A STUDY ON FORENSIC EVIDENCE AS A SPRINGBOARD FOR THE DEVELOPMENT OF NIGERIA CRIMINAL JUSTICE SYSTEM

BY

MABEL OSATO ONIHA
PG/14/017629/LAW

BEING A THESIS SUBMITTED TO THE DEPARTMENT OF LAW COLLEGE OF LAW, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF DOCTOR OF PHILOSOPHY (Ph.D.) IN LAW OF IGBINEDION UNIVERSITY, OKADA, EDO STATE, NIGERIA.

MARCH, 2018
DECLARATION

I, MABEL OSATO ONIHA, declare that this thesis is the product of my intellectual and research efforts and has not been presented for another degree or certification elsewhere. All references have been appropriately acknowledged.

_______________________  ___________________
MABEL OSATO ONIHA               DATE
(PG/14/017629/LAW)
DEDICATION

This work is dedicated to almighty God, my lovely husband; B. E. Oniha Esq., my parents, siblings and children for their unrelenting efforts towards my academic upliftment.
CERTIFICATION

We the undersigned certify that this thesis was carried out by **Mabel Osato ONIHA** (PG/14/017629/LAW) in the Oba Erediawa College of Law, Igbinedion University, Okada, Edo State, Nigeria. Apart from references made to other works which have been duly acknowledged, the work is the result of her efforts and has neither in part nor in whole been presented for any other degree elsewhere.

------------------
DR. C. E. OCHEM
(Supervisor)  

PROF. R. J. IJAODOLA
(Dean, College of Law)

DR. O. G. IZEVBUWA
(Internal Examiner)

PROF. T. J. OKORIE
(Dean, School of Post-Graduate Studies and Research)

------------------
DATE

----------
DATE

----------
DATE

----------
DATE
ACKNOWLEDGEMENTS

I am most grateful to almighty God for His infinite mercy, protection and guardian. I am heavily indebted to the Vice-Chancellor of the School for the management of the academic setting to create the needed environment, the Dean of Post–Graduate Studies for the proper management of the post-graduate section from where this thesis takes its root, the Dean of College of Law who never relented in ensuring that the right thing is done at the right time, Dr. O. G. Izevbuwa who from the inception of this programme sounded words of encouragement and perusal of my work that saw me through and Ass. Prof. E. Okojie who directed me to this honourable Institute to pursue my Ph.D Degree.

My profound gratitude goes to Dr. C. E. Ochem, my thesis supervisor without whose assistance this thesis would not have been possible. He has patiently gone through every page of the final draft and given me the benefit of his wealth of experience in the writing of this thesis. The constant re-echoing of his words; “Your Ph.D lies in your hands, you must be ready to work hard to earn it” sailed me through. Also deserving of immense appreciation is my external examiner; Professor D. F. Tom, who took pains to go through the thesis to ensure that all necessary corrections are made for perfection. Thank you very much Sir.

I cannot sufficiently thank my parents, Mr. and Mrs. M. E. Akhidue for laying the foundation stone of education in my life and consequently setting me on the right path of education. Also grateful to is my darling husband, B. E. Oniha who has taken this up to this great height through his show of great understanding and support.

Finally, I acknowledge the personal debt I owe my children for bearing with me all through the duration of this program. I want to appreciate my siblings for their continuous support.
ABSTRACT

Crimes especially heinous crimes are committed on a daily basis in Nigeria, with majority of the perpetrators walking away scot free. This is because our law enforcement agencies rely heavily on mundane methods, leaving the use of forensic evidence aside. It is most disturbing to know that the perpetrators left clues at the crime scenes to enable the investigators trace them, yet they get away with their crimes. This brought to mind the famous quotation of Edmond Locard, one of the pioneers in the science of forensics who said that every contact leaves a trace even without consciousness, which will serve as a silent witness against the criminal. The aim of this research is to develop Nigeria Criminal Justice System through the use of forensic evidence, which is more reliable, concrete and productive with a view to reducing crime. Nigerian Laws (Evidence Act, the Police Act and other related statutes) and that of other more advanced jurisdictions were x-rayed. This revealed the scanty provisions in our statutes lending support to the use of forensic evidence. Forensics is used as a means of investigating mainly criminal matters due to the requirement of the burden of proof being beyond reasonable doubt, hence the need for forensics to help convict or exonerate with precision as it connects the suspect to the crime. Doctrinal method was adopted; both primary (Evidence Act, the Police Act other legislations and textbooks that were relevant in the course of the research) and secondary sources (Internet materials, journals and judicial pronouncements) were used. It was shown that there are very scanty provisions in our Laws supporting the use of forensic evidence as can be gleaned from section 68 of the Evidence Act. It was concluded that Nigeria is in dire need of full employment of forensic evidence in her courts through investigators and experts to help eradicate the menace of crime in line with other advanced jurisdictions where crime solving is easier. To achieve this, it was recommended that the Evidence Act and the Police Act be expanded by the National Assembly to accommodate elaborate and detailed provisions to implement full fledge forensic evidence or alternatively create specific enactments. Identity Databases should be created for matching of suspects, standard laboratories should be established and regular Government funding amongst others. The essence of the research is to enable Nigeria improve its criminal justice administration by tapping from the wealth of benefits that the use of forensics presents, as it has become stalemated. These will end up developing and strengthening the administration of criminal justice system in Nigeria in that it will create greater precision in criminal convictions and acquittals and arrest a growing culture of impunity and consequently bring down crime to its barest minimum.

# TABLE OF CONTENTS

| Title Page                  | - | - | - | - | - | - | - | i |
| Declareation                | - | - | - | - | - | - | - | ii |
| Dedication                  | - | - | - | - | - | - | - | iii |
| Certification               | - | - | - | - | - | - | - | iv |
| Acknowledgements            | - | - | - | - | - | - | - | v  |
| Abstract                    | - | - | - | - | - | - | - | vi |
| Table of Contents            | - | - | - | - | - | - | - | vii |
| Table of Cases               | - | - | - | - | - | - | - | xix |
| Table of Statutes            | - | - | - | - | - | - | - | xxvii |
| Table of Abbreviation and Acronyms | - | - | - | - | - | - | - | xxxvii |

## CHAPTER ONE: GENERAL INTRODUCTION

1.1 Background of the Study - - - - - - - 1
1.2 Statement of the Problem - - - - - - - 3
1.3 Objective of the Study - - - - - - - 4
1.4 Significance of the Study - - - - - - - 4
1.5 Scope and Limitation of Study - - - - - - - 5
1.6 Research Methodology - - - - - - - 6
1.7 Theoretical Framework - - - - - - - 7
1.8 Definition of Terms - - - - - - - 8
   a. Evidence - - - - - - - 8
   b. Science - - - - - - - 10
   c. Crime - - - - - - - 11
   d. Crime Scene - - - - - - - 13
<table>
<thead>
<tr>
<th></th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.</td>
<td>Criminal Justice System</td>
<td>14</td>
</tr>
<tr>
<td>f.</td>
<td>Opinion</td>
<td>14</td>
</tr>
<tr>
<td>g.</td>
<td>Experts</td>
<td>15</td>
</tr>
<tr>
<td>h.</td>
<td>Witness</td>
<td>16</td>
</tr>
<tr>
<td>i.</td>
<td>Expert Witness</td>
<td>16</td>
</tr>
<tr>
<td>j.</td>
<td>Expert Evidence</td>
<td>17</td>
</tr>
<tr>
<td>k.</td>
<td>Expert Opinion</td>
<td>18</td>
</tr>
<tr>
<td>l.</td>
<td>Forensic Evidence</td>
<td>19</td>
</tr>
<tr>
<td>m.</td>
<td>Forensics/Forensic Science</td>
<td>20</td>
</tr>
<tr>
<td>n.</td>
<td>Opinion Evidence</td>
<td>22</td>
</tr>
<tr>
<td>o.</td>
<td>Trace Evidence</td>
<td>22</td>
</tr>
<tr>
<td>p.</td>
<td>Criminal Investigation</td>
<td>25</td>
</tr>
<tr>
<td>q.</td>
<td>Identification</td>
<td>26</td>
</tr>
<tr>
<td>r.</td>
<td>Forensic Identification</td>
<td>27</td>
</tr>
<tr>
<td>s.</td>
<td>Admissibility of Evidence</td>
<td>29</td>
</tr>
<tr>
<td>t.</td>
<td>Evidential Weight/Weight of Evidence</td>
<td>29</td>
</tr>
<tr>
<td>u.</td>
<td>Judicial System/Judiciary</td>
<td>31</td>
</tr>
<tr>
<td>1.9</td>
<td>Overview of Chapters</td>
<td>33</td>
</tr>
<tr>
<td>2.1</td>
<td>Literature Review</td>
<td>35</td>
</tr>
<tr>
<td>2.2</td>
<td>Evolution of Forensic Evidence</td>
<td>54</td>
</tr>
<tr>
<td>2.2.1.</td>
<td>Early Stage</td>
<td>55</td>
</tr>
</tbody>
</table>
2.2.2. Mid Stage (16\textsuperscript{th}-18\textsuperscript{th} Centuries) - - - - - 56

2.2.3. Modern Stage (20\textsuperscript{th}-21\textsuperscript{st} Centuries) - - - - - 68

2.3. Classification of Judicial Evidence - - - - - 70

2.3.1 Oral Evidence - - - - - - 71

2.3.2. Real Evidence - - - - - - 71

2.3.3. Documentary Evidence - - - - - - 72

2.3.4 Circumstantial Evidence - - - - - - 72

2.3.5 Hearsay Evidence - - - - - - 73

2.3.6 Best Evidence - - - - - - 75

2.4. Classification of Forensic Evidence - - - - - 76

2.4.1 Forensic Toxicology - - - - - - 76

2.4.2 Forensic Psychology - - - - - - 78

A Biological Explanations - - - - - - 80

B Sociological Explanations - - - - - - 82

C Psychological Explanations - - - - - - 83

2.4.3 Forensic Photography - - - - - - 85

2.4.4 Forensic Odontology - - - - - - 87

2.4.5 Forensic Pathology - - - - - - 90
<table>
<thead>
<tr>
<th>2.4.6</th>
<th>Forensic Trace Evidence</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4.7</td>
<td>Forensic Nursing</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>97</td>
</tr>
<tr>
<td>2.4.8</td>
<td>Forensic Firearms and Ballistics</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>99</td>
</tr>
<tr>
<td>2.4.9</td>
<td>Forensic Reconstruction</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>106</td>
</tr>
<tr>
<td>2.4.10</td>
<td>Forensic Questioned Documents</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>111</td>
</tr>
<tr>
<td>2.4.11</td>
<td>Forensic Linguistics</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>114</td>
</tr>
<tr>
<td>2.4.12</td>
<td>Forensic Latent Prints</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>116</td>
</tr>
<tr>
<td>2.4.13</td>
<td>Forensic Impressions</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>119</td>
</tr>
<tr>
<td>A</td>
<td>Footwear Impressions</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>119</td>
</tr>
<tr>
<td>B</td>
<td>Tyre Impressions</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>121</td>
</tr>
<tr>
<td>C</td>
<td>Instrument Marks</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>121</td>
</tr>
<tr>
<td>2.4.14</td>
<td>Forensic DNA Analysis</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>122</td>
</tr>
<tr>
<td>2.4.15</td>
<td>Forensic Fire Investigation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>124</td>
</tr>
<tr>
<td>2.4.16</td>
<td>Forensic Biology</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>127</td>
</tr>
<tr>
<td>2.4.17</td>
<td>Forensic Entomology</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>129</td>
</tr>
<tr>
<td>2.4.18</td>
<td>Forensic Bloodstain Pattern Analysis</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>131</td>
</tr>
<tr>
<td>2.4.19</td>
<td>Forensic Art</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>133</td>
</tr>
<tr>
<td>2.4.20</td>
<td>Forensic Engineering</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>135</td>
</tr>
<tr>
<td>Section</td>
<td>Subject</td>
<td>Pages</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td>-------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4.21</td>
<td>Forensic Archaeology</td>
<td>136</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4.22</td>
<td>Forensic Explosives</td>
<td>139</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4.23</td>
<td>Forensic Anthropology</td>
<td>143</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4.24</td>
<td>Forensic Accounting</td>
<td>146</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4.25</td>
<td>Forensic Computing</td>
<td>148</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4.26</td>
<td>Forensic Botany</td>
<td>150</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4.27</td>
<td>Forensic Geology</td>
<td>151</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>Classification of Crime</td>
<td>153</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5.1</td>
<td>Crimes against Persons</td>
<td>153</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5.2</td>
<td>Crimes against Property</td>
<td>154</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5.3</td>
<td>Crimes against Public Order</td>
<td>154</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5.4</td>
<td>Cyber Crime</td>
<td>155</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.6</td>
<td>Classification of Crime Scenes</td>
<td>155</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.6.1</td>
<td>The Outdoor Crime Scene</td>
<td>155</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.6.2</td>
<td>The Indoor Crime Scene</td>
<td>156</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.6.3</td>
<td>The Conveyance Crime Scene</td>
<td>156</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER THREE: FORENSIC EVIDENCE AND NIGERIAN LAW OF EVIDENCE

3.1 History and Sources of Nigerian Law of Evidence - - - - 158

3.1.1 Provisions Introduced in the Evidence Act, 2011 - - - - 165

A Improperly obtained Evidence - - - - - - 165

B Judicial Notice of Custom once Adjudicated upon once by a Court of Record - - - - - - - - 167

C Hearsay Rule - - - - - - - - 169

D Dying Declaration - - - - - - - - 171

E Evidence of Character of an Accused in Civil Proceedings - - - - 172

F Admissibility of Computer-Generated Evidence - - - - 173

G Expansion of the definition of document - - - - - - 175

H Marriages Celebrated under Customary and Islamic Laws - - - - 176

I Exclusion of Evidence - - - - - - - - 178

J Documents Marked “Without Prejudice” - - - - - - 184

K Regulations - - - - - - - - 185

L Statement against Interest of Marker - - - - - - 186

3.2 Application of the Evidence Act - - - - - - 190
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3</td>
<td>Admissibility of Forensic Evidence in Nigeria Evidence Act</td>
<td>197</td>
</tr>
<tr>
<td>3.3.1</td>
<td>Relevancy and Admissibility</td>
<td>197</td>
</tr>
<tr>
<td>A</td>
<td>Exclusionary Rules</td>
<td>198</td>
</tr>
<tr>
<td>B</td>
<td>Relevancy of Facts</td>
<td>200</td>
</tr>
<tr>
<td>3.3.2</td>
<td>Implication of Section 68 of the Nigeria Evidence Act</td>
<td>202</td>
</tr>
<tr>
<td>A</td>
<td>Opinion Evidence</td>
<td>202</td>
</tr>
<tr>
<td>I</td>
<td>Opinions of Experts</td>
<td>205</td>
</tr>
<tr>
<td>II</td>
<td>Credentials of Experts witness</td>
<td>208</td>
</tr>
<tr>
<td>III</td>
<td>Opinion as to Science and Art</td>
<td>211</td>
</tr>
<tr>
<td>IV</td>
<td>Opinion as to Foreign Law</td>
<td>212</td>
</tr>
<tr>
<td>V</td>
<td>Opinion as to Native Law and Customs</td>
<td>214</td>
</tr>
<tr>
<td>VI</td>
<td>Opinion as to Handwriting and Finger Impression</td>
<td>216</td>
</tr>
<tr>
<td>3.3.3</td>
<td>Corroboration of Expert Evidence</td>
<td>218</td>
</tr>
</tbody>
</table>

**CHAPTER FOUR:** STATUTES ON FORENSIC EVIDENCE AND THEIR APPLICATION IN NIGERIA AND OTHER JURISDICTIONS

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Statutes on Forensic Evidence</td>
<td>223</td>
</tr>
<tr>
<td>4.1.1</td>
<td>Statutes on Forensic Evidence in United States</td>
<td>223</td>
</tr>
<tr>
<td>4.1.2</td>
<td>Statutes on Forensic Evidence in United Kingdom</td>
<td>226</td>
</tr>
</tbody>
</table>
4.1.3 Statutes on Forensic Evidence in Nigeria - - - - 249

