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Behind the Mask of Lies: Forensic Science in Distinguishing Accidental and Homicidal Death

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ABSTRACT: Determining the cause and manner of death is pivotal in forensic science, especially in distinguishing between accidental and homicidal deaths. This study examines a murder case disguised as an accident at the Bharat Mala Project in Janjgir Champa district. Initially reported as an accident involving an overturned autorickshaw and a severely disfigured body, forensic analysis uncovered the truth. Detailed crime scene investigation revealed the victim was murdered with a large concrete block, and the scene was staged to mislead authorities. Crucial evidence, including a liquor bottle purchased via UPI in Bilaspur, mobile phone data, and bloodstains, pointed investigators toward the perpetrator. Cyber forensics played a significant role, tracking the suspect's movements and leading to his arrest in Korba. The autorickshaw driver confessed to murdering the victim after a dispute, switching clothes with him, and disfiguring his face to complicate identification.

The research methodology integrated traditional forensic techniques with modern digital tools. Physical evidence such as blood-stained objects and cyber data from mobile devices and UPI transactions proved instrumental in reconstructing the crime. These findings underscore the importance of combining physical and digital evidence to resolve complex criminal cases.

This case highlights the effectiveness of blending traditional forensic science with advanced cyber forensics to uncover staged crime scenes. The investigation demonstrates the vital role of technology in modern criminal justice, ensuring accurate conclusions and the delivery of justice.

KEYWORDS: Forensic science, accidental deaths, homicide, cyber forensics, staged crime scenes, digital evidence.

I. INTRODUCTION

Determining the cause and manner of death is a cornerstone of forensic science. In cases where the circumstances are unclear, forensic investigators face the challenging task of distinguishing between accidental and homicidal deaths. Such determinations are critical for ensuring justice and providing closure for victims' families. Advances in forensic methodologies, including the analysis of blood spatter patterns, post-mortem injuries and observation and analysis of the evidence found at the crime scene have significantly enhanced the ability to uncover the truth behind suspicious deaths (Kosariya, Mishra, Chandra, & Chakraborty, 2024; Nagwanshi, Kosariya, Kujur, Mishra, & Chandra, 2024; Nagwanshi, Kosariya, Mishra, Chandra, & Chakraborty, 2024). However, the field continues to grapple with inherent complexities, such as the potential for misleading evidence and interpretive errors.

Accidental deaths often involve unintentional harm, such as falls, overdoses, or motor vehicle accidents, whereas homicidal deaths stem from deliberate actions taken to end a life. While forensic evidence serves as an objective tool, its interpretation can be influenced by cognitive biases, incomplete data, and limitations in technology (Houck &

Siegel, 2015). In light of these challenges, forensic scientists must employ a multidisciplinary approach, integrating pathology, biomechanics, and investigative expertise, to draw accurate conclusions.

This paper examines the role of forensic science in distinguishing between accidental and homicidal deaths. By reviewing key forensic techniques and exploring case studies, it aims to highlight the strengths and limitations of current practices while underscoring the importance of continuous advancements in the field.

The investigation into a mysterious death at an under-construction site of the Bharat Mala Project in Janjgir Champa district unraveled a complex crime, blending physical evidence with modern forensic techniques. On receiving a distress call from the police post, investigators were dispatched to the crime scene, which was a desolate stretch of cement concrete Road 130A surrounded by dense forests. What appeared at first glance to be a tragic accident involving an overturned autorickshaw and a dead body soon evolved into a meticulously orchestrated murder. The presence of scattered debris, including a liquor bottle, peanut peels, and blood stains, alongside the severely disfigured body, pointed towards foul play. Through a combination of traditional forensic methods and cutting-edge digital tools, such as call logs and UPI payment tracking, the investigation methodically uncovered the real events, leading to the arrest of the primary suspect—who had gone to great lengths to disguise his involvement and mislead authorities. This case highlights the importance of integrating.

Aims and objective: The present papers aims and objectives can guide the investigation and help ensure a thorough approach to uncovering the truth behind the mysterious death.

II. RESEARCH METHODOLOGY

This research follows a comprehensive forensic investigation approach to analyze the circumstances surrounding the death at the under-construction Bharatmala Project in the Janjgir Champa district. The investigation methodology incorporates both qualitative and quantitative techniques, including crime scene analysis, forensic examination of physical evidence, digital data retrieval, and the use of cyber forensic tools. Below are the key methodological steps undertaken in the investigation:

1. Crime Scene Examination:

The crime scene was thoroughly inspected to gather all relevant physical evidence and document the environment where the crime took place. The critical observations and collection of evidence are as follows:

Crime Scene Location: The incident occurred on a section of the cement concrete Road 130A, surrounded by forest and located at a culvert where a new construction project was underway. The presence of broken concrete stones from the culvert suggested an intentional disturbance, making them key evidence in the investigation.

