

**Forensic Science in the Nigerian Criminal
Justice System**

Introduction

The importance of criminal justice to the smooth running of any society cannot be overemphasized. An effective criminal justice system is fundamental to the maintenance of law and order. However, the Nigerian criminal justice system (which consists of the Police, Courts, and Prisons) is not only dysfunctional but outdated and not fit for purpose. Many provisions in our criminal laws are anachronistic. The loopholes in the law and its procedure have become so obvious. The reason is not far-fetched, crime and criminals have advanced to a very sophisticated level that the present criminal justice system cannot catch up. Forensic analysis is vital to criminal investigation because a person cannot be at the scene of a crime without leaving something behind and cannot leave the scene of a crime without taking something with him or her. Forensic science, as a scientific method of solving crimes, will provide an enhanced criminal justice system if it is adopted, as knowledge of forensic tools and services will aid the ability to recognize evidence and seize opportunities to gather them in circumstances that would not otherwise be possible.

Forensic Science

Forensic science is a critical element of the criminal justice system. It is the examination and analysis of evidence from crime scenes and elsewhere to develop objective findings that can assist in the investigation and prosecution of perpetrators of crime or absolve an innocent person from suspicion.² In today's legal day and age, it is referred to as a method of obtaining criminal evidence for the purpose of using it in a court of law. The term forensic science has not been clearly defined by the Nigerian legislators in the laws of the land or by the Courts. Statutes such as the Evidence Act³ and Cyber Crimes Act⁴, among others only make reference to terminologies attributed to or characterized with the forensic science discipline. The Courts also have not proffered a working definition of forensic science and the only reference being made to it is in relation to expert witnesses.⁵ With the advent of complicated crime dramas, the need for forensics in the Nigerian criminal justice system has become paramount to help convict even the most elusive criminal. It is therefore imperative that the process that brings about a guilty verdict, especially for the most heinous of crimes must be seen as the product of logical thinking based upon admissible evidence, which facts lead to a conviction as clearly found, and the legal deductions thereupon carefully made. It must not be allowed to stand if it is founded upon scraggy reasoning.⁶ Such convictions and sentences must therefore not be handed out carelessly, thoughtlessly, lackadaisically and without clear evidence of the guilt of the accused person.⁷



² <https://www.justice.gov/olp/forensicscience#:~:text=Forensic%20science%20is%20a%20critical,an%20innocent%20person%20from%20suspicion> <> accessed on 15-3-2023

³ Section 55, Evidence Act, 2011

⁴ Section 41(1)(d), Cyber Crimes Act, 2015

⁵ See *Godwin Chukwuma v. F.R.N(2011) All FWLR (pt.585) p. 231*

⁶ See *Felix Nwosu v The State [1986] 5 NWLR (Pt 348) 359*

⁷ *Ibid*

Forensic analysis takes many forms namely: physical matching, fingerprint matching, hair and fibre analysis, ballistic analysis, blood splatter analysis, DNA analysis, forensic pathology, chemical analysis, and forensic anthropology. Other forms are forensic entomology, forensic odontology, forensic engineering, criminal profiling, geographic profiling, forensic data analysis, and forensic document analysis,⁸ some of which are discussed in the succeeding paragraphs.

Deoxyribonucleic Acid (DNA) Analysis

Deoxyribonucleic Acid (DNA) is essentially the molecule that holds all genetic information and 'instructions' for an organism. DNA is the material on which the genetic information in living things is stored. And no two human beings can have the same DNA profile, except they are identical twins.⁹ In terms of forensic DNA analysis, there is a variety of possible sources of DNA evidence. The more useful sources include blood, semen, vaginal fluid, nasal secretions and hair with roots. It is theoretically possible to obtain DNA from evidence such as urine, faeces and dead skin cells, though this is often classed as a poor source due to lack of intact cells and high levels of contaminants preventing successful analysis.