4.2 Comparative Analysis and the Application of Forensic Evidence - 251

4.3 The Administration of Criminal Justice in Nigeria - - - - 269

4.3.1 The Justice System in Pre-colonial Nigeria - - - - 269

A Ibo Land - - - - - - - - 271

B The Delta Area - - - - - - - - 272

C Yoruba Land - - - - - - - - 273

D North of Pre-colonial Nigeria and the Hausa/Fulani Empire - 274

4.3.2 The Justice System in Post-Colonial Nigeria - - - - 275

4.3.3 The Organization of Nigeria’s Justice System - - - - 277

4.3.4 The Nigerian Courts System - - - - - - - 278

A The Supreme Court of Nigeria - - - - - - 280

B The Court of Appeal - - - - - - - 282

C The Federal High Court - - - - - - - 285

D The Sharia Court of Appeal - - - - - - - 288

E The Customary Court of Appeal - - - - - - - 289

F The State High Court - - - - - - - 290

G The Election Tribunals - - - - - - - 291
<table>
<thead>
<tr>
<th></th>
<th>Agency or Institution</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>The Magistrates Court</td>
<td>292</td>
</tr>
<tr>
<td>I</td>
<td>The Customary Court</td>
<td>294</td>
</tr>
<tr>
<td>J</td>
<td>Other Courts</td>
<td>295</td>
</tr>
<tr>
<td></td>
<td>Institutions Lending Support to the Court system</td>
<td>296</td>
</tr>
<tr>
<td>A</td>
<td>Agencies Conferred with Prosecutorial Powers</td>
<td>296</td>
</tr>
<tr>
<td>I</td>
<td>The Police</td>
<td>298</td>
</tr>
<tr>
<td>II</td>
<td>Economic and Financial Crimes Commission (EFCC)</td>
<td>302</td>
</tr>
<tr>
<td>III</td>
<td>Code of conduct Bureau and Tribunal</td>
<td>307</td>
</tr>
<tr>
<td>IV</td>
<td>National Drug Law Enforcement Agency (NDLEA)</td>
<td>310</td>
</tr>
<tr>
<td>V</td>
<td>Nigeria Security and Civil Defence Corps (NSCDC)</td>
<td>313</td>
</tr>
<tr>
<td>VI</td>
<td>The Federal Inland Revenue Service (FIRS)</td>
<td>316</td>
</tr>
<tr>
<td>VII</td>
<td>The Independent Corrupt Practices and Other Related Offences</td>
<td>318</td>
</tr>
<tr>
<td></td>
<td>Commission (ICPC)</td>
<td></td>
</tr>
<tr>
<td>VIII</td>
<td>National Agency for food and Drug Administration and Control</td>
<td>320</td>
</tr>
<tr>
<td></td>
<td>(NAFDAC)</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>The Nigeria Prison Service</td>
<td>322</td>
</tr>
<tr>
<td>C</td>
<td>The Legal Professional in Nigeria</td>
<td>323</td>
</tr>
<tr>
<td>D</td>
<td>Traditional Institutions</td>
<td>327</td>
</tr>
</tbody>
</table>
**CHAPTER FIVE: IMPACT AND CRITIQUE OF FORENSIC EVIDENCE IN NIGERIA CRIMINAL JUSTICE SYSTEM AND OTHER JURISDICTIONS**

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Impact of Forensic Evidence</td>
<td>329</td>
</tr>
<tr>
<td>5.2</td>
<td>Critique of Forensic Evidence</td>
<td></td>
</tr>
<tr>
<td>5.2.1</td>
<td>Background to Critique</td>
<td></td>
</tr>
<tr>
<td>5.2.2</td>
<td>Law and Forensic Science Evidence</td>
<td>336</td>
</tr>
<tr>
<td>5.2.3</td>
<td>The Authenticity of Forensic Evidence</td>
<td></td>
</tr>
<tr>
<td>5.2.4</td>
<td>Strengths and limitations of the use of Forensic Evidence</td>
<td>346</td>
</tr>
<tr>
<td>A</td>
<td>Strengths</td>
<td>346</td>
</tr>
<tr>
<td>B</td>
<td>Limitations</td>
<td>348</td>
</tr>
<tr>
<td>5.3</td>
<td>Crime Scene Investigation and Management</td>
<td>350</td>
</tr>
<tr>
<td>5.3.1</td>
<td>Crime Scene Investigation</td>
<td>350</td>
</tr>
<tr>
<td>A</td>
<td>First Officer Attending</td>
<td>352</td>
</tr>
<tr>
<td>B</td>
<td>Crime Scene Preservation</td>
<td>353</td>
</tr>
<tr>
<td>C</td>
<td>Crime Scene Processing</td>
<td>353</td>
</tr>
<tr>
<td>D</td>
<td>Recording Crime Scene</td>
<td>354</td>
</tr>
<tr>
<td>E</td>
<td>Recovery of Physical Evidence</td>
<td>355</td>
</tr>
<tr>
<td>F</td>
<td>Handling and Packaging of Evidence</td>
<td>356</td>
</tr>
</tbody>
</table>
G  Detection Dogs - - - - - - - 359
H  Drug Detection - - - - - - - 360
I  Explosives Detection - - - - - - - 360
J  Arson Dogs - - - - - - - 361
K  Cadaver Dogs - - - - - - - 361
L  Search and Rescue Dogs - - - - - - - 362
M  Tracking Dogs - - - - - - - 362
N  Training - - - - - - - 362
O  Fieldwork - - - - - - - 363
P  Investigator’s kit - - - - - - - 364

5.3.2 Management of Forensic Evidence - - - - - 366

5.4 Cases Solved via the use of Forensic Evidence - - - 367

5.4.1 In Nigeria - - - - - - - 367

5.4.2 In United Kingdom - - - - - - - 375

5.4.3 In United States - - - - - - - 382

CHAPTER SIX:  CONCLUSION AND RECOMMENDATIONS

6.1 Summary - - - - - - - - 393

6.2 Conclusion - - - - - - - - 398

xvii
<table>
<thead>
<tr>
<th>Case</th>
<th>Source</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ababio II v. Nsemfoo</strong> (1947) 12 WACA 127</td>
<td></td>
<td>216</td>
</tr>
<tr>
<td><strong>Abass v. People of Lagos State</strong> (2016) All FWLR (Pt 834) at 116-117</td>
<td></td>
<td>74</td>
</tr>
<tr>
<td><strong>Abdulkabir v. State</strong> (2015) All FWLR (pt. 797) 65</td>
<td></td>
<td>76</td>
</tr>
<tr>
<td><strong>Abdullah v. Buhari</strong> (2004) 17 NWLR (Pt. 902) 278 at 303</td>
<td></td>
<td>300</td>
</tr>
<tr>
<td><strong>Adeta v. Nigerian Army</strong> (2016) All FWLR (pt. 855) 184</td>
<td></td>
<td>75</td>
</tr>
<tr>
<td><strong>Adeyemi Oggunnaike v. Taiwo Ojayemi</strong> (1987) 1N.W.L.R. (Pt. 53) 760</td>
<td></td>
<td>74, 193</td>
</tr>
<tr>
<td><strong>Adun v. Obayuwana</strong> (2016) All FWLR (pt 819) at 1139</td>
<td></td>
<td>208</td>
</tr>
<tr>
<td><strong>Afribank (Nig.) Plc v. Onyima</strong> (2004) 2 NWLR (Pt. 858) 654 at 688,</td>
<td></td>
<td>300</td>
</tr>
<tr>
<td><strong>Agunbiade v. Sasegbon</strong> (1968) NSCC 147 at 150</td>
<td></td>
<td>198</td>
</tr>
<tr>
<td><strong>Ahmed v. Nigeria Army</strong> (2011)1 NWLR.pt 45 at 484</td>
<td></td>
<td>219</td>
</tr>
<tr>
<td><strong>Aigbadon v. The State</strong> (1999) 1NWLR (pt. 586) 284</td>
<td></td>
<td>369</td>
</tr>
<tr>
<td><strong>Ajani v. Comptroller of Customs</strong> (1952) 14 WACA 34 at 36, (1954) 1 WLR.1405</td>
<td></td>
<td>213</td>
</tr>
<tr>
<td><strong>Akiga v. The Tiv Native Authority</strong> (1965) 2 All N.L.R. 146</td>
<td></td>
<td>194</td>
</tr>
<tr>
<td><strong>Alake v. Pratt</strong> (1955) 15 WACA 20</td>
<td></td>
<td>168</td>
</tr>
<tr>
<td><strong>Alashe v. Ilu</strong> 1 All N.L.R., 390 at 396</td>
<td></td>
<td>183</td>
</tr>
<tr>
<td><strong>Aloba Pharmaceutical Chemist Limited v Balogun</strong> (1997) 6 NWLR (pt. 509) 509</td>
<td></td>
<td>217</td>
</tr>
<tr>
<td><strong>Arab v. Bauchi Native Authority</strong> (1965) N.N.L.R. 49</td>
<td></td>
<td>195</td>
</tr>
<tr>
<td><strong>Araka v. Egbue</strong> (2003) 17 NWLR (Pt. 848)</td>
<td></td>
<td>181</td>
</tr>
</tbody>
</table>

Aromoloran v. Agoro (2014) 18 NWLR (Pt. 1438) 153 at 170


Attah v. COP (2003) 17 NWLR (Pt. 849) 250


Azu v. The State (1993) 7 SCNJ (pt.1) 151

Babatola v Aiadejana (2001) 12NWLR (pt. 728) 597

Balaban & Katz Corp. v. Commissioner of Internal Revenue 30F(2d) 807 (7th Cir.929) - 47

Barford v. Barford & Mcleod (1918) 140

Bayo Banjo v Alli Jamiu (Unreported) Ibadan Suit No 1/122 169, judgment dated June 3, 1970

Bello Adedibu v. Gbadamo si Adedoyin and another (1951) 13 WACA 191

Briggs v. Wilson, (1854) 5 DEGM & G 12; 43 ER 772

Bronik Motors Limited v. Wema Bank (1983) 1 AC 110

Buckley v. Rice-Thomas (1554) 1 Plowd 118 at 124

Bumper Development v. Metropolitan Police Commissioner (1991) 4 All ER 638

Buraimo v. Gbamgboye (1989)115 N. L. R. 139

Chevron (Nig) Ltd. v. Aderibigbe (2012) 4 NWLR (pt. 1289) 1

Chief Awara osu and Ors. v. Ibor Igiri and Ors SC/144/1985

Cole v. Akinyele, (1960) 5 FSC 84

Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 57, 113 S. 125 L.Ed.2d 469

Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 57, 113 S. 125 L.Ed.2d 469
Davie v. Edinburgh Magistrates (1953) SC 34, at p.40 .................................. 43, 139
Denloye v. Medical & Dental Practitioners Disciplinary Committee (1968) 1 All N.L.R
306 .................................................................................................................... 191
Director of Public Prosecutions, Gauteng v Pistorius (96/2015) (2015) ZASCA 204 -- 406
Duchess B. Sora v. Phillipa (1863) 10 tt. Cas. 64 at 640 .............................................. 213
Early Nelson v. Lord Birdport (1843) 8 Beau 52 at 537 .................................................. 213
Eyo v. State (2016) All FWLR (Pt 829) 1042 ............................................................... 404
Fawehinmi v Inspector General of Police (2002) 1 NWLR (Pt. 767) 606 at 673 ---- 300
Fawehinmi v. NBA (No. 2) (1989) 2 N. W. L. R. (Pt. 105) 558 ............................................. 184
.................................................................................................................... 300,301,305, 310, 313, 316, 319
Field v Leeds City Council (2001) 2 CPLR 129 ............................................................. 261
First Galesburg National Bank & Trust Company v. Federal Reserve Bank, 52. N.E.2d 337
.....................................................................................................................209, 210
Folkes v. Chadd (1782) 3 Doug K.B. 157, 158 .............................................................. 44, 206
Gaskill v. Gaskill (1921) B 425 .................................................................................. 53
Giwa v. Erumilokun (1961) All N.L.R. 294 at 294 ................................................. 216
Haskell v. Harris 754 F. 3d 1269 (9th Cir. 2014) 260
Hekse v. Plankshak (2008) 15 NWLR (pt. 1109) 105 75
Higham v. Ridgway, (1808) 10 East 109, 119; 103 E. R. 717 187
Idiok v. State (2008) All FWLR (pt. 421) at 797 76
Iduha v. Esseh (1996) 5 NWLR (pt. 451) at 218 211
Idundun and others v. Daniel Okumagba (1976) 9 105C 227 216
Ikebudo v. Botnu Native Authority (1966) N.N.L.R. 44 194
Innocent Uchenna Ikedigwe v. Wong Yui Fai (2012) 10 NWLR (pt. 1308) 375 75
Jammal Steel Structures Limited v. ACB (1973) 1 All NLR 208 287
John Nwachukwu v. State (1985) 3 NWLR (pt. 11) 218 at 227 74
Jos Native Authority v. Allah Na Gani (1968) NMLR .8 195
Judicial Service Committee v. Omo (1990) NWLR (Pt. 157) 407 74,200
Kubor v. Dickson (2013) 4 NWLR (Pt. 1345) 534 at 579 174,181
Larinde v. Afikpo (1940) WACA 108 168
Maryland v. Alonzo Jay King, 569 U. S. 2013 ........................................ 257, 383, 398
Melwani v Chanlira Corp (1995) 6 NWLR (pt. 402) at 438 .......................... 213
Miller v. California, 413 U. S. 15, 93 S.Ct. 2607 .................................. 209
Noel v. United Aircraft Corp. 342 F. (2d) 232 (3d Cir. 1964) ....................... 47
Ogbonna v. Ogbuji (2014) 6 N. W. L. R. (Pt. 1403) 205 at 231 ....................... 170
Ogogovie v. State (2016) All FWLR (pt 847) at 429 .................................. 73
Ogunaike v. Ojayemi (1978) 1 NWLR (pt. 53) 760 .................................. 193
Ogundipe & ors v. R (1954) 14 WACA. 458 ........................................... 73
Ogunro v. Ogedengbe (1960) 5 F.S.C. 137 .............................................. 214
Olufosoye v. Olorunfemi (1989) 1NWLR (pt. 95) 26 .................................. 201
Olusemo v. Commissioner of Police (1988) 1 NWLR (Pt. 575) 557 .................. 301
Omaye v. Omagu (2008) 7 NWLR (pt. 1087), 482 ................................... 216
Omoijohe v. Umoru (1999) 69 LRCN 1344 ............................................. 280
Onyeanwusi v Okpukpara (1953) 14 WACA 311 ...................................... 189
Osinowo v. Fagbenro (1954) 21 NLR 3 ................................................. 168
People v. Buza 129 Cal. Rptr. 3d 753 (App. 2011) .................................. 259
Queen v Bonython (1984) 38 SASR 45, 46 to 47 .................................... 261
Queen v. Akpan (1961) 1 All NLR 3 .................................................... 2,36, 264,374
<table>
<thead>
<tr>
<th>Case</th>
<th>Year/Volume</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>R v Adam Scott</td>
<td>2012</td>
<td>3 SCR 34</td>
</tr>
<tr>
<td>R v Agwuna</td>
<td>1949</td>
<td>12 WACA 456 at 458</td>
</tr>
<tr>
<td>R v Buckley</td>
<td>1999</td>
<td>All ER (D) 1521</td>
</tr>
<tr>
<td>R v Coleman</td>
<td></td>
<td>6 Cox 163</td>
</tr>
<tr>
<td>R v Garry Dobson and David Norris</td>
<td>2013</td>
<td>EWCA Crim. 712</td>
</tr>
<tr>
<td>R v Itule</td>
<td>1961</td>
<td>1 All NLR 462</td>
</tr>
<tr>
<td>R. v Kearley</td>
<td>1992</td>
<td>2 All ER 345</td>
</tr>
<tr>
<td>R v Killbourne</td>
<td>1973</td>
<td>A.C. 729 at 756</td>
</tr>
<tr>
<td>R v Kyo Soo Kim</td>
<td>2007</td>
<td>EWHC 1463 (QB)</td>
</tr>
<tr>
<td>R v Loake</td>
<td>1911</td>
<td>1 CR App. Rep 71</td>
</tr>
<tr>
<td>R v Locke</td>
<td>1991</td>
<td>17 Cr. App. R 71</td>
</tr>
<tr>
<td>R v Manson</td>
<td>1911</td>
<td>7 Cr. App. R. 67</td>
</tr>
<tr>
<td>R. v. Michael Adedapo Omisade &amp; Ors</td>
<td>1964</td>
<td>N.M.L.R. 67; 1 All N.L.R. 233</td>
</tr>
<tr>
<td>R v Onitiri</td>
<td>1946</td>
<td>12 WACA 58</td>
</tr>
<tr>
<td>R v Orisinmi</td>
<td>1946</td>
<td>12 WACA 58</td>
</tr>
<tr>
<td>R. v. Sala Sati</td>
<td>1938</td>
<td>4 W.A.C.A. 10; Ogundipe &amp; Ors. V R.</td>
</tr>
<tr>
<td>R v Silverlock</td>
<td>1894</td>
<td>QB 766</td>
</tr>
<tr>
<td>R v Vincent Tabak</td>
<td>2011</td>
<td>case no. T20117031</td>
</tr>
<tr>
<td>Re Winship</td>
<td>1970</td>
<td>397 U.S. 358, 90 S.Ct. 1068, 25 L.Ed.2d</td>
</tr>
<tr>
<td>Ryan v. United States</td>
<td>2d</td>
<td>379 (1st Cir. 1967)</td>
</tr>
<tr>
<td>Sadau v. The State</td>
<td>1968</td>
<td>ANLR 125 at 129</td>
</tr>
<tr>
<td>Salami Lawal v. Commissioner of Police</td>
<td>2009</td>
<td>16 NWLR (pt. 1167) 225</td>
</tr>
</tbody>
</table>
Savannah Bank Limited v. Pan Atlantic Shipping and Transport Agency Limited

(1987) 1 SCNJ 88 (Pt. 49)  