Physical Evidence at the Scene: Upon arrival, investigators documented and collected large and small pieces of cement concrete, which appeared to have caused blunt force trauma to the victim.

Autorickshaw Inspection:

The inspection of the autorickshaw and its contents provided crucial evidence:

Vehicle Condition: The autorickshaw was overturned on its right side. There were various items found in and around the vehicle, including a golden button, liquor bottle cap, and peanut peels, which helped piece together the timeline of events leading up to the incident.

Key Observations: No rivets or evidence of dragging were found at the scene, but bloodstains beneath the vehicle indicated a struggle or the use of force. The Shameless plant branch on the vehicle pointed to possible movement through the local vegetation.

Items of Interest: The key found at the rear of the autorickshaw, coupled with other personal items and the presence of the driver's brother, added further layers of suspicion and helped to reconstruct the final moments before the crime.

Body Inspection:

Detailed forensic analysis of the deceased was conducted:

Position and Cause of Death: The body was found in a prone position with severe blunt force trauma to the head. The nearby large concrete piece, covered in blood, was likely the murder weapon.

Injuries and Appearance: The face of the victim was so badly disfigured that visual identification was nearly impossible. Bloodstains were found spread across several meters around the body, confirming the use of significant force in the attack.

Additional Evidence: A small liquor bottle with a barcode and a mobile phone were found near the body, both of which were key in tracing the suspect.

Forensic Data Analysis (Digital and Cyber Forensics):

The use of technology played an essential role in uncovering the suspect's identity and reconstructing the sequence of events:

Call Records and Location Data: Cyber cell teams retrieved the call logs from the mobile phone found at the scene, leading to key evidence about the movements and identity of the individuals involved. The UPI transaction used to purchase liquor from Bilaspur was traced back to the suspect, providing a timeline of the events leading up to the murder.

Mobile Phone Analysis: By tracking the mobile phone's activity, investigators discovered the suspect's movements from the crime scene to Korba, where he attempted to hide his identity and evade capture. His presence in Korba was confirmed through location data, and his mobile number was used at a local lodge, further linking him to the crime.

Identification and Suspect Interrogation:

The police used traditional methods of investigation, such as suspect identification through video calls, along with sniffer dogs to track the suspect:

Confusion in Identity: The case was complicated by the suspect's attempt to disguise himself as the victim. A video call between the police and the passenger's family led to further questioning of the suspect, who finally admitted to being the autorickshaw driver Mahadev.

Sniffer Dog and Location Tracking: A sniffer dog traced the suspect's path from the crime scene to Korba, leading to his arrest. His movements post-crime, such as visiting a salon and shaving off his hair, beard, and mustache, demonstrated his attempt to change his appearance and adopt a new identity.

Autopsy and Investigation Follow-up:

The autopsy confirmed that the victim had died due to blunt force trauma, consistent with the injuries caused by the concrete piece found at the scene. The Janjgir police returned the body to the family under the assumption that it was the autorickshaw driver, but later investigations revealed the identity confusion, leading to the eventual identification of the real victim and the confession of the suspect.

Concluding Phase – Arrest and Confession:

Interrogation: Under intense interrogation, the suspect confessed to the murder. He admitted to killing the passenger in a fit of rage following an argument during the journey. His actions post-murder, including dressing the victim in his own clothes and disfiguring the face, were aimed at misleading the police and faking his own death.

Role of Technology and Cyber Forensics:

The cyber cell played a critical role in this investigation, especially in tracking the suspect's movements through his phone and tracing digital payment records from the liquor purchase. Digital forensics allowed for efficient tracing of the suspect's whereabouts and ultimately led to his arrest.

III. RESULT

One day I received information from a police post in Janjgir Champa district to inspect the site of the incident. As soon as I received the information, I left Korba for the site of the incident. I reached the site of the incident in about 1 hour. The site of the incident was a constructed part of the under-construction Bharat Mala project where I saw a dead body and behind the dead body an auto rickshaw overturned on the left side.

Site of incident inspection: The crime scene is a part of CC Road 130A of the under construction Bharatmala Project. There is forest on both sides of the road, where large and small pieces of cement concrete stones have been found as evidence of the breaking of the culvert built on the old road.

Dead body and autorickshaw inspection:

Inspection of the autorickshaw: The autorickshaw was found overturned from the right side. A golden button was found on the passenger seat, a blue colored lid of a liquor bottle, a used water pouch, peanut peel, green chutney pouches were found and black foil with peanut peel was found below the autorickshaw on the CC road. A key was found in the rear part of the autorickshaw and a shameless branch was found on the indicator guard on the right side. No rivet was found on the autorickshaw at the scene of the incident. Similarly, no evidence of any kind of dragging was found on the autorickshaw or the scene of the incident. When the auto rickshaw was straightened, blood stains were found on the CC road.