The relevance of science in criminal investigation was apparent in the murder case of Genai Coleman- a forty-year-old teacher who was killed in a suburb of Atlanta (USA) in the summer of 2008.¹⁰ Genai Coleman had been waiting to pick up her teenage daughter at a transit station, when a man approached her, shot her in the chest, and stole her car, leaving her body behind in the station. Witnesses provided a description of the man. A surveillance camera from a nearby gas station also captured a video of a man matching the description. When authorities later located the stolen car, they found a cigarette butt under the driver's seat. Authorities tested the saliva on the cigarette stub for DNA. They compared the results to profiles of persons convicted of felonies in a DNA database. The sample matched a man with a prior drug conviction. His name was Donald Smith. Surprisingly, Donald told them that the man in the video was his identical twin brother, Ronald. Further fingerprint analysis was carried out on the twin brother, and on the basis of this evidence, Ronald was arrested, charged, and brought to trial.

Nigeria, although one of the most developed African nations is unfortunately hampered in terms of forensic compliance. A case that highlights the contextual importance of forensic DNA analysis and science in general to Nigeria's criminal justice system is the case of **Uchechi Orisa v. The State**,¹¹ where the Supreme Court discharged and acquitted the Appellant for failure to relate a bloodstain to the Appellant. It was the position of the Court that in this age of advanced technological know-how, a DNA analysis could have easily solved the question as to whether the bloodstain was from the appellant's body.¹² Developing a DNA Data bank therefore will be a step in the right direction. The most important thing needed now is the Federal government's will to prioritise forensics in our judicial system. These include setting up standard forensic labs, enhancing the training of forensic experts, etc. It should be a major focus in enhancing Nigeria's internal security. The Lagos State Government has made a move to establish the first DNA forensic lab in Nigeria. Other States in Nigeria can borrow a leaf from this.

Fingerprint Analysis

A fingerprint in its narrow sense is an impression left by the friction ridges of a human finger.¹³ Fingerprints can be found practically on any solid surface, including the human body. Analysts classify fingerprints into three categories according to the type of surface on which they are found and whether they are visible or not. They include plastic, patent, or latent prints.¹⁴ Fingerprint examination involves looking at the quality and quantity of information in order to find agreement or disagreement between the unknown print (from the crime scene) and known prints on file. To conduct the examination, fingerprint examiners use a small magnifier called a Loupe to view minute details (minutiae) of a print.¹⁵



⁸ <https://pressbooks.bccampus.ca/criminalinvestigation/chapter/chapter-10-forensic-sciences/>

⁹ 'Understanding DNA Evidence: A Guide for victim service providers'

<https://www.ncjrs.gov/pdffiles1/nij/bc000657.pdf> <> accessed on 15-03-2023

¹⁰ https://www.gwinnettdailypost.com/archive/murder-suspect-i-know-a-little-something-about-it/article_aa48f01e-dc40-5321-aeb1-e4ed8784e5e4 <> accessed on 10-04-2023

¹¹ (2018) LPELR-43896 (SC).

¹² Ibid.

¹³ "Peer Reviewed Glossary of the Scientific Working Group on Friction Ridge Analysis, Study and Technology (SWGFAST)"

¹⁴ Ibid

¹⁵ Ibid

As the computer science field developed techniques to digitize and store complex patterns images like fingerprints and firearms, these innovations enabled investigators to search large databases to confirm the fingerprints and identities of arrestees and to use latent prints recovered from the scenes of crime and to identify the offender.¹⁶

The successful use of fingerprint analysis in unravelling crime was demonstrated in the case of Grace Hayden, 79, who was raped and killed in San Diego in May 1987. The case was reopened by Tony Johnson, a district attorney who found a single fingerprint of left thumb on her kitchen stove. This fingerprint was submitted to the fingerprint database for information on its owner and it matched the fingerprint of a 62-year-old Kevin Ford of Robeson County. He was arrested in 2015 for burglary, rape and the death of Grace Hayden, he was tried and sentenced to life imprisonment without parole.

Unfortunately, in Nigeria, many crimes go unsolved because of the lack of adequate equipment and training. Very rarely do the law enforcement agencies capture the fingerprints of suspects. Courts in Nigeria have also acknowledged the dearth in the use of fingerprint evidence in the criminal justice system as far back as the mid-1980s¹⁷ sadly, the situation remains the same to date. Besides inadequate equipment, lack of training also inhibits investigation. The country's criminal justice system is moribund because it is yet to acquaint itself with fingerprint technology, which has been proven to be one of the most reliable methods of solving crimes.