Seismograph Service (Nigeria) Ltd v. Ogbeni (1976) 4 S. C. 85  

Shekse v. Plankshak (2008) 15 NWLR (pt. 1109) 105  


Shell Petroleum Co. Ltd. v Oloko (1999) 6 NWLR (pt 159), 693  

Shell Petroleum Development Co. v Isaiah (1997) NWLR (pt. 508) 236  

Shonubi v. People of Lagos State (2015) All FWLR (pt. 801) at 1424, 1432-1433


State of Ohio v. Raymond Samuels (2007)-Ohio-3904  

State v Perry 610 So. 2d 764 (1992)  


State v. Brock 296 N.E. 2d 837  

State v. Jackson, 76 P.3d 217 (Wash 2003)  

State v. Raynor 191 L. Ed. 2d 433 (2015)  

State v. Shaun Wainwright 477 U.S 168, 181, 106 S.Ct  

State v. smith (1990) 573 So.2d 306  

State v.Uhunoma(unreported) charge no.B/53c/2004, High Court of Justice, Benin City-405  


Taiye v. State (2015) All FWLR (Pt. 805) at 48  

Torti v. Ukpabi (1984) ANLR 185 at 195  


United States v Szczubelek 402 F 3d 175, 185 (3d Cir. 2005)

United States v. Jacobetz 955 F. 2d 799 (2nd Cir.) ........................................ 390


V.I. Amadasun and Ors v. Chief Isosonwin Ohenso and Ors (1960) NMLR 197 at 180 -294

Yau Tittidabale v. Sokoto Native Authority (unreported) (1964) 1 Nigerian Law Journal, 123 .......................................................... 211


<table>
<thead>
<tr>
<th>Statute</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration of Criminal Justice Act 2015</td>
<td>6, 7, 423</td>
</tr>
<tr>
<td>Code of Conduct Bureau and Tribunal (Establishment) Act</td>
<td>308, 309</td>
</tr>
<tr>
<td>Code of Conduct Bureau and Tribunal Decree No.1 of 1989</td>
<td>309</td>
</tr>
<tr>
<td>Companies Income Tax Act, 1961</td>
<td>317</td>
</tr>
<tr>
<td>Criminal Evidence (Amendment) Act 2003</td>
<td>227</td>
</tr>
<tr>
<td>Criminal Evidence (amendment) Act, 1997</td>
<td>227, 235</td>
</tr>
<tr>
<td>Criminal Justice Act 1988</td>
<td>227</td>
</tr>
<tr>
<td>Criminal Justice Act, 2003</td>
<td>227, 228, 233, 410</td>
</tr>
</tbody>
</table>
Criminal Justice and Public Order Act, 1994 .................................................. 227, 238

Criminal Justice and Public Order (amendment) Act, 2017 ................................. 233

Criminal Procedure Act, Cap C41, Laws of Federation of Nigeria, 2004 ................. 7

Corrupt Practices and other related offences Act, 2000 ...................................... 153, 410

Customary Courts (Amendments) Edict, 1985 ................................................. 295

Customary Courts Law, 1984 ............................................................................ 294

Cybercrimes (Prohibition, Prevention etc) Act, 2015 .......................................... 153, 155, 410

Dangerous Drugs Ordinance, 1935 ................................................................... 311

DNA Arrestee Laws 2013 .................................................................................. 225

DNA Fingerprint Act of 2005 ............................................................................ 225


Economic and Financial Crimes Commission (Establishment) Act, 2004 ........... 153,304

Evidence Act, Cap E14, Laws of Federation of Nigeria 2004 ....................... 1, 6, 37, 41, 164, 165, 167, 172, 175, 176, 184, 187, 188, 189, 190, 191, 249, 250
<table>
<thead>
<tr>
<th>Law</th>
<th>Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evidence Act, 2011</td>
<td>1, 3, 4, 5, 6, 32, 34, 38, 39, 70, 71, 72, 162, 165, 166, 167, 169, 171, 173, 174, 176, 177, 179, 180, 181, 182, 185, 188, 189, 190, 191, 194, 195, 196, 197, 198, 199, 200, 201, 205, 206, 214, 215, 216, 217, 221, 346, 409</td>
</tr>
<tr>
<td>Evidence Act, Cap 112 Laws of Federation of Nigeria, 1990</td>
<td>6, 34, 38, 162, 163</td>
</tr>
<tr>
<td>Evidence Ordinance, 1943</td>
<td>159</td>
</tr>
<tr>
<td>Federal High Court (Civil Procedure) Rules 2009</td>
<td>182</td>
</tr>
<tr>
<td>Federal Revenue Court Act, 1973</td>
<td>285</td>
</tr>
<tr>
<td>Federal Rules of Evidence, 2014</td>
<td>223, 345</td>
</tr>
<tr>
<td>Federal Rules of Evidence, (as amended) 2017</td>
<td>223, 224, 225, 226, 253</td>
</tr>
<tr>
<td>Federal Rules of Evidence, 1975</td>
<td>253</td>
</tr>
<tr>
<td>Federal Rules of Evidence, 2011</td>
<td>254</td>
</tr>
<tr>
<td>Federal Inland Revenue Service (Establishment) Act, 2007</td>
<td>316, 318</td>
</tr>
<tr>
<td>Land Instruments (Preparation &amp; Registration) Law, Cap. 74 Laws of Rivers State of Nigeria, 1999</td>
<td>182, 183</td>
</tr>
<tr>
<td>Land Use Act 1978</td>
<td>295</td>
</tr>
</tbody>
</table>
Legal Practitioners Act Cap L11 LFN, 2004 327
Legal Education Act Cap L11 LFN, 2004 327
Magistrate Courts Law of Lagos State, 2009 293
Magistrates’ Courts Ordinance, 1943, Ordinance No. 24 of 1943 159
Miscellaneous Offences Act 304
Money Laundering (Prohibition) Act, 2011 153, 410
National Agency for Food and Drug Administration Act 310
Nigeria Security and civil Defence Corps Act, 2003 314, 315
Nigeria Security and Civil Defence Corps (Amendment) Act, 2007 315
Penal code laws, Cap 89, Laws of Federation of Nigeria, 2004 153
Police Act, 1943 251, 299, 301, 409
Police and Criminal Evidence (Amendment) Act, 2017 228, 230, 233, 234, 235, 236,
237, 238, 239, 240, 241, 242,
243, 244, 247, 248, 249
Police and Criminal Evidence Act, 1984 226, 410
Protectorate Court Ordinance of 1943 Ordinance No. 45 of 1943 159
Provincial Courts Ordinance, 1914, No. 7 Cap. 4, 1923 Laws of Nigeria 159
Rent Control and Recovery of Residential Premises Law 1977

Serious Organised Crime and Police Act 2005

Special Tribunal (Miscellaneous Offences) Decree No.20 of 1984

Supreme Court (Civil Procedure) Rules 1948

Supreme Court Ordinance No. 4 of 1876

Supreme Court Ordinance, 1943 Ordinance No. 23 of 1943

Tax Administration Ordinance No.39 1958

The Advance Fee Fraud and Other Related Offences Act 1995

The Banks and Other Financial Institutions Act 1991

The Failed Banks (Recovery of Debts) and Financial Malpractices in Banks Act 1994-

The Increased jurisdiction of Area Customary Courts Order, 2012

Increased jurisdiction of Magistrates in Civil and Criminal Matters Order 2011------

The Money Laundering (Prohibition) Act 2004

The Money Laundering Act 1995

---------------
227, 230, 233, 242, 410

311, 312

324

159, 326

159, 324, 326

316

304

304

304- 304

295

293

304

304
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>APPEAL CASES</td>
</tr>
<tr>
<td>All ER</td>
<td>ALL ENGLAND LAW REPORTS</td>
</tr>
<tr>
<td>All FWLR</td>
<td>ALL FEDERATION WEEKLY LAW REPORTS</td>
</tr>
<tr>
<td>All NLR</td>
<td>ALL NIGERIA LAW REPORTS</td>
</tr>
<tr>
<td>ANLR</td>
<td>ALL NIGERIA LAW REPORTS</td>
</tr>
<tr>
<td>App. D.C.</td>
<td>APPEAL CASES DISTRICT OF COLUMBIA</td>
</tr>
<tr>
<td>Ariz.</td>
<td>ARIZONA REPORTS</td>
</tr>
<tr>
<td>B</td>
<td>BARBOUR’S NEW YORK SUPREME COURT REPORTS</td>
</tr>
<tr>
<td>Beav</td>
<td>BEAVAN’S ROLLS COURT REPORTS</td>
</tr>
<tr>
<td>Cal. Rptr.</td>
<td>CALIFORNIA REPORTER</td>
</tr>
<tr>
<td>CAS</td>
<td>COURT OF ARBITRATION FOR SPORT</td>
</tr>
<tr>
<td>Cox</td>
<td>COX’S CRIMINAL CASES</td>
</tr>
<tr>
<td>D. C.</td>
<td>DOW AND CLERK’S HOUSE OF LORDS CASES</td>
</tr>
<tr>
<td>D.C. Cir.</td>
<td>UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT</td>
</tr>
<tr>
<td>Doug. K. B.</td>
<td>DOUGLAS’ KING’S BENCH REPORTS</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Title</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>NWLR</td>
<td>NIGERIA WEEKLY LAW REPORT</td>
</tr>
<tr>
<td>P.</td>
<td>PACIFIC REPORTER</td>
</tr>
<tr>
<td>P.2d</td>
<td>PACIFIC REPORTER, 2ND SERIES</td>
</tr>
<tr>
<td>P.3d</td>
<td>PACIFIC REPORTER, 3RD SERIES</td>
</tr>
<tr>
<td>Plowd</td>
<td>PLOWDEN’S COMMENTARIES OR REPORTS</td>
</tr>
<tr>
<td>QB</td>
<td>QUEEN’S BENCH</td>
</tr>
<tr>
<td>S.Ct.</td>
<td>SUPREME COURT REPORTER</td>
</tr>
<tr>
<td>SC</td>
<td>SUPREME COURT</td>
</tr>
<tr>
<td>SCNJ</td>
<td>SUPREME COURT OF NIGERIA JUDGMENT</td>
</tr>
<tr>
<td>So</td>
<td>SOUTHERN REPORTER</td>
</tr>
<tr>
<td>So. 2d</td>
<td>SOUTHERN REPORTER, 2ND SERIES</td>
</tr>
<tr>
<td>S.W.</td>
<td>SOUTH WESTERN REPORTER</td>
</tr>
<tr>
<td>S.W.2d</td>
<td>SOUTH WESTERN REPORTER, 2ND SERIES</td>
</tr>
<tr>
<td>S.W.3d</td>
<td>SOUTH WESTERN REPORTER, 3RD SERIES</td>
</tr>
<tr>
<td>U.K.</td>
<td>UNITED KINGDOM</td>
</tr>
<tr>
<td>U.S.</td>
<td>UNITED STATES REPORTER</td>
</tr>
<tr>
<td>WACA</td>
<td>WEST AFRICAN COURT OF APPEAL REPORT</td>
</tr>
<tr>
<td>WLR</td>
<td>WEEKLY LAW REPORTS</td>
</tr>
</tbody>
</table>
CHAPTER ONE

GENERAL INTRODUCTION

1.1. Background of The Study

Sequel to the enactment of the Evidence Act 2011, the old Evidence Act, Cap E14, Laws of Federation of Nigeria 2004 made provisions for the admissibility of forensic evidence through forensic science as can be found in section 68, tagged “opinions of experts, when admissible”, which was expanded in the 2011 Evidence Act. These provisions are though not as elaborate as those provisions found in the Laws of Evidence of other jurisdictions where full fledge forensic evidence is practiced. Crime solving in these jurisdictions are made easy thereby developing their criminal justice systems. Forensic science has been around these jurisdictions for thousands of years.\(^1\) It is however a thing of great surprise that in Nigeria, a country of over one hundred and seventy million (170 million) people with diverse cultures and backgrounds, there seem to be no interest in developing the science to assist in the resolution of crimes; convicting the wrongdoers and exonerating the innocent.

The Nigeria Police and other security agencies rely heavily on eye witness testimonies (a major source of our police investigation), circumstantial evidence in the absence of eye witness testimonies and finally, confessions\(^2\) where others fail. A combination of two or all of them is a fantastic investigation done as far as they are concerned. Whereas, the most important source of evidence; forensic evidence which are more reliable, authentic, concrete and productive are swept under the carpet. It is not in doubt

\(^1\) Stephanie Watson, History of Forensics, available at [https://science.howstuffworks.com/forensic-lab-technique1.htm](https://science.howstuffworks.com/forensic-lab-technique1.htm) accessed 12/3/15 at 4.31pm

\(^2\) Which are mostly forced
that where several persons are eye witnesses to an offence, their testimonies do differ. This leads to the creation of doubt which is ultimately resolved in favour of the accused. Many cases abound without eye witnesses in Nigeria which end up as cold/unsolved cases that may never be re-opened.

Crimes especially heinous crimes are committed on a daily basis in Nigeria, with majority of the perpetrators walking away scot free; thinking of their next crime with confidence of never to be caught. It is most disturbing to know that the perpetrators left clues at the crime scenes to enable the investigators trace them, yet they get away with their crimes. Crime scenes are not protected by the Nigeria Police to preserve clues left behind by the perpetrators for forensic analysis which will eventually bring the perpetrators to book. It is disheartening to see how crime scenes are managed by the police. They first troop to the supposed crime scenes without any attempt to secure them, as if there is nothing to it, and end up destroying and eroding all clues left behind by the perpetrators. One then wonders how the Nigeria Police and other security agencies have been functioning without or without proper forensic science for decades. Granted forensic science has been there, it is just that, it is not been developed.

In the old case of *The Queen v. Akpan*\(^3\), the accused was charged with burglary and stealing contrary to sections 411(1) and 390(4)(b) of the Criminal Code respectively. The accused denied the allegations stating that at the time of the alleged offence, he was far away from the scene of the crime. He stated further that none of the alleged stolen properties was found in his possession and finally stated that the 2\(^{\text{nd}}\) prosecution witness, Inspector Fayemi, who conducted the investigations, had a grudge against the accused and trumped up this case against him. On one of the louvers removed by the

\(^3\) *The Queen v. Akpan* (1961) 1 All NLR 3
police from the house of the 1st prosecution witness which has been broken into, there was a finger-print impression and a person of experience and training compared it with the accused finger-prints. He gave evidence with sixteen similarities, and testified that he excluded the possibility of the impression on the louver being that of any other person. The trial judge also made a visual examination of the exhibit put in by the witness and satisfied himself that the two finger-prints impressions were identical and found him guilty. On appeal, the appellant advanced same arguments earlier put forward at the trial court. In delivering the judgment, Taylor F. J. of the Federal Supreme Court held that the method by which entry had been gained into the premises was in fact through the window by removing some eight or ten of these louvers from their fastenings. That the trial Judge found him guilty because the evidence showed that the accepted finger-prints of the appellant were similar to the finger-prints discovered on the louver. The court held that there was no substance in the appeal and that the conviction based as it was on the similarity of the forger-prints under the circumstances of this appeal is sound and therefore upheld the conviction.

1.2. Statement of the Problem

The researcher intends to carry out critical research on the Evidence Act by x-raying its provisions with regard to forensic evidence which is the key to curbing crimes. Forensic evidence is now universally accepted, yet there seem to be no concerted effort by the Nigerian government to develop this line of science to a greater height in crime investigation; despite the obvious good it will do to accused persons, and those innocently and wrongfully convicted. Nigeria being a member of comity of nations cannot be left out in the scheme of things. The need for Nigeria to develop its criminal justice system through the total embrace of forensic evidence is in dire need. Hence, the
need to x-ray the Nigerian Evidence Act provisions on forensic evidence through forensic science which is the key to developing Nigeria criminal justice system became a veritable area of legal research.

1.3. **Objectives of the Study**

The specifics of the research are to:

a. X-ray the provisions of the Evidence Act in respect of forensic evidence admissibility.

b. Examine the application of the provisions of the Evidence Act in respect of forensic evidence in criminal investigation/adjudication.

c. Appreciate the impact of the use of forensic evidence in the development of the Nigeria criminal justice system.

d. Compare the nature and effect of forensic evidence in Nigeria Evidence Act with that of other jurisdictions.

e. Analyze the drawbacks in the embrace of forensic evidence in Nigeria

1.4. **Significance of the Study**

The significance of the research work is itemized here under:

A. Bringing to the fore, the fact that the Nigerian Evidence Act provisions are not far from that of other jurisdictions practicing full fledge forensics.

B. Exposing the fact that full forensic Evidence practice has taken over the globe, especially in the technologically advanced countries.

C. The clamour for Nigeria to join other countries practicing full forensic evidence in their administration of criminal justice in view of the enormous benefits it presents.

D. Revealing the flaws or setbacks of the employment of forensic evidence,
notwithstanding its overwhelming advantages in Justice Administration.

E. Recommending that the cure to this problem amounts to the provision of facilities and logistics in support of full forensic evidence practice.

F. The research work is a veritable material for all knowledge seekers, such as academics, policy makers and jurists which is made easily accessible following its multi-disciplinary nature.