Body Inspection: The body of the deceased was lying in a prone position.

The body of the deceased is lying head down. He has been killed by hitting his head with a large piece of concrete like a heavy stone. A large piece of concrete like a heavy stone is lying near the body on which blood stains have been found. The face of the deceased is badly bruised. Due to which it was difficult to identify the body individually. Blood stains have been found on the left and right side of the body up to 2-3 meters. A small bottle of country liquor was found at a distance of a few meters from the body. A bar code was found on it. A mobile phone was found near the body.

When the autorickshaw driver's number was found at the crime scene, the brother of the autorickshaw driver came to the crime scene and started crying that my brother has been killed. But I got suspicious when he did not look at the body properly. The deceased's face was not recognizable as it was badly bruised, due to which the police were investigating the deceased as autorickshaw driver Mahadev at first sight.

The cyber cell was asked to gather information from the call details of the mobile phone found near the body and the QR code of the liquor bottle found at the crime scene. The liquor was found to have been purchased from Bilaspur. The payment for which was made through UPI. After the postmortem of the deceased, the body was handed over to the family of the autorickshaw driver by the Janjgir police. The body was buried in Bilaspur by the family.

The cyber cell got the input that the accused stayed in a lodge in Korba where the accused was arrested and brought to the police station and the Janjgir police had also found out the family members of the passenger travelling in the autorickshaw. The police station considered the passenger sitting in the autorickshaw as the accused and gave the accused a WhatsApp video call on the phone of his family members to talk, but the family members of the passenger travelling in the auto did not find the accused to be their relative.

On strict questioning by the Janjgir police, the accused identified himself as auto driver Mahdev. The passenger travelling in the autorickshaw left Bilaspur railway station for Urga at around 7 pm but the autorickshaw kept stopping on the way so they were trying to start the autorickshaw by pushing the passenger but the autorickshaw stopped again in the forest road due to which a quarrel broke out between the autorickshaw driver and the passenger and in a fit of rage the autorickshaw driver killed the passenger. So that no one could identify the passenger he made him wear his T-shirt and lower and crushed his face and then to mislead the police he overturned the autorickshaw so that the police would think it was an accident. Then after walking 2 km he took a lift from a truck at night and reached Korba and stayed in a lodge for the night. The next day in the morning he went to a salon and got everything shaved from the hair on his head to his beard and moustache so that no one could identify him. And he had changed his identity and planned to settle in Nagpur.

IV. IMPORTANT EVIDENCES

- 1 Buying liquor from Bilaspur liquor shop and payment was made through UPI
- 2 Murder was committed first at the crime scene and evidence of overturning the autorickshaw to make it look like an accident, blood stains were found on the right side of the autorickshaw which was below the road.
- 3 Liquor bottles were found at the crime scene with bar codes.
- 4 Sniffer dog going towards Korba, accused found hiding in Korba.
- 5 Accused wanted to prove himself dead but his mobile was switched on and his location was found to be in Korba.
- 6 Accused giving his own i.e. Mahadev's mobile number to the lodge in Korba police station because he only remembered his mobile number.
7. On the arrest of the accused, the police considered him to be Mahadev's killer passenger and made the accused talk to passenger 's family members through a video call on mobile. When passenger 's family members said that the accused was not passenger, on strict interrogation the accused confessed that the accused was Mahadev and the deceased was passenger who killed the passenger after a dispute and left his clothes and Aadhar card with the deceased.

V. DISCUSSION

The investigation into the incident at the under-construction Bharat Mala Project site in Janjgir Champa district highlights the importance of a multi-disciplinary approach to solving complex criminal cases. Initial impressions suggested a fatal accident, but detailed forensic and cyber analysis unraveled a carefully orchestrated murder. This case exemplifies the role of crime scene analysis, forensic evidence, and digital forensics in establishing both the timeline of events and the identity of the perpetrator.

Crime Scene Analysis:

Crime scene investigation (CSI) plays a crucial role in the resolution of criminal cases. Various studies highlight the importance of thorough site inspection, evidence collection, and forensic analysis in understanding criminal events. According to Grogger and Fagan, the quality of evidence collected at the crime scene significantly impacts the outcome of criminal investigations (Groggr & Fagan, 2017). This is supported by the principles outlined in the scientific method, emphasizing the necessity of systematic observation and evidence gathering (Bennett, 2021; Kosariya, Mishra, Chandra, & Chakraborty, 2024).