Polygraph Test

A polygraph, popularly referred to as a lie detector, measures and records several physiological indices such as blood pressure, pulse, respiration, and skin conductivity while the subject is asked and answers a series of questions.¹⁸ The belief underpinning the use of the polygraph is that deceptive answers will produce physiological responses that can be differentiated from those associated with non-deceptive answers. Polygraph test is useful as it helps to reveal relevant information related to a crime. The process aids fact-finding, as it directly helps the investigating agencies to gather evidence, thereby increasing the rate of prosecution of the guilty and the rate of acquittal of the innocent.¹⁹

In 2013, 10-year-old Kami Ring was raped and murdered near her home.²⁰ In the course of the investigation, detectives encountered Richard Madden who became a person of interest in the case, and who agreed to take a polygraph test. At the trial, the State Police Officer responsible for administering the test testified that Madden's results showed that he was lying about his involvement in the 10-year-old girl's disappearance and based on the result, further investigation was carried out on the lifeless body of Kami Ring.

¹⁶ Ibid

¹⁷ *Shonubi v. People of Lagos* (2015) JELR 40559 (CA).

¹⁸ Rosenfeld, J. P. (1995). "Alternative Views of Bashore and Rapp's (1993) alternatives to traditional polygraphy: a critique". *Psychological Bulletin*

¹⁹ Ibid

²⁰ <https://liedetectorstest.com/lie-detector-tests-that-have-resolved-crimes/> < accessed on 24-04-2023

Although there is an ongoing debate in respect of the admissibility of polygraph test, it still has a place in the detection of crime because of its psychological effect on persons, who are in fact guilty of a crime. In a country such as Nigeria where employee theft is rife, the need for polygraph tests becomes paramount. Polygraph helps identify and eliminate the bad employees. It also eliminates suspicion from honest employees and identifies the deviants. Similarly, the police can also make use of this device while interviewing suspects in the investigation of crimes. The device helps identify untrustworthy, deceptive, or guilty people and also clears innocent people by a very reliable means anywhere in the world.

Ballistics

Ballistics is the part of science of mechanics that studies the motion and behaviour of a projectile, and its effects on a target. It deals with the launching, flight, behaviour and effects of projectiles, especially bullets, unguided bombs, rockets, and the like.²¹

Forensic ballistics involves the analysis of bullets and bullet impacts to derive information which is useful to a Court or other part of a legal system. In September and October 2002, a series of random shootings occurred near a freeway called the Capital Beltway in Maryland, Virginia, and Washington, D.C.²² The shooter used a high-powered rifle from a concealed location approximately 100m or less away from each victim. Thirteen people were killed, and three people were critically injured while in various outdoor public places. Ballistic evidence played a critical role in the capture and conviction of the two males responsible for the shootings and it was later discovered that the pair was also responsible for other sniper attacks. The suspects were each found guilty of the shootings and sentenced to death. Unfortunately, Nigeria has not been forthcoming in the application of forensic ballistics. An example is,

when Chief Aminasaori Dikibo, former Chairman of the PDP South-South was killed on his way to Asaba to attend a PDP South-South meeting, no ballistic evidence was gathered or tendered in order to match the expended ammunition retrieved from his corpse in the car, at the scene of the murder.

A fundamental advantage that forensic ballistics has is that it helps to identify the firearm that was used in a crime. In Nigeria, where murder and armed robbery are rampant, ballistics will help the law enforcement agencies to ascertain the kind of weapon used by a culprit, and trace its source.