1.5. **Scope and Limitation of Study**

The research work will be limited to the analysis of existing legal and statutory authorities in the country with a view to ascertaining whether they have adequately addressed the problems relating to the embrace and admissibility of complete forensic evidence. The Evidence Act has no doubt made provisions for the admissibility of forensic evidence and there have also been judicial pronouncements towards the admissibility of forensic evidence. Judges, commentators and writers have not however widely dissected and appreciated the omnibus provision of section 68 of the Evidence Act\(^4\) as the key to all forms of criminality in Nigeria. It provides thus:

(1) when the court has to form an opinion upon a point of foreign law, customary law or custom, or of science or art, or as to identity of handwriting or finger impressions, the opinions upon that point of persons specially skilled in such foreign law, customary law or custom, or of science or art, or in questions as to identity of handwriting or finger impressions, are admissible

Persons so specially skilled was defined by subsection (2) as “experts.”

\(^4\) 2011
The research work will be restricted to the Evidence Act 2011\(^5\), the Constitution which is the grundnorm will be x-rayed for friendly/enabling laws towards this end, other relevant legislations and case laws will be employed. Finally; attempts will be made to look at the laws enabling the use of forensic evidence of some foreign jurisdiction for purposes of comparing and contrasting same with Nigerian Laws. This will help determine where the problems of our failure to fully embrace forensic evidence lies. This work like every other works is not however going to be without hiccups otherwise known as limitations. There exist a number of limitations in the process of putting the thesis together amongst which are poor access to materials within jurisdiction clearly due to the fact that the thesis topic is a grey area of research. This made search for most materials difficult. Accessing foreign materials led to time wastage as online bookings take alot of time for the desired materials to arrive as against buying off counter. Few and scanty laboratories dealing on forensic examinations also acted as obstacles to the needed materials. These laboratories are few and far between such that accessing them acts as great impediment to the success of the work. The issue of privacy was another problem as the officers in charge of the laboratories were either not willing to release information at all or as much of information required for the thesis.

1.6. **Research Methodology**

This simply means the process used to collect information and data for the purpose of making decisions. It is commonly referred to as research method. Legal research, as with other fields of study has a pattern of research method; which end up proffering answers to research questions. Legal research can either be doctrinal or non-doctrinal.

Doctrinal is to research into the law as it is in the books, while non-doctrinal is the research into the workings of the laws in the society.

The researcher intends to employ doctrinal method in this research. The researcher shall rely on both primary and secondary sources. The primary sources are the Evidence Act, the constitution, The Administration of Criminal Justice Act, 2015 (which repealed the criminal procedure Act⁶, though the Criminal Procedure Law is still applicable in States until the incorporation of the later into their laws) and other legislations and textbooks relevant in the course of the research. The secondary sources are internet materials, journals, conference proceedings, seminars and workshop papers.

1.7. Theoretical Framework

Many criminals get away with their crimes following the inability of our law enforcement agencies to trace them and then tie them to the crimes. This is because they still rely on the old methods of fighting crime without taking cognizance of current technological innovations. This has led to the increase in crime rate in Nigeria. The aim of this research work is to develop ways in which criminals can easily be brought to book. This will end up reducing crime rate in Nigeria.

To solve this problem of rising crime, there has to be the introduction of the use of forensic evidence in fighting crime. This of course will require a lot of sacrifices as the use of forensic evidence through forensic science can only work where other enabling factors are in place. These include enabling laws, database, laboratories and capable personnel’s.

Although there are some work done in this area of the law, most of them are foreign while the few local ones never suggested how the menace of criminality can be curbed.

---

⁶ Section 493 of the Administration of Criminal Justice Act 2015 repealed the Criminal Procedure Act, Cap C41, Laws of Federation of Nigeria, 2004
1.8. Definition of Terms

For better understanding of the research work, it is important to explain some key terms in detail. These include:

a. Evidence

Evidence can be broadly defined as the means through which an inference may logically be drawn as to the existence of a fact; that which makes evident or clear. It is the demonstration of a fact or point; it signifies that which demonstrates, makes clear or ascertains the truth of the very fact or point in issue, either on the one side or on the other. In acceptation, the term ‘evidence’ includes all the means by which any alleged matter of fact, the truth of which is submitted to investigation, is established or disproved. It means any species of proof legally presented at the trial of an issue by the act of the parties and through the medium of witnesses, records, documents, concrete objects, and the like. It is the means of establishing and proving the truth or untruth of any fact that is alleged.

Evidence can be defined as the testimony, whether oral, documentary or real, which may be legally received in order to prove or disprove some facts in dispute. It is the testimony, hearsay, documents, things and facts which a court will accept as evidence of the facts in issue in a given case. It is also any matter of fact, the effect, tendency, or design of which is, to produce in the mind, a persuasion, affirmative, or disaffirmative, of the existence of some other matter of facts, and that judicial evidence is evidence received by courts of justice in proof or disproof of facts, the existence of which comes in question before them.

---

Evidence is information, etc that gives ground for belief; that which points to, reveals or suggests something. It is either written or spoken testimony used in a court of law.\footnote{9}{Robert A., Chambers 21st Century Dictionary (Rev. ed., Chambers Harrap Publishers, 2004) p. 453} Allen in his book\footnote{10}{Allen, “Source Book On Evidence” (London: Cavendish Publishing Limited, 1996) p. 1} said evidence may have several meanings depending on the context in which it is used. To him, evidence may refer to testimony that had been given by a witness in court on the one hand, or it may refer to legally admissible testimony. By extension, judicial evidence is evidence received by courts of justice in proof or disproof of facts, the existence of which comes in question before them.


Something (including testimony, documents and tangible objects) that tends to prove or disprove the existence of an alleged fact. It is any matter of fact which is furnished to a legal tribunal, otherwise than a reasoning or a reference to what is noticed without proof, as the basis of inference in ascertaining some other matter of fact

To Akinola Aguda\footnote{12}{Akinola Aguda, “The Law of Evidence” (4th ed., Spectrum Books Limited, 2001) p.1}, evidence is the means by which facts are proved but excluding inferences and arguments. It could either be by oral testimony of persons who perceived the fact, or by the production of documents, or by the inspection of things or places. Evidence has been defined as the means employed for the purpose of proving an unknown or disputed fact, and is either judicial or extrajudicial.\footnote{13}{Klotter J. C., and Meier C. L. Criminal Evidence For Police (4th ed., U.S.A.: W. H. Anderson Company, 1973) p. 10} It is generally any information upon which a person can make a decision.

There are various standards of evidence or standards showing how strong the evidence must be to meet the legal burden of proof in a given situation, ranging from reasonable
suspicion to preponderance of evidence, clear and convincing evidence, or beyond reasonable doubt.\(^1\)

There are several types of evidence, depending on the form or source. Evidence governs the use of testimony (e.g., oral or written statements, such as an affidavit), exhibits (e.g., physical objects), documentary material, or demonstrative evidence, which are admissible (i.e., allowed to be considered) in a judicial or administrative proceeding (e.g., a court of law).

When a dispute, whether relating to a civil or criminal matter, reaches the court there will always be a number of issues which one party will have to prove in order to persuade the court to find in his or her favour. The law must ensure certain guidelines are set out in order to ensure that evidence presented to the court can be regarded as trustworthy.

b. **Science**

This can generally be defined as the systematic observations and classifications of natural phenomena in order to learn about them and bring them under general principles and laws.\(^2\) The systematic study of the nature and behaviour of the material and physical universe, based on observation, experiment, and measurement, and the formulation of laws to describe these facts in general terms. The observation, identification, description, experimental investigation, and theoretical explanation of phenomena: new advances in science and technology. The investigation of natural phenomena through observation, experimentation, and theoretical explanation. Science makes use of the scientific method, which includes the careful observation of natural


phenomena, the formulation of a hypothesis, the conducting of one or more experiments to test the hypothesis, and the drawing of a conclusion that confirms or modifies the hypothesis.\textsuperscript{16}

c. Crime

The term crime simply connote an act which is gravely wrong in a moral sense, a deplorable act; a shame. Legally, crime means an act that the law makes punishable; the breach of a legal duty treated as the subject matter of a criminal proceeding.\textsuperscript{17} It is an illegal act; an act punishable by law.\textsuperscript{18} An offence against the State that is punishable. The act or omission may also be civilly actionable. Prevailing legal thinking takes the positivist view that any conduct can be declared criminal, so everything from murder to a failure to renew a television licence can be a crime. Most legal systems require that the accused person should exhibit \textit{mens rea} (‘a guilty mind’) as well as having carried out the \textit{actus reus}, being the physical requirement. Thus, in theft the accused must have taken the thing (although this is interpreted differently in different systems) and have intended to deprive the true owner of his ownership (although this too can be formulated differently in different systems). Motive is generally irrelevant. A crime is sometimes distinguished from delicts and contraventions, especially in the civil law jurisdictions: a crime is a serious crime, a delict a major offence and a contravention a trivial breach of the law. Crimes are also distinguished from offences, the latter being considered more trivial. The common law world has had a distinction between crime (grave) and misdemeanour (slight). Another common distinction is between \textit{mala in se},

\begin{itemize}
\item[\textsuperscript{16}] Farlex I., \textit{Free Dictionary}, available at \url{www.thefreedictionary.com/} accessed 21/3/2016 at 5.2
\end{itemize}
or ‘bad in themselves’ or they are *mala prohibita*, ‘bad because prohibited’, as being against public policy.

Crime is the violation of a law in which there is injury to the public or a member of the public and a term in jail or prison, and/or a fine as possible penalties. There is some sentiment for excluding from the "crime" category crimes without victims, such as consensual acts, or violations in which only the perpetrator is hurt or involved such as personal use of illegal drugs. A violation of a law in which there is injury to the public or a member of the public and a term in jail or prison, and/or a fine as possible penalties. There is some sentiment for excluding from the "crime" category crimes without victims, such as consensual acts, or violations in which only the perpetrator is hurt or involved such as personal use of illegal drugs. Crime is an offence against a public law. This word, in its most general signification, comprehends all offences but, in its limited sense, it is confined to felony.

The term misdemeanour includes every offence inferior to felony, but punishable by indictment or by particular prescribed proceedings. The term offence, also, may be considered as, having the same meaning, but is usually, by itself, understood to be a crime not indictable but punishable, summarily, or by the forfeiture of, a penalty. Crimes are defined and punished by statutes and by the common law. Most common law offences are as well known, and as precisely ascertained, as those which are defined by statutes; yet, from the difficulty of exactly defining and describing every act which ought to be punished, the vital and preserving principle has been adopted, that all
immoral acts which tend to the prejudice of the community are punishable by courts of justice.\textsuperscript{19}

d. Crime Scene

A crime scene is any location that may be associated with a committed crime. Crime scenes contain physical evidence that is pertinent to a criminal investigation. This evidence is collected by crime scene investigators (CSIs) and Law enforcement. The location of a crime scene can be the place where the crime took place, or can be any area that contains evidence from the crime itself. Scenes are not only limited to a location, but can be any person, place, or object associated with the criminal behaviours that occurred. After a crime scene has been discovered, it is important that measures are taken to secure and protect the scene from contamination. In order to maintain the integrity of the scene, law enforcement must take action to block off the surrounding area as well as keep track of who comes in and goes out. By taking these precautions, officers can ensure that evidence that is collected can be used in court. Evidence that has become contaminated, tampered with, or mistreated can pollute the scene and cause a case to be thrown out of court.\textsuperscript{20}

It is important that everything that occurs during the analysis of a crime scene is documented. It is the job of the initial responding officer to make sure that the scene has an extremely coherent and summarized documentation. The documentation should include the officers’ observations and actions while at the scene. The initial responder is in charge of documenting the appearance and condition of the scene upon arrival. The initial responder will also gather statements and comments from witnesses, victims,

\textsuperscript{19}Browseall Wex, \textit{Legal Dictionary}, available at \url{www.legal-dictionary.thefreedictionary.com/crime} accessed 2/3/2016 at 5.45am
\textsuperscript{20}Wikipedia, “Crime Scene” available at \url{www.en.wikipedia.org/wiki/crimescene} accessed 16/3/2015 at 5.51am
and possible suspects. Several other documents are also generated so that a crime scene's integrity is kept intact. These documents include a list of who has been in contact with evidence (chain of custody), as well as a log of what evidence has been collected.

e. **Criminal Justice System**

According to Blacks’ Law Dictionary, Criminal Justice System means the collective institutions through which an accused offender passes until the accusations have been disposed of or the accessed punishment concluded. The system typically has: Law enforcement (police, sheriffs, marshals), the judicial process (judges, prosecutors, defence lawyers), and corrections (prison officials, probation officers, and parole officers). This can also be termed Law enforcement system. Criminal justice system is a series of organizations involved in apprehending, prosecuting, defending, sentencing, and jailing those involved in crimes - including law enforcement, attorneys, judges, courts of law, prisons.

f. **Opinion**

Opinion simply refers to ideas, beliefs or judgment based mainly on feelings, it exists in the thinking, imagination and understandingly of the maker. Therefore, it is essentially judgmental. According to Afe Babalola, “The word opinion refers to a belief based on certainty or knowledge but on what seems true or probable. It is a product of the exercise of personal judgment, evaluation or estimation of some information that seems to be true or probable” Opinion is simply the exercise of personal judgment, evaluation or estimation of some information that seems to be true or probable. Opinion is

---

22 Brian Kariga and Daniel Fierro, *Criminal Justice System* Available at [www.dictionary.com/browse/criminal-justice-system](http://www.dictionary.com/browse/criminal-justice-system) accessed on 21/4/17 at 11.30am
however different from a fact with which it is often confused in that a fact refers to a state of things as they are or as they actually happened. Opinion on the other hand, refers to how the giver of the opinion thinks, believes or infers with regards to the facts in dispute, as distinguished from his personal knowledge of the facts themselves. Opinion can therefore be said to exist in the thinking, imagination or understanding of the maker, while fact on the other hand refers to reality the true or actual state of things.

g. **Experts**

This simply means persons examined as witnesses in a cause, who testify in regard to some professional or technical matter arising in the case, and who are permitted to give their opinions as to such matter on account of their special training, skill, or familiarity with it. An expert is a person who possesses peculiar skill and knowledge upon the subject matter that he is required to give an opinion upon. An expert is a skilful or experienced person; a person having skill or experience, or peculiar knowledge on certain subjects, or in certain professions; a scientific witness.24 Experts are persons who, through education or experience, have developed skill or knowledge in a particular subject, so that he or she may form an opinion that will assist the fact-finder.25

In *All Nigeria Peoples Party v. Usman*26 the court said that the term ‘expert’ is elusive because there is no guideline from the statutory provisions on how to identify an expert with a degree of certainty. Section 57(2) of the Evidence Act (now section 68(2)) describes an expert as a person specially skilled in any of the fields of foreign law, native law and custom, or of science or art, or in identifying handwriting or finger

---

impression. An expert is a person who in the opinion of the court has got sufficient practice or experience in the particular field of knowledge as a professional or amateur. It follows therefore that it is not only academic qualifications or formal training that can make one an expert in a particular field. There must be enough material before the court, to warrant treating a witness as an expert and the reception of his evidence as relevant evidence. The function of an expert is to assist the court in reaching the truth in the judicial process.

h.  **Witness**

Literally, witness means someone who sees, and can therefore give a direct account of, an event or occurrence, etc. Legally, it means someone who gives evidence in a court of law.²⁷ One who sees, knows, or vouches for something. One who gives testimony under oath or affirmation in person, by oral or written deposition, or by affidavit. The term ‘witness’, in its strict legal sense, means one who gives evidence in a cause before a court; and in its general sense includes all persons from whose lips testimony is extracted to be used in any judicial proceeding and so includes deponents and affiants as well as persons delivering oral testimony before a court or jury.²⁸ Every witness is an editor: he tells you not everything he saw or heard, for that would be impossible, but what he saw and heard and found significant, and what he finds significant depends on his preconceptions.

i.  **Expert Witness**

An expert witness is a person who has had special training, education, or experience. Because of this experience and background, the expert witness may be able to assist the

court in resolving the issues before them. An expert witness has also been defined as a person who is a specialist in a subject, often technical, who may present his/her expert opinion without having been a witness to any occurrence relating to the lawsuit or criminal case. It is an exception to the rule against giving an opinion in trial, provided that the expert is qualified by evidence of his/her expertise, training and special knowledge. If the expertise is challenged, the attorney for the party calling the "expert" must make a showing of the necessary background through questions in court, and the trial judge has discretion to qualify the witness or rule he/she is not an expert, or is an expert on limited subjects. A witness qualified by knowledge, skill, experience, training, or education to provide a scientific, technical, or other specialized opinion about the evidence or a fact issue. The party offering a witness as an expert must lay a foundation, that is, ask a series of questions establishing the witness as an expert in the field in which the expert will testify and offer opinions.

j. **Expert Evidence**

According to Black’s law Dictionary, expert evidence is evidence about a scientific or technical, professional, or other specialized issue given by a person qualified to testify because of familiarity with the subject or special training in the field. This is also termed ‘expert testimony’. It is for the court to decide whether or not a person is sufficiently skilled to give expert evidence. Expert evidence is an admissible testimony relating to a professional, scientific, or technical subject. Expert evidence is based on

---

32 *Ibid* at 637
formal and/or special study, training, or experience that imparts the competency to form an opinion upon matters associated with that subject. It is the duty of the authoritative expert to present the necessary scientific/technical criteria to enable a court to test the accuracy of its own conclusions and to form its own independent judgment of the evidence. Before giving the permission to state their opinion, the 'experts' are usually questioned by the court to evaluate their qualifications and experience in the subject.

k. **Expert Opinion**

Expert Opinion means an opinion offered by a witness whose knowledge, skill, experience, training, and education qualify the witness to help a fact-finder to understand the evidence or decide a factual dispute.\(^{34}\) The correct test of the relevance of expert opinion is whether the witness is specially skilled in the particular field in question. Where the evidence of opinion of an expert is relevant he may be called as a witness and must first of all state his qualification and satisfy the court that he is an expert on the subject in which he is to give his opinion. He must also state clearly the reasons for his opinion. The expert is required to give his opinion upon facts which are either admitted or proved by himself or other witnesses in his hearing at the trial on matters of common knowledge.