A thorough inspection of the crime scene revealed critical evidence that steered the investigation away from the theory of an accident. The discovery of large concrete stones, which had been used to inflict blunt force trauma on the victim, provided clear indications of a violent assault (Saferstein, 2018). Blood stains, personal items like a liquor bottle, and the disfigured condition of the victim's face were significant in reconstructing the nature of the crime. The absence of drag marks around the autorickshaw and the strategic placement of items further supported the theory that the scene had been staged to mislead the investigation (Turvey, 2019).

In this specific incident, the location—a part of the Bharat Mala project—provided unique challenges and opportunities for forensic examination. The presence of various pieces of evidence, such as the overturned autorickshaw and remnants like liquor bottles and personal belongings, underscores the importance of context in crime scene analysis. Studies by Fisher (2018) and Kurland (2020) stress that contextual evidence, such as the physical layout and surrounding environment, can provide critical insights into the dynamics of the crime (Fisher, 2018; Kurland, 2020).

Forensic evidence collection, particularly biological and trace evidence, has been a focal point in many investigations. The presence of blood stains and other biological materials at the scene is pivotal for establishing timelines and victim profiles (Karger, 2019). The presence of a mobile phone near the body serves as a vital link for communication and potential motive analysis. According to the research of O'Connor et al. (2022), mobile devices increasingly serve as key pieces of evidence, providing data on the victim's last movements and interactions (O'Connor, McGowan, & O'Rourke, 2022).

Additionally, the psychological dimensions of crime, including motive and behavior patterns, are crucial in understanding the incident. The psychological profile of the accused reveals elements of premeditated behavior, as he attempted to create a false narrative by staging the scene to appear as an accident (Smith, 2023). The manipulative

actions taken by the accused to mislead law enforcement reflect the complexity of human behavior in criminal contexts (Hare & Neumann, 2021).

Digital Forensics and Cyber Investigation:

In today's digital age, mobile technology and payment records often provide valuable insights into criminal activities. In this case, cyber forensics played a pivotal role. The cyber cell's retrieval of call records and location data from the victim's mobile phone helped to trace the suspect's movements from the crime scene to Korba. Moreover, the use of UPI payments for purchasing liquor tied the suspect to the crime, establishing a digital trail that connected him to both the location and the timeline of the incident (Casey, 2011).

Confession and Identity Manipulation:

The suspect's confession, following intense interrogation, provided crucial insights into the motive and sequence of events. His strategy to switch clothes with the victim and disfigure his face reflects an understanding of how initial identification processes could be delayed (Turvey, 2019; Innes, 2017). Such identity manipulation tactics are common in cases where the suspect attempts to evade law enforcement by misleading authorities regarding the true identity of the deceased. However, forensic examination of both physical and digital evidence effectively nullified these efforts, demonstrating the limitations of identity deception in modern investigations (Saferstein, 2018).

Forensic Evidence and Physical Clues:

Physical evidence, such as the blood-stained concrete block, played a crucial role in determining the cause of death. The examination of the body revealed blunt force trauma consistent with the injuries caused by this object, further confirming its role as the murder weapon (Ramsland, 2010). Additionally, the presence of the deceased's mobile phone and a small liquor bottle at the scene provided essential clues for tracing the events leading to the crime. The barcodes on the liquor bottle enabled investigators to trace the purchase back to Bilaspur, linking the suspect to the crime through digital payments (Casey, 2011).

Technology's Role in Modern Criminal Investigations:

Finally, the role of technology in modern investigations cannot be understated. The utilization of cyber cells for tracking digital footprints, such as payment records for the liquor purchase, illustrates the intersection of traditional forensic techniques with modern technology (Carter & West, 2020). This integrated approach is essential for contemporary crime-solving, enhancing the ability to track suspects and establish timelines effectively.

The use of cyber forensics and digital tracking, such as UPI payment trails and call detail records, underscores the growing importance of technology in solving crimes. As this case demonstrates, the integration of cyber forensic tools allows for more efficient and accurate tracking of suspects, even when they attempt to alter their appearance or flee to different locations (Ramsland, 2010). The suspect's capture in Korba, where he sought to hide his identity by shaving his head and beard, illustrates the limitations of physical disguise when faced with digital tracking capabilities.

VI. CONCLUSION

The successful resolution of this case was a result of the integration of traditional forensic methods with modern cyber forensic tools. The comprehensive collection of physical evidence, the meticulous analysis of the crime scene, and the use of digital data to trace the suspect's movements highlight the effectiveness of a multidisciplinary approach. This case illustrates how forensic science continues to evolve, integrating technological advancements to solve increasingly complex crimes and bringing justice to victims.

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