Forensic Pathology

Pathology is the study of disease and its causes. Forensic Pathology involves discovering the cause of death, especially in cases where it is sudden, or the police suspect that it has not occurred by natural causes. The examinations forensic pathologists carry out may be inspections or views of the external surfaces of a body or a medicolegal autopsy. A forensic pathologist performs autopsies or post-mortem examinations to determine the cause of death. Following the procedure, the pathologist is required to create an autopsy report, which will contain the following opinions: whether an injury or disease led to the individual's death and the circumstances surrounding the death, meaning whether the death was accidental, a homicide, a suicide, natural or undetermined. The report will also document all wounds and injuries found on the corpse. Mostly, such autopsy is done upon the directives of a coroner²³, when a coroner is instructed to determine the cause, time and circumstances surrounding the death²⁴. Forensic Pathology is very relevant in the Nigerian criminal justice system because aside from determining how someone died – whether it was an accident or a suicide or a murder or by natural causes – which will in turn help to prove the guilt or innocence of a suspected killer, it also helps to ascertain the identity of a dead person, which may involve looking at medical records, especially if the person's face has been mutilated.



²¹ https://www.revolvly.com/main/index.php?s=Ballistics&item_type=topic&sr=50 <> accessed on 16-03-2023

²² <https://moodlehub.ca/mod/book/view.php?id=5290&chapterid=8774> <> accessed on 16-04-05

²³ A coroner is a public official whose duty is to investigate the causes and circumstances of any death that occurs suddenly, suspiciously, or violently (Blacks Law Dictionary, 10th Edition)

²⁴ E.g., Coroners Law, Cap. C16, Laws of Lagos, 2007

Computer Forensics

Computer forensics is the science of obtaining, preserving, and documenting evidence from digital electronic storage devices, such as computers, Personal Digital Assistants (PDAs), digital cameras, mobile phones, and various memory storage devices. It is the task of recovering data that users have hidden or deleted, with the goal of ensuring that the recovered data is valid so that it can be used as evidence.²⁵ All must be done in a manner designed to preserve the probative value of the evidence and assure its admissibility in a legal proceeding. The evidence can be inculpatory²⁶ or exculpatory.²⁷ Nearly everything that someone does on a computer or network leaves traces – from deleted files and registry entries to the Internet history cache and automatic Word backup files. E-mail headers and instant messaging logs give clues as to the intermediate servers through which information has traversed. Server logs provide information about every computer system accessing a website.

As a fundamental investigative tool, computer forensics can be applied in the following instances: investigation of computer-based financial crimes, legal evidence involving cybercrime, analysis of cyber breaches, enhancing data security capabilities of digital systems, detecting violations of corporate computer policy, and cyber security breaches. Although the Nigerian government commendably enacted the Cybercrimes Act in order to curb computer-related crimes, there still exists a great lacuna because cybercrimes are constantly perpetrated and there is a dearth in the number of computer forensic experts to help nab the perpetrators of these crimes and bring them to justice.

Conclusion

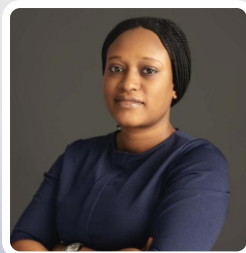
The subject of whether or not forensic science can be used as an investigative tool in Nigeria's criminal justice system is one that leaves us vulnerable to drawing a fast conclusion of impossibility after looking at the broad complexity that forensic science demands. It is concerning that Nigeria has prosecuted crimes for the previous 62 years with only sporadic use of forensic science as a primary tool. The Nigerian government, police, and judicial systems have had far less success creating an atmosphere that encourages forensic science to flourish. Unfortunately, while the current criminal justice system is characterized by the old forms of proof, such as eyewitness testimony and confessions, criminals are gradually getting more intelligent and scientific. It is therefore pertinent that the system embraces this new approach as it has proved to be reliable in other developed jurisdictions such as the USA, UK, Canada and South Africa.

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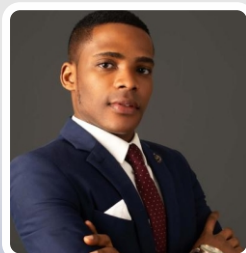
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²⁵ Nelson, B., Phillips, A., Steuart, C., (2016). *Guide to Computer Forensics and Investigations: Processing Digital Evidence*, (5th Ed.). Cengage Learning, Boston, MA: p. 5

²⁶ Evidence that indicates a suspect is guilty of the crime with which he or she is charged.

²⁷ Evidence that indicates the suspect is innocent of the crime