The opinion of an expert should be restricted to matters peculiarly within his knowledge as such expert. Any opinion outside this limit is inadmissible. Where the opinion is based on report of facts, the facts, unless they are within his personal knowledge, must be proved independently, that is, by calling witnesses who are personally concerned in the transaction. The expert is required to give his opinion upon facts which are either admitted or proved by himself or other witnesses in his hearing at

the trial on matters of common knowledge. The opinion of an expert should be restricted to matters peculiarly within his knowledge as such expert. Any opinion outside this limit is inadmissible. Where the opinion is based on report of facts, the facts, unless they are within his personal knowledge, must be proved independently, that is, by calling witnesses who are personally concerned in the transaction.\textsuperscript{35}

1. \textbf{Forensic Evidence}

Forensic evidence, according to Black’s Law Dictionary\textsuperscript{36} is evidence used in court; especially evidence arrived at by scientific or technical means, such ballistics or medical evidence. It is evidence obtained by the use of science, for example Deoxyribonucleic Acid evidence, etc. Forensic evidence means evidence usable in a court, specially the one obtained by scientific methods such as ballistics, blood test, and DNA test.\textsuperscript{37} Forensic evidence refers to items collected or information gathered using scientific methods for use in legal proceedings. There are many types of forensic evidence that can be obtained to help investigators solve crimes.

The first thing the investigators do upon arrival at a crime scene is to first secure the area to preserve any physical evidence with a view to ensuring that the evidence collected is not contaminated in any way. Depending on the type of crime and the location of the crime scene, the technicians may be required to gather samples of several items for analysis. Blood evidence is an example of forensic evidence that can be gathered at a crime scene. Technicians will take samples wherever it is found at the scene for analysis at a crime laboratory. The evidence will be examined to determine blood type. If the sample is large enough, there may be enough material to extract DNA

\textsuperscript{35} \textit{All Nigeria Peoples Party v. Usman, supra} n. 20
\textsuperscript{37} Hersey P. Blanchard K., \textit{Business Dictionary, Evidence}, available at \url{http://www.businessdictionary.com/definition/forensic-evidence.html} accessed 26/4/2015 at 5.52am
evidence from it. Investigators expect to find a victim's blood at a crime scene, but they may also find the perpetrator's blood.

A detailed analysis of the evidence can help lead police to the person or persons who committed the crime. Along with blood evidence, investigators will be looking for samples of other bodily fluids, such as saliva or semen that they can analyze for DNA evidence. While this forensic evidence may not be enough on its own to convict an accused person, it can serve to place that individual at the crime scene. Investigators also gather samples of hairs when they are collecting evidence. Any fibres found at the scene are carefully picked up and placed in marked evidence collection containers for analysis. Any other materials found on or near a body are gathered as part of the investigative process.

A victim's body itself can also be a source of valuable evidence. A post-mortem examination can help investigators by revealing a time and cause of death for the individual. Part of this process involves removing hairs and fibres from the body, as well as taking fingernail scrapings for analysis. Forensic accounting is another form of evidence gathering. This type of forensic evidence involves examining records and putting together a paper trail that can be used to prove fraud or other crimes. It is one of the tools that criminal investigators have at their disposal to bring lawbreakers to justice after proper analysis of the evidence.38

m. **Forensics/Forensic Science**

The word “forensic” means “pertaining to the law”. Forensic science also known as forensics is the scientific method of gathering and examining information about the past
which is then used in a court of law.\textsuperscript{39} It is the use of scientific knowledge to resolve questions or issues of interest in the legal system, whether in criminal or even civil cases.\textsuperscript{40} It is the application of a broad spectrum of science to answer question of interest to a legal system. Forensic science is the application of natural sciences to matters of the law. It resolves legal issues by applying scientific principles to them. Forensic Science is the application of the methods and techniques of the basic sciences to legal issues. Forensic science is the scientific analysis and documentation of evidence suitable for legal proceedings.\textsuperscript{41} Forensic science is the application of science to criminal and civil laws, mainly on the criminal side, during criminal investigation, as governed by the legal standards of admissible evidence and criminal procedure of the concerned jurisdiction or jurisdiction in question.

In practice, forensic science draws upon physics, chemistry, biology, and other scientific principles and methods. Forensic science is concerned with the recognition, identification, individualization, and evaluation of physical evidence. Forensic scientists present their findings as expert witnesses in the court of law. Forensic Science is a very broad field of study. Crime Laboratory Scientists, sometimes called Forensic Scientists or, more properly, Criminalists, work with physical evidence collected at scenes of crimes. Forensic scientists collect, preserve, and analyze scientific evidence during the course of an investigation. While some forensic scientists travel to the scene of the crime to collect the evidence themselves, others occupy a laboratory role, performing analysis on objects brought to them by other individuals.\textsuperscript{42}

Forensic scientists determine scientific facts from the evidence they evaluate and may testify as expert witnesses in civil or criminal courts or other legal proceedings and can

\begin{flushleft}
\textsuperscript{41} Harry T., \textit{Definition of Forensic Science}, available at www.all-about-forensic-science.com accessed 16/3/2015 at 5.57am
\end{flushleft}
work for either the prosecution or the defence. It is the responsibility of the lawyers, judges, and juries to prosecute, defend, and judge the guilt or innocence of an individual accused of wrongdoing. It is the responsibility of the forensic scientist to present the scientific facts in a fair, objective manner based on accepted scientific methods to facilitate the decision of court.

n. Opinion Evidence

Opinion evidence refers to evidence of what the witness thinks, believes or infers in regard to facts in dispute, as distinguished from personal knowledge of the facts themselves, which the knowledge of the facts themselves, which the court may accept as proving the fact in issue. Black’s Law Dictionary defined opinion evidence as a witness’s belief, thought, inference, or conclusion concerning a fact or facts. All testimony to matter of fact is somewhat opinion evidence, that is, it is a conclusion formed from phenomena and mental impressions.

The rules of evidence ordinarily do not permit witnesses to testify as to opinions or conclusions. Where however, this type of evidence is expressed by an expert witness, it may be used only if scientific, technical, or specialized knowledge will aid the trier of fact in understanding the evidence or determining a fact in issue. In the event that the witness is not testifying as an expert, the witness’s testimony becomes inadmissible in compliance with the general rule.

o. Trace Evidence

Trace evidence is created when objects contact amounting to the transfer of materials by heat or induced by contact friction. Fibres, hair, soil, wood, gunshot residue and pollen are only a few examples of trace evidence that may be transferred between

---

people, objects or the environment during a crime. The importance of trace evidence in criminal investigations was shown by Dr. Edmond Locard in the early 20th Century, since then, forensic scientists use trace evidence to reconstruct crimes, and to describe the people, places and things involved in them. Investigators can potentially link a suspect and a victim to a mutual location through trace evidence. For example, a fibre sample obtained from a suspect's person can be identified through scientific analysis as originating from a garment worn by the victim. The analysis of the fibre evidence can help establish if the victim and suspect were in the same area. Studies of homicides published in the forensic science literature show how trace evidence is used to solve crimes.

Trace evidence is important in accident investigation, where movement of one part against another will often leave a tell-tale mark. Such analysis is of great use in forensic engineering. Vehicular accident reconstruction relies on such marks to estimate vehicle speed before and during an accident, as well as braking and impact forces. Fabric prints of clothing worn by pedestrians in the paint and/or road grime of the striking vehicle can match a specific vehicle involved in a hit-and-run collision. Such traces are also known as “witness marks” especially in engineering and may be critical in understanding how a product failed. A typical witness mark could be an impact depression which broke a product, especially if that mark can be matched to the product which made the impact such as a hammer or nail. Such marks are also commonly encountered in criminal cases, and include bite marks, puncture marks, bullet holes etc.

45 The French Chinese Official who invented the World’s first crime Laboratory in 1910, proclaimed the chief assumption of forensic science - “every contact he said, leaves a trace”
The first preservation is to photograph *in situ*, and then remove the objects showing key traces, protect them, and analyze under controlled laboratory conditions. Many techniques are used in the protection of trace evidence from criminal investigations, although all must be photographed as soon as possible, and while still in place. Samples may be collected by shaking, brushing, taping, vacuuming, swabbing and hand picking, while great care may be needed to prevent contamination with other substances (such as natural oil and sweat on the hand of the collector). In some cases, such as with oil or grease, a solvent extraction can be used to collect the evidence for analysis. The method used for collection is generally dependent on both the type of evidence and from where or what sort of object it is being collected.\(^4\)

Trace Evidence is also found in much smaller amounts at crime scenes requiring intense care in handling. Droplets of human blood which are round and show no splattering, indicating they impacted relatively slowly, in this case from a height of two feet. Analysis of trace materials most often begins with a visual examination of the evidence usually involving macrophotography and later followed by microscopic analysis, of which a number of different types are available depending on the type of material to be analysed, such as a stereomicroscope, scanning electron microscope (SEM) or comparison microscope. SEM is especially useful because X-ray analysis can be conducted on selected areas of the sample, so is a form of microanalysis. It is useful where chemical residues can show unusual elements present which may indicate chemical attack of the product. A car accident caused by a diesel fuel leak, for example,

showed traces of sulphur on the cracked tube indicative of attack by sulphuric acid from the battery.\textsuperscript{47}

Gunshot residue may be identified by elemental analysis using atomic absorption or with a scanning electron microscope equipped with an energy dispersive spectroscope. Small amounts of explosives, volatile hydrocarbons, and other chemicals are identified with the use of analytical instruments, such as gas chromatography, mass spectrometry, and infrared spectroscopy, all of which separate out the components of the chemicals. Similar comments apply to damaged items from an accident scene, but care is needed in ensuring that the sample is not damaged by the testing, or sampling for testing. Such non-destructive testing must always be used first before considering destructive methods which involve taking small samples from the item for more detailed tests, such as spectroscopic analysis. Use of all such methods must be done in consultation with other experts and the relevant authorities, such as lawyers on both sides of a case to ensure a hitch free procedure.

\textbf{p. Criminal Investigation}

A criminal investigation is an undertaking that seeks, collects, and gathers evidence of a crime for a case or specific purpose. It is an applied science that involves the study of facts, used to identify, locate and prove the guilt of an accused criminal. A criminal investigator looks for clues and evidence to determine whether a crime has taken place. If a crime has been committed, investigators may look into the background of the accused and try to uncover who committed the crime. A complete criminal investigation can include searching, interviews, interrogations, evidence collection and preservation and various methods of investigation. Modern-day criminal investigations

\textsuperscript{47} NIJ-funded Research, \textit{Trace Evidence, Op. cit.} p. 43
commonly employ many modern scientific techniques known collectively as forensic science. Police agencies and law enforcement officers are committed to criminal investigations of every kind, but a growing number of individuals are choosing to launch their own criminal investigations with the help of professional investigators.\(^\text{48}\)

The investigation involves establishing that a crime was committed and whether an arrest should be pursued. After confirming the crime, evidence is gathered and a suspect identified. If sufficient evidence is gathered, the suspect is arrested or apprehended. All the evidence gathered during the investigation is presented to the court and a decision is made in regards to punishment. A crime is an intended action that is against the rules of law for a community. A criminal trial in which punishment is pursued by the government, differs from a civil trial, which involves individuals debating their rights. Criminal acts, such as sexual assault, physical assault, murder, theft, property damage, and vandalism, would call for investigators to gather evidence so that charges could be made. Types of Criminal Investigation include Fraud investigations, Crime scene investigations, Sexual crime investigations, Theft investigations, Kidnapping investigations, Assault investigations, Homicide investigations and Criminal defence investigations. Criminal Investigation Techniques ranges from Interviews, Crime scene photography, Surveillance, Background checks to Document searches’.\(^\text{49}\)

\(\textbf{q. Identification}\)

Identification literally means an act or the process of identifying or of being identified, something which allows a person or thing to be identified, the mental process of


\(^{49}\) Ibid
establishing a close bond or link between oneself and a person, people or group that one admires or feels sympathy or understanding towards.\textsuperscript{50} In the legal parlance however, it simply means the proving that a person, subject, or article before the court is the very same that he or it is alleged, charged, or reputed to be; as where a witness recognizes the prisoner at the bar as the same person whom he saw committing the crime; or where handwriting, stolen goods, counterfeit coin, etc., are recognized as the same which once passed under the observation of the person identifying them.\textsuperscript{51} True identity is collected from a multitude of signs.

In identification parade also known as line-up for example, involves a police identification procedure in which a criminal suspect and other physically similar persons are shown to the victim or a witness to determine whether the suspect can be identified as the perpetrator of the crime. Put differently, it is a line of people containing one person who is suspected of a crime and others who are innocent of it, from which a witness is asked to try and identify the criminal.

\textbf{r. Forensic Identification}

Forensic identification is the application of forensic science, or “forensics”, and technology to identify specific objects from the trace evidence they leave, often at a crime scene or the scene of an accident.\textsuperscript{52} People for example can be identified through different ways such as by their fingerprints. This assertion is supported by the philosophy of friction ridge identification, which states that friction ridge identification

\textsuperscript{52} Wikipedia, “Forensic Identification” available at \url{www.en.wikipedia.org/wiki/forensicscience} accessed 16/3/2015 at 5.22am
is established through the agreement of friction ridge formations, in sequence, having sufficient uniqueness to individualize all humans.

Friction ridge identification is also governed by four premises or statements of facts:

i. Friction ridges develop on the foetus in their definitive form prior to birth

ii. Friction ridges are persistent throughout life except for permanent scarring, disease, or decomposition after death.

iii. Friction ridge paths and the details in small areas of friction ridges are unique and never repeated.

iv. Overall, friction ridge patterns vary within limits which allow for classification.

Other means of human identification is from traces of their DNA from blood, skin, hair, saliva, and semen-by DNA fingerprinting, from their ear print, from their teeth or bite by forensic odontology, from a photograph or a video recording by facial recognition systems, from the video recording of their walk by gait analysis, from an audio recording by voice analysis, from their handwriting by handwriting analysis, from the content of their writings by their writing style (e.g. typical phrases, factual bias, and/or misspellings of words), or from other traces using other biometric techniques.

Forensic identification has made crime fighting an easy task for law enforcement officers following the ease with which culprits are identified and brought to book. Since forensic identification has been first introduced to the courts in 1980, the first exoneration due to DNA evidence was in 1989 and there have been 336 additional exonerations since then.\textsuperscript{53} Those who specialize in forensic identification continue to make headway with new discoveries and technological advances to make convictions more accurate.

\textsuperscript{53} Ibid
s. **Admissibility Of Evidence**

According to Black’s Law Dictionary, it is the quality or state of being allowed to be entered into evidence in a hearing, trial or proceedings. It can best be thought of as a concept consisting of two quite different aspects: disclosure to the trier of fact and express or implied permission to use as ‘evidence’. If we think of admissibility as a question of disclosure or nondisclosure, it is usually easy to say whether or not an item of evidence has been admitted. When we consider the question of permissible use, the concept seems much more complex. In the first place, evidence may be ‘admissible’ for one purpose but not for another. In the second place, questions of the permissible use of evidence do not arise only at the time of disclosure to the Trier of fact. The court may have to consider admissibility in deciding whether to give the jury a limiting instruction, whether or not an opponent’s rebuttal evidence is relevant, and whether or not counsel can argue to the jury that the evidence proves a particular point.

---

**Evidential Weight/Weight of Evidence**

Evidential weight also termed ‘weight of the evidence’ is the persuasiveness of some piece of evidence in comparison with some other evidence. It is the amount of importance or relevance attached to a piece of evidence. It is the measure of credible proof on one side of a dispute as compared with the credible proof on the other, particularly the Probative evidence considered by a judge or jury during a trial. The weight of evidence is based on the believability or persuasiveness of evidence. The probative value (tending to convince a person of the truth of some proposition) of evidence does not necessarily turn on the number of witnesses called, but rather the

---

persuasiveness of their testimony. For example, a witness may give uncorroborated but apparently honest and sincere testimony that commands belief, even though several witnesses of apparent respectability may contradict her. The question for the jury is not which side has more witnesses, but what testimony they believe.

