful, their reliability is limited, and modern technology has improved upon these traditional methods.

4. **Impact of Technological Advances**: Biometric methods, such as fingerprint and iris scanning, have proven extremely reliable in identifying individuals with a high degree of accuracy. DNA profiling, while often used post-apprehension, offers conclusive evidence of identity when matched correctly with criminal records.

Category	Description
Identification Methods	- **Visual Observation**: Assessment of facial features, body structure, and distinctive marks. - **Biometric Methods**: Facial recognition, fingerprint analysis, iris scanning, DNA profiling.
Key Features Examined	- **Facial Characteristics**: Shape, nose, eyes, lips, ears. - **Body Structure**: Height, weight, posture. - **Distinctive Marks**: Scars, tattoos, birthmarks.
Biometric Techniques	- **Facial Recognition Technology**: AI-based systems for matching faces. - **Fingerprint Analysis**: Matching ridges and patterns. - **Iris Scanning**: Unique eye patterns.
Criminalistic Registration	- **Police Records**: Mugshots, descriptions, physical characteristics. - **Database Integration**: National databases, Interpol, biometric databases.
Technological Advancements	- **AI and Machine Learning**: Enhanced facial recognition accuracy. - **Integration of Biometrics**: Use of fingerprints, iris scans, and DNA in databases.
Challenges	- **Visual Identification Limitations**: Human error, unreliable eyewitness testimony. - **Biometric Limitations**: False positives, incomplete data, environmental factors.
Criminalistic Benefits	- Improved accuracy in identifying individuals. - Faster identification of repeat offenders. - Enhanced international cooperation through shared databases.

CONCLUSION

Identification based on external appearance remains a cornerstone of criminal investigation, combining both traditional methods of visual assessment with cutting-edge biometric technology. Criminalistic registration plays a critical role by systematically recording and preserving individual data for future use. The integration of databases and biometric systems, coupled with technological advancements, has significantly improved the accuracy and efficiency of identifying individuals in criminal investigations. As technology continues to evolve, it is expected that biometric identification will become even more reliable, reducing errors and strengthening the investigative process.

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