Forensic Science History

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Author Note

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Forensic science has gradually evolved over the past century to become a vital component of law enforcement and legal practice today. The paper will briefly examine the historical development of forensic science and the role played by forensic experts in applying its sciences as they pertain to its various capabilities.

# History and Development

Forensic science traces its origins to nearly a thousand years back in history. Among the first use of forensics was fingerprinting, used by the Chinese, to identity authentic business documents from forged ones. By the 12th century, the Chinese also came to distinguish between criminal intent and natural death in the case of drowning; the former was characterized by a damaged cartilage (Siegel & Saukko, 2013). In the western hemisphere, 18th-century scientist Karl Scheele learned how to detect traces of arsenic poisoning in victims. While in the early 19th century, microscopes started being used to assess semen and bloodstains. Similarly, the distinctive nature of fingerprint patterns began to be recognized by the early 1800s, however, it took decades more to apply this knowledge for identification purposes.

The first documented case of comparing bullets to identify the perpetrator of a shooting incident was seen in 1835, when Henry Goddard traced a flaw in the bullet's design to the original mold to catch the criminal. However, even as newer forensic techniques and research began to emerge, it took until the 20th century for law enforcement to incorporate specialized forensic teams to analyze the evidence collected from crime scenes (Siegel & Saukko, 2013). One of the first police crime laboratory was set up by Edmond Locard in 1910 for the purpose. Since that time, forensic science witnessed a rapid expansion which provided a range of sophisticated tools to investigators for analyzing evidence. 21st-century forensic science relies on technologies such as digital fingerprinting retrieval, computer databases, and polymerase chain reaction (PCR) to analyze DNA samples.

# Roles of Forensic Science Experts

Forensic science experts can either be specialists in a particular area of forensics or be generalists who are expected to perform a range of associated tasks. Generalist forensic experts are often termed criminalists who are often both laboratory analysts and crime scene investigators. On the other hand, forensic science specialists are expected to apply their particular knowledge of an area in forensic science to aid in the investigation of a case. For instance, digital forensic analysts are experts who specialize in investigating computer-based crimes. Data is collected and analyzed to prosecute and uncover electronic fraud, identity theft, or computer-based scams (Daéid, 2010). Experts in forensic pathology conduct various forms of tests using chemicals to detect the presence of drugs, perform DNA tests, or investigate types of injuries that leave biochemical marks. Their mandate is to provide expert opinion, information and professional guidance to law enforcement agencies to solve criminal activities, through developing evidence materials, documenting reports, and testify in courts as experts.

Forensic science experts also serve to combine scientific methods and procedures with the human factor to help interpret a crime or incident under investigation. In most cases, scientific evidence requires human understanding and interpretation to translate data unto information that a court of law can use to serve justice. Therefore, both generalists and specialists in forensic science are tasked to prepare documented reports to present their investigative methods, findings, and conclusions to aid detectives, lawyers, and other officials in criminal prosecution (Daéid, 2010).

# Capabilities of Forensic Science

Forensic science can help collect and test various evidence materials for a range of functions. Law enforcement agencies and criminologists rely on forensic capabilities primarily for its crime-solving contributions, owing to its ability to identify suspects, determinthe e cause of death, profile criminals, and search for missing persons. Moreover, it can provide information about the manner of death through autopsies and narrow down suspects by analyzing minute pieces of evidence such as hair, fibers, fingerprints, and blood (Siegel & Saukko, 2013). Furthermore, forensic science can help locate missing people through methods such as image modification and aging. It can also help profile suspects and identify the personality and usual patterns of the perpetrator; thus, aiding in civil and criminal prosecution. Moreover, it can relieve innocent suspects of guilt especially using DNA evidence. Recent advancements in forensic science can analyze the human genome to predict ancestry or features such as hair or eye color to aid in investigations (Scudder, McNevina, F.Kelty, Walsh, & Robertson, 2018).

# References

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