Particular, evidence has different weight in inducing belief with respect to the facts and circumstances to be proved. Evidence that is indefinite, vague, or improbable will be given less weight than evidence that is direct and unrefuted. For example, a criminal defendant's testimony that he had never been at the scene of a crime would be given little weight if his fingerprints were found at the crime scene and witnesses testify they saw him at the scene. Similarly, evidence given by a witness who testifies from personal observation is of greater weight than evidence offered by a witness who is testifying from general knowledge alone.

In a civil trial, the plaintiff’s burden of proof is the preponderance of the evidence standard, which means that the plaintiff must convince the trier of fact that the evidence in support of his case outweighs the evidence offered by the defendant to oppose it. In contrast, criminal trials require that the weight of evidence proving a defendant’s guilt must be beyond a reasonable doubt. In a number of jurisdictions, judges are prohibited from instructing juries on the weight to be given to evidence. In other States, the judge is permitted to give a balanced and fair assessment of the weight she believes should be ascribed to the evidence.\textsuperscript{56} All jurisdictions prohibit the judge from instructing the jury on what weight is to be given to the testimony of any witness or class of witnesses.

The judge may not state that any particular piece of admissible evidence is or is not entitled to receive weight or consideration from the jury. The judge is also forbidden

\textsuperscript{56} Ibid
either to aid a jury or to infringe upon its role in weighing the evidence or in deciding upon the facts. In addition, the judge, in giving her instructions to the jury, has no right to prescribe the order and manner in which the evidence should be examined and weighed by the jury, or to tell the jurors how they shall consider any evidence that has been received by the court.

u. Judicial System/Judiciary

The judicial system (also known as the judiciary or court system) is the system of courts that interprets and applies the law in the name of the State. It is the system of law enforcement put in place for the administration of justice in Nigeria. The judiciary also provides a mechanism for the resolution of disputes. In some nations, under doctrines of separation of powers, the judiciary generally does not make law (which is the responsibility of the legislature) or enforce law (which is the responsibility of the executive), but rather interprets law and applies it to the facts of each case. In other nations, the judiciary can make law, known as Common Law, by setting precedent for other judges to follow, as opposed to Statutory Law made by the legislature. The Judiciary is often tasked with ensuring equal justice under law. The term "judiciary" is also used to refer collectively to the personnel, such as judges, magistrates and other adjudicators, who form the core of a judiciary (sometimes referred to as a "bench"), as well as the staffs who keep the system running smoothly.57

In many jurisdictions the judicial branch has the power to change laws through the process of judicial review. Courts with judicial review power, may annul the laws and rules of the State when it finds them incompatible with a higher norm, such as primary legislation, the provisions of the constitution or international law. Judges constitute a

critical force for interpretation and implementation of a constitution, thus *de facto* in common law countries creating the body of constitutional law. For a people to establish and keep the 'Rule of Law' as the operative norm in social constructs great care must be taken in the election and/or appointment of unbiased and thoughtful legal scholars whose loyalty to an oath of office is without reproach. If law is to govern and find acceptance generally, courts must exercise fidelity to justice which means affording those subject to its jurisdictional scope the greatest presumption of inherent cultural relevance within this framework.

In the US during recent decades the judiciary became active in economic issues related with economic rights established by constitution because "economics may provide insight into questions that bear on the proper legal interpretation". Since many countries with transitional political and economic systems continue treating their constitutions as abstract legal documents disengaged from the economic policy of the State, practice of judicial review of economic acts of executive and legislative branches have begun to grow.\(^{58}\)

In some countries and jurisdictions, judiciary branch is expanded to include additional public legal professionals and institutions such as prosecutors, State lawyers, ombudsmen, public notaries, judicial police service and legal aid officers. These institutions are sometimes governed by the same judicial administration that governs courts, and in some cases the administration of the judicial branch is also the administering authority for private legal professions such as lawyers and private notary offices.

\(^{58}\) *Ibid*
1.9. Overview of Chapters

The research work dissected the legal perspective of the topic which exposed the law and therefore suggested or recommended ways to make it better for Nigeria to be a beneficiary of the use of full forensic evidence in our courts’ system. This is principally because of the enormous benefits embedded in the use of forensic evidence as will be seen in other jurisdictions already practicing it in full scale.

The research work is divided into six chapters. Chapter one which is tagged “General Introduction” contains the background of the study, statement of the problem, research question, objective of study, significance of study, contribution to knowledge, scope and limitations of the study. Others are research methodology, theoretical framework, definition of terms, and literature review. Chapter two dealt with the evolution of forensic evidence for ease of understanding of the main issue of this thesis. It discussed a thorough definition of the key terms necessary for a good understanding of the research work. Chapter two also dealt extensively with classification of judicial evidence, forensic science, forensic evidence and crime for clarity. Chapter three which is titled, “Forensic Evidence and Nigeria Law of Evidence” looked at the history and sources of Nigeria Law of evidence and the improvement on it. It also looked into the application of the Evidence Act, admissibility of forensic evidence, x-ray the provision of section 68 and finally look at the corroboration of expert witness.

Chapter four with the heading “Statutes on Forensic Evidence and their Application in Nigeria and other Jurisdictions” thoroughly examined the provisions relating to forensic evidence in the existing Evidence Act and other jurisdictions. It also did an extensive comparative analysis of the application of forensic evidence in Nigeria and other jurisdictions; United Kingdom and United States and then determined the adequacy or
otherwise of these provisions in creating enabling environment for forensic evidence to thrive in Nigeria. The chapter went further to examine the administration of criminal justice in Nigeria; the court system, including institutions lending support to the court system.

Chapter five tagged “Impact and critique of forensic evidence in Nigeria criminal justice system and other jurisdictions” discussed the impact of the use of forensic evidence in Nigeria criminal justice system alongside with some other countries already practicing full forensic evidence. Critique of forensic evidence was well discussed, granted it has enormous benefits; it is not however without flaws. It went as far as discussing crime scene investigation and management to show how evidences are handled with a view to achieving the desired result of crime fighting. The chapter closed with cases decided by forensic evidence to show its effectiveness in crime fighting. Chapter six which is the concluding chapter was concerned with the summary, conclusion and recommendations based on the findings of the entire research work. It also included the contribution to the existing knowledge.
CHAPTER TWO
LITERATURE REVIEW AND EVOLUTION OF FORENSIC EVIDENCE

2.1. Literature Review

Literature review is necessary in that it gives an account of what has been written in an area of research by accredited scholars and researchers. This goes by highlighting the basic principles provided by the various researchers, spot light the deficiency if any, and then go on to carry out extensive comparative analysis to ascertain the lacunae which the research work need to fill and then state the needs for further investigation to achieve this. There is no doubt at all at this point of technological development that there exist numerous literature on this area of research. These abound both locally and internationally. Most of these literatures emphasize the overwhelming importance of forensic evidence and stressed the need for other countries that are yet to embrace this breakthrough technology to do so as a matter of urgency.

Although there exist a myriad of literature in this area of research both locally and international as earlier mentioned, we make bold to say that none of these researchers (to the best of my knowledge) had delved into the need for Nigeria to employ full fledge forensic evidence in its criminal justice administration as obtainable in countries like United Kingdom and how best to achieve this. This is particularly worrisome, as crime in Nigeria has gone sophisticated and organized.

Fidelis Nwadialo in his book Modern Nigerian Law of Evidence¹ dealt extensively with the provisions of the Evidence Act in eighteen chapters. The book in chapter eight only dealt with some mundane forms of forensic evidence via the sub-head “Opinion of

Experts” under the heading “Evidence of Opinion”. He stated that evidence of opinion of experts on foreign law, native law and custom, science and art, and in handwriting and finger impressions analysis is admissible whenever the court has to determine these issues within these fields. On opinion of experts on science, he explained that the term science include not only the well-established disciplines and branches of knowledge under the heading but also “almost any matter which is the subject of special knowledge” The book zeroed in on expert evidence on handwriting and finger impression and used the case of *Queen v. Akpan*\(^2\) where the appellant was convicted for burglary and stealing based on the fact that his finger-print impression was found on the louver of the window through which access was made to the concerned house. There is no doubt at all that Nwadialo’s book dealt on forensic evidence as admissible, some of which were later used in deciding cases. The scope is however very narrow compared to what the modern forensic evidence encompasses. Modern forensic evidence such as forensic archeology, psychology, footwear, toxicology, odontology, computer, and engineering were not mentioned. He can however be forgiven for leaving out computer or electronically generated evidence, as the 2011 Evidence Act which specifically made provision for that was not the applicable Evidence Act then.

Osadolor F. O. in his ten chapter book *Source Book on the Law and Practice of Evidence in Nigeria*\(^3\) did a good analysis of the Evidence Act\(^4\). The book in chapter five dealt on “Opinion Evidence” as inadmissible as a general rule. It further explained that “Opinion of Experts” are admissible been an exception to the general rule. These

\(^2\) *Queen v. Akpan, Supra* n. 2


\(^4\) *CAP 112, Laws of Federation of Nigeria, 1990*
include opinion as to foreign law, native law and custom, science and art and handwriting or finger impression. Of major interest here relating to forensic evidence is opinion evidence as to science, where it was explained that the word science is not restricted only to the knowledge available under the head, but to almost any matter which is the subject of special knowledge. Opinion as to handwriting or impression was also analyzed. All these were analyzed with cases. In the case of *Seismograph Service (Nigeria) Ltd v. Ogbemi*\(^6\), the supreme court in allowing the appeal stated that they disagree with the learned trial Judge on the point that the evidence of an expert is not necessary to prove the damage caused by vibrations radiating from Seismic operations taking place within a reasonable distance from the plaintiff/respondent’s building. The court held that the contention of each party is of a technical nature and therefore such evidence as could support it must necessarily be that of people specially qualified in the particular field or science which in this case comprise of knowledge and practice of seismology and Civil Engineering. It is on the examination of such evidence, as I considered relevant that a determination must be arrived at as to the determination cause of the damages alleged.

The book explained forensic evidence through opinion evidence extensively, but it failed to make reference to very many modern forms of evidence which includes track mark, engineering, pathology and computer evidence (which was clearly introduced into the 2011 Evidence Act). He can be forgiven for not including computer or electronic evidence as the book was written in line with the old Evidence Act.

\(^5\) Section 57 of the Evidence Act, Cap. E14 Laws of Federation of Nigeria, 2004

Afe Babalola in his eighteen chapter book titled *Law and Practice of Evidence in Nigeria*\(^7\) clearly explained the law of evidence in Nigeria. Chapter eight critically analyzed “Opinion Evidence”\(^8\) as generally inadmissible as the law of evidence in section 56 does not allow a witness to give his opinion as to the existence or non-existence of a fact in issue or relevant fact except as provided in sections 57 to 65 of the Act.\(^9\) These exceptions are opinions of experts and opinions of non-experts. Opinions of experts which is of interest, are declared relevant and therefore admissible when the court has to form an opinion upon a point on foreign law, native law or custom, or a matter of science or art, or as to identity of handwriting and finger impressions. Of interest amongst these are expert opinion as to science and identity of handwriting and finger impressions.

On expert opinion as to identity of handwriting and finger impressions, he explained with the case of *R. v. Onitiri*,\(^10\) where the appellant appealed against his conviction for forgery. He was alleged to have forged some receipts by using machine to alter them. It was contended on his behalf that typescript was not within the meaning of handwriting in section 56 of the Evidence Ordinance.\(^11\) Rejecting this contention, Vericity, C. J. upheld the conviction of the appellant and stated that where there is expert evidence on the matter, the Judge cannot disregard such evidence and resolve the matter himself by making comparison under this provision.

---

9 Cap 112, Laws of Federation of Nigeria, 1990 now sections 66 and 67-75 2011 *Evidence Act* respectively
10 *R. v Onitiri* (1946) 12 WACA 58
11 Cap 112 Laws of Federation of Nigeria now section 67 *Evidence Act*, 2011
Again on expert opinion as to science, the case of *Ogiale v. Shell Petroleum Development Company (Nig.) Limited*12 was used to illustrate it. In this case, the plaintiffs alleged that the defendant’s oil exploration and exploitation have led to the impoverishment of their land and caused infertility and low crop yields. The plaintiffs/appellants, in support of their claims of ₦358,594,500.00 damages, called three witnesses who were experts in their respective fields. The defendant on the other hand called an expert witness; Professor Odu, an agronomy professor at the University of Ibadan, and denied all the plaintiffs’ allegations. The trial court rejected the evidence of the plaintiffs’ expert on the ground that the basis of their evidence was unreliable. The trial court also rejected the evidence of the defendant/respondent expert witness on the ground that the other experts who prepared the report jointly with Professor Odu were not called to testify as witnesses. In the end, plaintiff’s case was dismissed.

They appealed. The defendants cross appealed against the finding of fact made by the trial court rejecting the evidence of Professor Odu, an expert witness. The court of appeal in a unanimous decision dismissed the appeal and allowed the cross appeal. Clarifying the law and practice in regard to expert testimony by a team of experts, the court held that it is the duty of the expert to furnish the Judge with necessary scientific criteria for testing the accuracy of his conclusion so as to enable the Judge to form its independent judgment by the application of these criteria to the facts proved in evidence. In the instant case, the learned trial Judge was in error when he held that Professor Odu’s evidence alone was insufficient to determine the fertility of the soil of Olomoro.

---

Lawrence Atsegbua, in his sixteen chapter book, Law of Evidence\textsuperscript{13} did a thorough work on the provisions of the current Evidence Act, 2011. Chapter seven of his book tagged “Opinion Evidence” analyzed the exceptions to the general rule of opinion evidence. Of interest here been that on ‘opinion of experts’ where he explained in details the opinion of experts on science which forms the basis of forensic evidence. The admissibility was spelt out through the provisions of the Act and some types of forensic evidence were analyzed through cases, such as handwriting, ballistics, finger impression and computer or electronically generated evidence. This is obviously more extensive been that it is in tune with the new Evidence Act, 2011. Granted it contains more types of forensic evidence, it still does not contain very many important types of forensic evidence such as forensic anthropology, pathology, photography and archeology. All these are in dire need to crack the level of sophistication of crime prevalent in our today’s Nigeria.

There are however some beautiful write ups that stresses on the desirability for Nigeria to embrace the use of forensic evidence. The work of the Chief Judge of Edo State, Hon. Justice C.O. Idahosa, titled “The Use of Forensic Science as an Investigative Tool - Wither Nigeria”\textsuperscript{14} was designed as a wakeup call to all organs of government involved in the administration of criminal justice. It dealt directly on forensics by starting from the scratch which is the detailed history of the evolution of forensic science. Forensic science is the collection of forensic evidence to curb crimes without which the investigation of crimes falls back on relying on witness testimony, circumstantial

\textsuperscript{13} Lawrence Atsegbua, \textit{Law of Evidence} (Benin: Justice Jeco Printing and Publishing Global, 2012) pp. 93-128

evidence and confessions. Forensic evidence is a reliable tool compared to others which create doubt. This he expressed through the effect forensic evidence had on the Osun State gubernatorial election case. It called on the use of forensic or scientific knowledge in resolving cases been more reliable. There was however no mention of an all-embracing forensic evidence and no detailed recommendation on the path to enable us achieve this.

Another good literature is that of Sebastine T. H., in his twenty two chapter book titled *Law of Evidence in Nigeria; Substantive and Procedural*,\(^{15}\) he did a well-researched work on the law of evidence. The book in chapter eight dealt on forensics under the heading “Opinion and Expert Evidence”. It started by defining the word opinion as that which refers to a belief not based on certainty or knowledge but on what seems true or probable. It is a product of the exercise of personal judgment, evaluation or estimation of some information that seems true or probable. He went on to section 56 of the Evidence Act which seeks to exclude general opinion evidence, except as provided in sections 57-65 of the Act.\(^{16}\) On the exceptions to the general rule of opinion evidence, he explained that the evidence of opinion of experts on foreign law, native law and custom, science and art, and identity of handwriting or finger impressions are admissible.\(^{17}\) On the definition of expert, he pointed out that there was no hard and fast definition under the Act. In *Azu v. The State*,\(^{18}\) the Supreme Court held that to qualify as an expert, a witness must be specially skilled in the field in which he is giving evidence. That a question whether or not a witness can be regarded as an expert is a

---


\(^{16}\) Cap E14 Laws of Federation of Nigeria, 2004, now section 67 and 68-76 of the *Evidence Act*, 2011 respectively.


question for the Judge to decide, based on the legal evidence before him. He explained that even if he is skilled in another field, no matter how closely related in terms of training, he cannot strictly be said to be an expert in the field in question at the trial. But his experience in that other field may make him an expert therein, even though he did not have specific training therein.

He went on to explain in details the various exceptions to opinion evidence in chapter eleven tagged “Identification and Evidence of Identification”. Of interest to the topic here includes thumb, palm or finger impressions, handwriting and signature identification. Others include forensic photography, DNA (blood sampling), pathology, anthropology, chemistry, toxicology, psychiatry, serology, neurology, psychology, firearms and ballistics. As it relates to finger impression, he explained that in the microscopic world, no two impressions of the same digit of two individuals are ever identically similar even though they may have the same set of conditions. Only the opinion of an expert can link the impression with the accused person. In *R v. Buckley*, where the English court of Appeal in a case of robbery held that a nine point match was enough to secure conviction and based its judgment thereon. Although the book is very comprehensive in the area of forensic evidence, but it did not touch on how these ideas on curbing criminality with forensic evidence can be incorporated into Nigeria legal system.

