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PARTICIPATION OF FORENSIC EXPERTS AT A CRIME SCENE SEARCH: EXPERIENCE OF THE USA

A crime scene examination is an essential aspect of the criminal justice process in the United States, serving as the basis for gathering physical evidence that can lead to the identification and conviction of perpetrator. Forensic specialists, or forensic experts, play an important role in this process of applying scientific methods and their special knowledge to provide the quality collection, preservation, and analysis of physical evidence. Therefore, familiarization with the US experience in conducting crime scene investigations and borrowing from it will contribute to the improvement of investigation tactics and methods in Ukraine.

Forensic experts are integral to the comprehensive processing of crime scenes to maintain the integrity of evidence. Forensic experts have to document the crime scene using photographs, plans, and diagrams to create the most accurate registration of the scene. This documentation ensures that the scene's original state is preserved for further analysis and possible future demonstration in the courtroom. These experts must also identify and collect physical evidence, such as fingerprints, footprints, tire tracks, biological specimen, and others residues using techniques and methods that prevent contamination of the scene. Forensic experts follow a systematic approach starting with an initial assessment and continuing with evidence collection, ensuring harsh compliance with all regulatory laws. [1, p.25-37]

Moreover, forensic experts are responsible for prioritizing evidence collection and documentation based on its tendency to change or disappear easily. For example, biological evidence such as bloodstains or DNA, odors, must be collected immediately to prevent changes in their original properties and characteristics. This methodological process requires not only technical knowledge, but also a deep understanding of the legal norms governing the admissibility of evidence. [2, p. 2 -3]

Since forensic expertise is the basis for effective crime scene investigation, Forensic experts are trained in various forensic disciplines, including fingerprint analysis (dactyloscopy), ballistics, toxicology, and digital forensics, enabling them to handle diverse types of evidence. Forensic scientists must apply scientific methods to analyze evidence both at the scene and in the laboratory, ensuring the accuracy of research results. For example, an expert can use different types of lighting, such as perpendicular, oblique, diffused, and others, to detect invisible fingerprints or traces of biological liquids that are not visible to the naked eye. [3]

An important aspect of crime scene investigation involving a forensic scientist is the integration of this specialist into multidisciplinary investigation teams, which often include law enforcement officials, forensic medical experts, and prosecutors from the outset. This collaboration, known as the “team approach,” allows forensic experts to provide rapid conclusions using an investigation strategy directly at the scene of the crime, rather than simply collecting evidence post facto. This early involvement helps investigators make quick decisions about which evidence is most relevant to a particular case and evaluate the results of the forensic scientist's work directly at the scene. In addition, many US jurisdictions employ crime scene analysts or crime scene investigators who possess a combination of law enforcement skills and forensic knowledge [2, p.1].

Additionally, forensic scientists must stay updated on emerging technologies and methodologies. Jacqueline Trinkle Fish's doctorate dissertation «A Forensic Investigation Program to Bridge the Gaps Between Crime Scene Investigation and Forensic Science» highlights the importance of educational programs that train forensic experts to apply new forensic technologies at crime scene processing. For instance, achievements in DNA analysis, such as rapid DNA testing, have enhanced the ability of specialists to provide timely evidence analysis, which may be crucial in investigations that need to be resolved as quickly as possible. This proficiency ensures that forensic experts contribute to both the immediate investigation and the long-term development of forensic science. [4, p. 27 - 30]

Furthermore, forensic scientists sometimes serve as a witness at a courtroom. Their detailed reports and expert testimony are often critical in legal proceedings, where they must explain complex

scientific findings to judges and juries. Forensic scientists must possess communication skills to translate technical concepts into understandable terms for non-expert audiences. This role extends beyond law enforcement and includes interacting with prosecutors and attorneys to ensure that evidence collected at the scene contributes to broader investigations and court proceedings. [3, p.3]

One of the challenges for forensic scientists is the need for continuous professional development. As forensic science evolves, experts must keep abreast of new technologies and legislative requirements, which can be resource-intensive. Gaps in training programs may hinder the ability of forensic experts to apply the latest methods, which could potentially affect the quality of investigations. Additionally, forensic scientists often work under high-pressure conditions, where errors can have significant consequences, such as wrongful convictions or acquittals. Maintaining objectivity and adhering to ethical standards is extremely important in order to avoid bias.

Therefore, crime scene investigation in the United States is an extremely important aspect of pre-trial investigation, relying on forensic experts to collect, preserve, and analyze physical evidence. Through comprehensive documentation, priority processing of biological materials such as blood and odors, and modern techniques such as rapid DNA testing, these experts ensure the integrity of evidence and its legal admissibility. Multidisciplinary training in fingerprinting, ballistics, toxicology, and digital forensics, combined with continuing education, allows them to adapt to modern realities. Forensic experts also serve as a link between the crime scene and the courtroom, providing clear expert testimony and explaining their findings. However, challenges remain as following: the need for ongoing professional development, the need for resources, and the need to maintain objectivity to prevent bias or miscarriages of justice.

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THE POLICE A COMPONENT OF THE NATIONAL SECURITY SYSTEM: CONTEMPORARY CHALLENGES

A foundational premise for comprehending the role of the police in the contemporary context is the shift in the security paradigm itself, codified by the enactment of the Law of Ukraine “On National Security of Ukraine” (No. 2469-VIII). This legislative act represents a watershed moment, as it definitively integrated the law enforcement system into a unified security and defense sector (Article 12 of the Law) [1, Art. 12]. Whereas law enforcement agencies previously operated with a degree of autonomy from defense structures, the new legislative framework has established a cohesive state defense perimeter. Within this framework, the National Police transcends its traditional function as a crime-fighting body to act as a strategic entity responsible for ensuring national resilience. This incorporation into the overarching security architecture implies that police operations are governed by the sector’s fundamental principles, particularly democratic civilian control, thereby aligning with the standards of EU and NATO member states [1].