---

20 *R. v. Buckley* (1999) All ER (D) 1521
Also, in the work of Yinka Shokunbi on *Forensic Examination as a vital tool in solving crime*\(^{21}\) he clearly advocated on the need for Nigeria to employ forensics in fighting crime. This work only singled out or put emphasis on forensic pathology and didn’t spell out the way out of the quagmire. Dr. Charles Emeka Ochem, in his classic work “Relevance and Admissibility of Electronically Generated Documents under the Nigerian Law of Evidence”\(^{22}\) was very vehement in his clamour for the inclusion of electronically generated evidence in the Evidence Act. This he advocated can be achieved through the amendment of the Evidence Act to make provision for electronically generated evidence. This yearning has however been provided for in the recent Evidence Act, 2011. This work is however on a specific line of call on the numerous areas of forensic evidence available in modern times following the technological breakthrough.

As it relates to other climes, Rupert C., in his twenty two chapter book titled “*Evidence*”\(^{23}\) dealt on the law of evidence extensively. He dealt on the evidence of opinion in the sixteenth chapter which is of course inadmissible. He further went on to explain “Opinion of Experts” as an exception to this rule. He explained that the duty of the expert is to furnish the Judge or Jury with the necessary scientific criteria for testing the accuracy of their conclusions, so as to enable the Judge or Jury to form their own independent judgment by the application of these criteria to the facts proved in evidence.\(^{24}\) He zeroed on expert evidence as to handwriting and science as admissible

---


\(^{22}\) Ochem C. E., “*Relevance and Admissibility of Electronically Generated Evidence*” (2012) a thesis submitted to the college of law, Igbinedion University, in partial fulfilment of the requirements for the award of the degree of Doctor of Laws (Ph.D.) of the Igbinedion University, Okada, Edo State, 2012.


\(^{24}\) Davie v. Edinburgh Magistrates (1953) S. C. 34, at 40
forensic evidence necessary for reliable judgment and further explained with cases. In *Folkes v. Chadd*, where Mr. Smeathon, a famous Engineer was allowed to testify concerning his opinion whether an embankment had caused the silting of a harbour been a matter of science, formed the basis upon which the judge gave judgment. This is a very rich book as far as the law of evidence is concerned, but it has a lot of limitations in the area of forensic evidence in that it left out a lot of modern forensic evidence required for solving modern cases such as forensic odontology, pathology, psychology, computer and archeology. It also did not put the Nigeria situation into consideration as no reference to Nigeria was made therein.

Bohm R. M. and Haley K. N. in their book titled *Introduction to Criminal Justice* in their fourteen chapter book dealt with forensic evidence in line with criminal law. The book in chapter six tagged “Policing: Roles, Styles and Functions” explained in details forensic fingerprinting and DNA profiling. To them, two of the most significant advances in criminal investigation have been the development of fingerprinting and DNA profiling. Fingerprinting has resulted in the arrest and conviction of millions of criminal suspects who otherwise might never have been brought to justice. That DNA

---


26 Bohm R. M. is professor of Criminal Justice and Legal Studies at the University of Central Florida in Orlando. He has been a faculty member in the Departments of Criminal Justice at the University of North Carolina at Charlotte (1989-1995) and at Jacksonville State University in Alabama (1979-1989). From 1973 to 1974, he worked for the Jackson County Department of Corrections in Kansas City, Missouri, first as a corrections officer and later as an instructor/counsellor in the Model Inmate Employment Program, a Law Enforcement Assistance Administration sponsored-work-release project. He received his PhD in Criminology from Florida State University in 1980.

27 Haley K.N. is professor of Criminal Justice, teaching in both graduate and undergraduate degree programs in the School of Criminal Justice, and associate vice president for special projects at Tiffin University. Mr. Haley has also been the dean of the School of Criminal Justice, and the dean of the School of Off-Campus Learning at Tiffin University. He has acted as the head of the Tiffin University Romania Study team that worked to establish a Master of Community Justice Administration degree program at the University of Bucharest. He has also served as coordinator of the criminal justice programs at Collin County Community College in Texas.

profiling holds even greater promises. It discussed the functions of DNA profiling amongst which is that it is capable of linking or eliminating identified suspects to a crime; identifying “cold hits” where a sample from a crime scene is matched against numerous cases in a DNA database and a positive match is made; and clearing convicted rapists and murderers years after they began serving their sentences.

Although the book contains types of forensic evidence, it does not contain enough of them been too scanty as very many important types of forensic evidence such as forensic computer, entomology, pathology, photography and archeology are left out. Another drawback as identified in the book is the fact that the book is confined to United States of America. This therefore makes its provisions inappropriate for curbing criminality via the use of forensic evidence in Nigeria which is the purport of this thesis.

The twenty chapter book titled Criminal Law And Procedure and authored by Scheb J. M. and Scheb J. M. II is a comprehensive book that touched on the use of forensics in fighting the ugly menace called crime. The book in chapter eighteen tagged “The Criminal Trial” treated the topic of ‘expert witnesses’ which is the area of evidence tied

---


30 Scheb J. M. entered the practice of law in 1950. He served as associate municipal judge in Sarasota, Florida, from 1957 to 1959. From 1959 to 1970, he served as City Attorney for the city of Sarasota. In 1974, he was appointed to the Florida District Court of Appeal, second district, a position he held until his retirement in 1992. On retirement from the Florida Court of Appeal, Judge Scheb became an adjunct professor and later a distinguished professorial lecturer at the Stetson University College of Law. In 2006, he was named a distinguished professorial lecturer emeritus. Judge Scheb holds the B.A. from Florida Southern College, the J.D. from the University of Florida, and the LL.M. from the University of Virginia.

31 Scheb J. M. II attended the University of Florida from 1974 to 1982, receiving the B.A., M.A., and Ph.D. in political science. He is now Professor of Political Science and Chair of Legal Studies at the University of Tennessee, where he teaches courses in criminal law, constitutional law, civil rights and liberties, administrative law, and law in society. Professor Scheb has authored numerous articles in professional journals and is co-author, with Otis H. Stephens Jr., of American Constitutional Law, Fourth Edition (2007).
to forensic evidence in curbing criminality. To them, to qualify as an expert witness, such witness must present proper credentials and be received by the trial court as an expert. Fingerprint identification, ballistics tests, handwriting exemplars, and medical tests have been prominent among areas where expert evidence is commonly received in criminal cases. Evidence obtained through scientific and technological innovations can be both relevant and probative in a criminal case, yet care must be taken to ensure that a new principle or technique is well supported by research and is generally accepted by the scientific community.

The basic issue the courts face is whether the expert scientific evidence is reliable. In establishing that, the case of *Frye v. United States*\(^{32}\) was used where the court decided that “in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.” However in 1993, seventy years after the *Frye test case*, the Supreme Court of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,\(^{33}\) rejected the general acceptance test. Rather, the court ruled that the Federal Rules of Evidence supersede *Frye*. The court held that admissibility of scientific evidence must be based on several factors, including whether the evidence can be tested and whether it can be subjected to peer review. The book also specifically dealt with DNA evidence with in-depth analysis.

Quite clearly, the book is a rich literature as far as the use of forensic evidence in curbing criminality is concerned. The issue however lies in the fact that the book did not treat some types of forensic evidence even after mentioning them, it also does not

---

32 *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923) at 1014
33 *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469.
contain enough of them as many very important types of forensic evidence such as forensic pathology, photography, archeology and toxicology are not dealt with. Another drawback as identified in the book is the fact that the book is confined to United States of America. These therefore act as shortcomings in the application of the book in the curbing of criminality via the use of forensic evidence in Nigeria which is the primary issue.

Klotter J. C. 34 and Meier C. L. 35 in their book titled Criminal Evidence For Police, 36 emphasized on the law of evidence in curbing criminality in a fifteen chapter book. Chapter ten of the book zeroed in on opinion evidence which forms the basis of forensic evidence by doing substantial justice to it. They explained that as a general rule of evidence, the testimony of witnesses must be confined to statements of concrete facts within their own observation, knowledge and recollection, that is, facts perceived by the use of their own senses, as distinguished from their opinions, inferences, impressions and conclusions drawn from such facts. Necessity however requires that there be exceptions to this rule as it is often impossible to testify to naked facts, thereby requiring the witness to state an opinion, further classified into expert 37 and non-expert opinion. The case of Balaban & Katz Corp. v. Commissioner of Internal Revenue 38 was used to explain opinion evidence where it was decided that “Opinion evidence, to be of any value, should be based either upon admitted facts or upon facts, within the knowledge of the witness, disclosed in the record. Opinion evidence that does not

34 Klotter J. C. Dean, school of police administration, University of Louisville and Director, Southern Police Institute  
35 Meier C. L. is of the Cincinnati Bar, Lecturer on evidence and Salmon p. Chase college school of law  
37 See the case of Noel v. United Aircraft Corp. 342 F.(2d) 232 (3d Cir. 1964)  
38 Balaban & Katz Corp. v. Commissioner of Internal Revenue 30 F. (2d) 807 (7th Cir. 1929).
appear to be based upon disclosed facts is of little or no value”. On opinion of experts which is of importance here, the book explained that the expert has something different from the first hand knowledge witness to contribute, which is the power to draw inferences from the fact which the court would not be competent to draw.

The book analyzed some types of forensic evidence, such as ballistics, handwriting, finger impression and medical evidence. The book also explained importance of evidence obtained by laboratory technicians as more reliance is now being placed on it and real evidence. Although the book contains some types of forensic evidence, it does not contain enough of them as many very important types of forensic evidence such as forensic anthropology, pathology, photography and archeology are not dealt with. Another drawback as identified in the book is the fact that the book is confined to United States of America. This therefore does not have any direct link with the curbing of criminality via the use of forensic evidence in Nigeria which is the area of concern here.

Gardner T. J. and Anderson T. M. in their book titled Criminal Evidence; Principles and Cases, did a highly commendable work by exhaustively dealing on the criminal aspect of the law of evidence in a nineteen chapter book. The book majorly focuses on the use of forensic evidence among others in the administration of criminal justice system. It extensively analyzed the use of sciences and scientific techniques in criminal justice system by focusing on the modern forensic sciences such as DNA genetic profiling, forensic entomology, forensic computer, trace evidence, Ballistics and firearm fingerprinting and the stage to stage procedure on how to go about the entire

39 See the case of Ryan v. United States, 384 F. (2d) 379 (1st Cir. 1967)
40 See the case of Jenkens v. United States, 307 F. (2d) 637 (D. C. 1962)
41 Gardner T. J. and Anderson T. M., Criminal Evidence; Principles and Cases, Op. cit. p. 28
process in cracking crimes. It started by analysing crime scenes; how to secure and protect it, and explained how collection of samples from the crime scene can be done and the chain of custody required of such collected samples, testing of recovered samples, the matching of the findings from the tested samples, to expert presentation in courts to secure conviction or exoneration of the suspect. The content no doubt exposes the fact that it is a very good literature in line with modern trend of fighting. Notwithstanding the praises thus far, its limitation is that the jurisdiction is restricted to United States as the book clearly confined its entire content of forensic evidence to fighting criminality to United States.

Sharma B. R., an Indian writer in his book titled *Forensic Science in Criminal Investigation and Trials*[^42] did a very bulky and well-researched work on forensic science in criminal matters in a twenty one chapter book. To him, in today’s criminal justice scenario, eyewitness’ account, confessions and circumstantial evidence have gone awry. The trials take just too long to keep the witnesses from turning hostile and the criminals are turning intelligent and scientific. It is therefore necessary for the prosecution agencies to rely on something more authentic, more concrete and more productive in terms of convictions without their having to resort to traditional methods. This is so as those methods ends up failing to produce positive results most times. The answer to this is provided by science, as by nature scientific evidence are more or less exact, far more reliable and does not turn hostile under threats as it works on clue materials which are always available.

The book contains a detail analysis of different modern types of forensic evidence and how to go about the entire process in cracking crimes no matter the level of sophistication. It is so detailed that it explained from the point of collection of evidence from crime scenes, testing, matching, to expert presentation in courts to secure conviction of the criminal. Some of the types of forensic evidence contained in the book include forensic psychology, computer, voice analysis, DNA profiling, track marks and body fluids. This is clearly a very good literature in line with modern trend of fighting criminality with science since criminals have become more sophisticated. Although this is a very rich book in the area of forensic evidence, its limitation is that the jurisdiction is restricted to India as the book clearly confined its clamour for the introductions of full fledge forensic evidence to fighting criminality to India.

Alan Axelrod\textsuperscript{43} and Guy Antinozzi,\textsuperscript{44} in their book titled \textit{The Complete Idiot’s Guide to Forensics}\textsuperscript{45} did a very well-researched and detailed work on forensic science in criminal matters in a twenty two chapter book. To them, it takes more than deductive reasoning to solve a criminal case; eyewitness’ account, confessions and circumstantial evidence are no longer sufficient to solve crimes following the technological advancement level with which crimes are currently being perpetuated, criminals having turned more intelligent and scientific. It has therefore become necessary for the

\begin{footnotesize}
\begin{enumerate}
  \item Alan Axelrod has written widely in the areas of trade reference, popular history, biography, and business. He is the author of eight complete Idiot’s Guide books and is the co-author of \textit{Cops, Crooks, and Criminologists: A Biographical Dictionary of Law Enforcement}. Alan is now president of the Ian Samuel Group, a research and writing firm.
  \item Guy Antinozzi is a special investigator in the Office of the Solicitor General of Dekalb County, Georgia. He worked for the Norcross (GA) Police Department and continues with the Agnes Scott College Police Department. He was a senior field investigator for the GEICO Special Investigation Unit and teaches in the field of law enforcement as a Georgia Police firearms, defensive tactics, and general instructor.
  \item Alan Axelrod and Guy Antinozzi \textit{“The Complete Idiot’s Guide To Forensics”} (2\textsuperscript{nd} ed., USA: Penquin Group Publishers, 2007)
\end{enumerate}
\end{footnotesize}
prosecution agencies to employ something different from the usual traditional methods that will be more authentic, more concrete and more reliable in terms of trials and convictions/exonerations. This has become necessary as the usual traditional methods mostly ends up failing to produce the desired results needed to solve crimes. Forensic science therefore comes in handy, which is an approach to criminal investigation that uses the tools, techniques, and processes of science and technology to identify, recover, and analyze crime scene evidence so that this data can be presented effectively in a court of law. Forensic science is so necessary at this point as the results from the analyzed evidence are certain, reliable and more or less exact to address criminal and even civil matters.

The twenty two chapter book contains a well detail analysis of a host of modern types of forensic evidence and the stage by stage procedure in solving crimes irrespective of the sophistication level of the crime. The book explores the history, present and future of police work, with special emphasis on that aspect of police work called forensics; the process of discovering, collecting, analyzing, and presenting evidence to prove the truth and falsity of particular criminal issues in law. It focuses on criminal investigation in general and forensics in particular. It begins with detail explanation of the police arrival at the crime scene, how investigators size up the scene and interrogate suspects, witnesses, and victims. It discusses the evidence investigators look out for, how they find it, gather it and analyze it, the tools and techniques they use in the process. The book takes a look at what investigators do at the crime scene and in the medical examiner’s office where scientific analysis of the recovered evidence are analyzed.
A large chunk of the book is devoted to thorough explanations of many modern branches of forensic science some of which are forensic toxicology, entomology, psychology, odontology, geology, anthropology computer, voice analysis, DNA profiling, track marks and body fluids. It also explores police communications and intelligence gathering, the science of lie detection, and went as far as explaining certain extreme investigative methods which are the hypnosis, psychics and the use of truth serum. Put succinctly, the book explains in details from point of collection of evidence from crime scenes, testing, matching, to expert presentation in courts to secure conviction/exoneration of the culprit.

Without any iota of doubt, Alan Axelrod and Guy Antinozzi did a very good literature work in line with modern expectations of fighting criminality as the traditional methods were no longer up to date with fighting crime. This is because forensic science acts as match going by the sophistication level criminals operate due to improved technology and innovations. In spite of the wealth of knowledge in the area of forensics contained in this book, its limitation is that the jurisdiction is restricted to United States of America as the book clearly confined its clamour for the introductions of full fledge forensic evidence to fighting criminality to United States of America.

Michael V.A., in his forty nine chapter book titled *Phipson on evidence*\(^{46}\) dealt on opinion evidence in chapter thirty six tagged “Reputation, Opinion, Inference Beliefs”. He stated that the reputation prevailing in a community, and the opinions, inferences or beliefs of individuals are inadmissible in proof of material facts. He went on to explain the exceptions of which opinion of experts’ is of interest. He explained that the opinion of skilled witnesses are admissible whenever the subject is one upon which competency

---

to form an opinion can only be acquired by a course of special study or experience. He pointed out that opinions of experts are as it relate to science, Art, trade, technical terms, handwriting and foreign law. On opinion of experts as to science, he stated that the opinion of medical men are admissible upon questions within their own province such as insanity, causes of disease or death, the effects of poisons, the consequences of wounds, the conditions of gestation. On handwriting, he opined that, experts may give their opinions upon the genuiness of a disputed handwriting, whether ancient or modern, after having compared it with specimens proved to the satisfaction of the Judge to be genuine, they may also without such comparison, but from their general knowledge of the subject, give their opinion as to whether the writing is in a feigned or natural hand. They can also give opinions as to the probable date of an ancient writing.

The book is a very good book as far as Law of Evidence is concerned, it is however still lacking in the area of forensic evidence as it does not contain most forensics needed to curb current sophisticated crimes such as forensic pathology, psychology, odontology and toxicology. Another problem is that it is confined to other jurisdictions as against Nigeria.

There has however been a full fledge practice in the area of forensic evidence in some other countries in their criminal justice system. Some of these countries include United States, United Kingdom and Canada. Joseph L. Peterson of United States, wrote on “Use of Forensic Evidence by the Police and Courts” while Dr. Ian Gibson et al of United Kingdom wrote on “Forensic Science on Trial” 2005 both clearly showing their

---

47 Gaskill v. Gaskill (1921) B 425
48 R v. Coleman, 6 Cox 163.
full employment of forensic evidence in their judicial systems and their efficacy. From all said and done, it is now very clear that this area of the law in Nigeria is seriously or grossly lagging behind. The serious setback of this area to our criminal justice system has called for the need to embark on this voyage of inquiry and research. Nigeria cannot continue to wallow in the dark as it relates to the employment of forensic evidence on a full scale in our criminal justice system. This research work intends to fill up the gaps observed as lapses in the various literatures analyzed.

2.2. **Evolution of Forensic Evidence**

The origin of the word ‘forensic’ is traceable to the Latin term *forensis*, which means ‘of or before the forum. The history of the term forensics originates from Roman times, during which a criminal charge meant presenting the case before a group of public individuals in the forum. Both the person accused of the crime and the accuser would give speeches based on their sides of the story to be ultimately decided in favour of the individual with the best argument and delivery. This origin is the source of the two modern usages of the word forensic; as a form of legal evidence and as a category of public presentation. In modern use, the term forensics in the place of forensic science can be considered correct, as the term forensic is effectively a synonym for legal or related to courts. However, the term is now so closely associated with the scientific field that dictionaries include the meaning that equates the word forensics as also known as forensic science.⁴⁹ In other words, they can be used interchangeably. The history of forensic science dates back thousands of years and can be broken into three stages for purposes of convenience and ease of understanding.

---

2.2.1. Early Stage

At this stage, the ancient world lacked standardized forensic practices, which aided criminals in escaping punishment. Criminal investigations and trials heavily relied on eye witness testimonies (a major source of police investigation), circumstantial evidence in the absence of eye witness testimonies and finally, confessions or forced confessions. However, ancient sources do contain several accounts of techniques that foreshadow concepts in forensic science that were developed centuries later till date.

The origin of forensic evidence can be traced as far back as 287–212 BC, when the Greek Archimedes invented a method for determining the volume of an object with an irregular shape. Archimedes was asked to determine whether some silver had been substituted by the dishonest goldsmith. Archimedes had to solve the problem without damaging the crown, so he could not melt it down into a regularly shaped body in order to calculate its density. Instead he used the law of displacement to prove that the goldsmith had taken some of the gold and substituted silver instead.50

The first written account of using medicine and entomology to solve criminal cases is attributed to the book of Xi Yuan Lu (translated as Washing Away of Wrongs, written in China by Song Ci in 1248, during the Song Dynasty. In one of the accounts, the case of a person murdered with a sickle was solved by an investigator who instructed everyone to bring his sickle to one location. (He realized it was a sickle by testing various blades on an animal carcass and comparing the wound.) Flies, attracted by the smell of blood, eventually gathered on a single sickle. In light of this, the murderer confessed. The book also offered advice on how to distinguish between a drowning (water in the lungs)

and strangulation (broken neck cartilage), along with other evidence from examining corpses on determining if a death was caused by murder, suicide or an accident.\textsuperscript{51} Methods from around the world involved saliva and examination of the mouth and tongue to determine innocence or guilt. In ancient Chinese and Indian cultures, sometimes suspects were made to fill their mouths with dried rice and spit it back out. In ancient middle-eastern cultures the accused were made to lick hot metal rods briefly. Both of these tests had some validity since a guilty person would produce less saliva and thus have a drier mouth. The accused were considered guilty if rice was sticking to their mouths in abundance or if their tongues were severely burned due to lack of shielding from saliva.

2.2.2. \textbf{Mid Stage (16\textsuperscript{th} – 18\textsuperscript{th} Centuries)}

At this stage (in the 16th-century Europe), Medical practitioners in the army and university settings began to gather information on the cause and manner of death. Ambroise Paré,\textsuperscript{52} systematically studied the effects of violent death on internal organs. Two Italian surgeons, Fortunato Fidelis and Paolo Zacchia, laid the foundation of modern pathology by studying changes that occurred in the structure of the body as the result of disease. In the late 18\textsuperscript{th} century, writings on these topics began to appear. These included \textit{A Treatise on Forensic Medicine and Public Health} by Francois Immanuele Fodéré\textsuperscript{53} and \textit{The Complete System of Police Medicine} by the German medical expert Johann Peter Frank\textsuperscript{54}. As the rational values of the Enlightenment era increasingly permeated society in the 18th century, criminal investigation became a

\textsuperscript{51} \textit{Ibid}
\textsuperscript{52} A French army surgeon
\textsuperscript{53} A French physician
more evidence-based, rational procedure; the use of torture to force confessions was curtailed, and belief in witchcraft and other powers of the occult largely ceased to influence the court's decisions. Two examples of English forensic science in individual legal proceedings demonstrate the increasing use of logic and procedure in criminal investigations at the time. In 1784, in Lancaster, John Toms was tried and convicted for murdering Edward Culshaw with a pistol. When the dead body of Culshaw was examined, a pistol wad (crushed paper used to secure powder and balls in the muzzle) found in his head wound matched perfectly with a torn newspaper found in Tom's pocket, leading to the latter's conviction.55

In Warwick in 1816, a farm labourer was tried and convicted of the murder of a young maidservant. She had been drowned in a shallow pool and bore the marks of violent assault. The police found footprints and an impression from corduroy cloth with a sewn patch in the damp earth near the pool. There were also scattered grains of wheat and chaff. The breeches of a farm labourer who had been threshing wheat nearby were examined and corresponded exactly to the impression in the earth near the pool.

Other types of scientific evidence did not start to evolve until the 18th and 19th centuries, a period during which much of our modern-day knowledge on chemistry was just starting to be developed. In the beginning of the 19th century, natural sciences began to develop rapidly. Justice was always in search of impartial evidence, as against testimony of unwilling, hostile, indifferent witnesses. Toxicology, the study of poisons, a method for detecting arsénious oxide, simple arsenic, in corpses was devised in 1773 by the Swedish chemist Carl Wilhelm Scheele. His work was expanded, in 1806, by

---

German chemist Valentin Ross, who learned to detect the poison in the walls of a victim's stomach.

A Scottish chemist named James Marsh, was the first to apply this new science to the art of forensics as he developed a chemical test to detect arsenic, which was used during a murder trial. He was called by the prosecution in a murder trial to give evidence as a chemist in 1832. The defendant, John Bodle, was accused of poisoning his grandfather with arsenic-laced coffee. Marsh performed the standard test by mixing a suspected sample with hydrogen sulphide and hydrochloric acid. While he was able to detect arsenic as yellow arsenic trisulphide, when it was shown to the jury it had deteriorated, allowing the suspect to be acquitted due to reasonable doubt. Annoyed by that, Marsh developed a much better test. He combined a sample containing arsenic with sulphuric acid and arsenic-free zinc, resulting in arsine gas. The gas was ignited, and it decomposed to pure metallic arsenic, which, when passed to a cold surface, would appear as a silvery-black deposit. So sensitive was the test, known formally as the Marsh test that it could detect as little as one-fiftieth of a milligram of arsenic. He first described this test in “The Edinburgh Philosophical Journal” in 1836.

This branch of forensics (toxicology) was highlighted by the work of Mathieu Orfila known as the Father of modern toxicology who established methods of scientific chemical analysis of poisons in Paris, which are in use even today. This he did in the course of investigation into the death of a Frenchman, Monsieur Lafarge in 1840.

---

56 Brandy Shillace, Bodle and Lafarge: Sensational Arsenic Cases available at https://dittrickmuseumblog.com/2014/03/.../bodle-and-lafarge-sensational-arsenic-cas accessed 24/08/16 at 3.46am

57 Santosh Raut, Development Of Forensic Science Through The Ages available at www.santoshraut.com/forensichistory.htm accessed 27/06/16 at 12.18am
Following examination of the internal organs from the exhumed body, Orfila testified on the basis of chemical tests that these contained arsenic, which was not a contamination from his laboratory or the cemetery earth. This evidence resulted subsequently in Madame Lafarge being charged with the murder of her husband, but more importantly raised the problem of contamination, a constant concern for any forensic scientist. During the latter part of the 19th century there was also considerable interest in trying to identify an individual. One approach, studied by Alphonse Bertillon of France, was to record and compare facial and limb measurements from individuals. This proved to be unsuccessful due to the difficulties in obtaining accurate measurements. However, this was the first recorded attempt in a criminal investigation to use a classification system based on scientific measurement. Interestingly and in accord with this principle, forensic scientists today use the results from a combination of analytical measurements to discriminate between groups or to compare samples\(^58\).

In the area of ballistics which is the study of firearms, Henry Goddard at Scotland Yard pioneered the use of bullet comparison in 1835. He noticed a flaw in the bullet that killed a victim and was able to trace this back to the mould that was used in the manufacturing process. Henry Goddard became the first person to use physical analysis to connect a bullet to the murder weapon. On the area of anthropology, a French police officer Alphonse Bertillon was the first to apply the anthropological technique of anthropometry to law enforcement, thereby creating an identification system based on physical measurements. Before that time, criminals could only be identified by name or photograph. Dissatisfied with the \textit{ad hoc} methods used to identify captured criminals in

France in the 1870s, he began his work on developing a reliable system of anthropometrics for human classification.

Alphonse Bertillon created many other forensics techniques, including forensic document examination, the use of galvanoplastic compounds to preserve footprints, ballistics, and the dynamometer, used to determine the degree of force used in breaking and entering. Although his central methods were soon to be supplanted by fingerprinting, "his other contributions like the mug shot and the systematization of crime-scene photography remain in place to this day.

Sir William Herschel was one of the first to advocate the use of fingerprinting in the identification of criminal suspects. While working for the Indian Civil Service, he began to use thumbprints on documents as a security measure to prevent the then-rampant repudiation of signatures in 1858. In 1877 at Hooghly (near Calcutta), William Herschel instituted the use of fingerprints on contracts and deeds, and he registered government pensioners' fingerprints to prevent the collection of money by relatives after a pensioner's death. In 1880, Dr. Henry Faulds, a Scottish surgeon in a Tokyo hospital, published his first paper on the subject in the scientific journal Nature, discussing the usefulness of fingerprints for identification and proposing a method to record them with printing ink. He established their first classification and was also the first to identify fingerprints left on a vial. Returning to the UK in 1886, he offered the concept to the Metropolitan Police in London, but it was dismissed at that time.59

Faulds wrote to Charles Darwin with a description of his method, but, too old and ill to work on it, Darwin gave the information to his cousin, Francis Galton of UK, who was interested in anthropology. Having been thus inspired to study fingerprints for ten

years, Galton Undertook the first systemic study of fingerprints. He developed a methodology of classifying the fingerprints for filing purposes and published a detailed statistical model of fingerprint analysis and identification giving a sound statistical proof of uniqueness of individualization through fingerprints in 1892 and encouraged its use in forensic science in his book *Finger Prints*. He had calculated that the chance of a "false positive" (two different individuals having the same fingerprints) was about 1 in 64 billion.\(^{60}\)

Juan Vucetich, an Argentine chief police officer, created the first method of recording the fingerprints of individuals on file. In 1892, after studying Galton's pattern types, Vucetich set up the world's first fingerprint bureau. In that same year, Francisca Rojas of Necochea was found in a house with neck injuries whilst her two sons were found dead with their throats cut. Rojas accused a neighbour, but despite brutal interrogation, this neighbour would not confess to the crimes. Inspector Alvarez, a colleague of Vucetich, went to the scene and found a bloody thumb mark on a door. When it was compared with Rojas' prints, it was found to be identical with her right thumb. She then confessed to the murder of her sons.

A Fingerprint Bureau was established in Calcutta (Kolkata), India, in 1897, after the Council of the Governor General approved a committee report that fingerprints should be used for the classification of criminal records. Working in the Calcutta Anthropometric Bureau, before it became the Fingerprint Bureau, were Azizul Haque and Hem Chandra Bose. Haque and Bose were Indian fingerprint experts who have been credited with the primary development of a fingerprint classification system.

---

eventually named after their supervisor, Sir Edward Richard Henry. The Henry Classification System, co-devised by Haque and Bose, was accepted in England and Wales when the first United Kingdom Fingerprint Bureau was founded in Scotland Yard, the Metropolitan Police headquarters, London, in 1901. Sir Edward Richard Henry subsequently achieved improvements in dactyloscopy. In the United States, Dr. Henry P. DeForrest used fingerprinting in the New York Civil Service in 1902, and by December 1905, New York City Police Department Deputy Commissioner Joseph A. Faurot, an expert in the Bertillon system and a fingerprint advocate at Police Headquarters, introduced the fingerprinting of criminals to the United States.

The Uhlenhuth test, or the antigen–antibody precipitin test for species, was invented by Paul Uhlenhuth in 1901 and could distinguish human blood from animal blood, based on the discovery that the blood of different species had one or more characteristic proteins. The test represented a major breakthrough and came to have tremendous importance in forensic science. The test was further refined for forensic use by the Swiss chemist Maurice Muller in the 1960s.

The first account of Forensic DNA analysis was in 1984. It was developed by Sir Alec Jefferys, who realized that variation in the genetic code could be used to identify individuals and to tell individuals apart from one another. The first application of DNA profiles was used by Jefferys in a double murder mystery in a small England town called Narborough, Leicestershire in 1985. A 15-year-old school girl by the name of Lynda Mann was raped and murdered in Carlton Hayes psychiatric hospital.\textsuperscript{61} The police did not find a suspect but were able to obtain a semen sample. In 1986, Dawn

\textsuperscript{61} Ibid
Ashworth, 15 years old, was also raped and strangled in a nearby village of Enderby. Forensic evidence showed that both killers had the same blood type. Richard Buckland became the suspect because he worked at Carlton Hayes psychiatric hospital, had been spotted near Dawn Ashworth's murder scene and knew unreleased details about the body. He later confessed to Dawn's murder but not Lynda's. Jefferys was brought into the case to analyze the semen samples. He concluded that there was no match between the samples and Buckland, who became the first person to be exonerated using DNA. Jefferys confirmed that the DNA profiles were identical for the two murder semen samples. To find the perpetrator, DNA samples from the entire male population, more than 4,000 aged from 17 to 34, of the town were collected. They all were compared to semen samples from the crime. A friend of Colin Pitchfork was heard saying that he had given his sample to the police claiming to be Colin. Colin Pitchfork was arrested in 1987 and it was found that his DNA profile matched the semen samples from the murder. This case which brought about the development of DNA as databases were developed. There is the national (FBI) and international databases as well as the European Countries (ENFSI: European Network of Forensic Science Institutes). These searchable databases are used to match crime scene DNA profiles to those already in a database.

The science of forensics by 20th century had become largely established in the sphere of criminal investigation. Scientific and surgical investigation was widely employed by the Metropolitan Police during their pursuit of the mysterious Jack the Ripper, who had killed a number of prostitutes in the 1880s. This case is a watershed in the application

---

of forensic science. Large teams of policemen conducted house-to-house inquiries throughout Whitechapel. Forensic material was collected and examined. Suspects were identified, traced and either examined more closely or eliminated from the inquiry. Police work follows the same pattern today. Over 2000 people were interviewed, "upwards of 300" people were investigated, and 80 people were detained. The investigation was initially conducted by the Criminal Investigation Department (CID), headed by Detective Inspector Edmund Reid. Later, Detective Inspectors Frederick Abberline, Henry Moore, and Walter Andrews were sent from Central Office at Scotland Yard to assist. Initially, butchers, surgeons and physicians were suspected because of the manner of the mutilations. The alibis of local butchers and slaughterers were investigated, with the result that they were eliminated from the inquiry. Some contemporary figures thought the pattern of the murders indicated that the culprit was a butcher or cattle drover on one of the cattle boats that plied between London and mainland Europe. Whitechapel was close to the London Docks, and usually such boats docked on Thursday or Friday and departed on Saturday or Sunday. The cattle boats were examined, but the dates of the murders did not coincide with a single boat's movements, and the transfer of a crewman between boats was also ruled out.

At the end of October, Robert Anderson asked police surgeon Thomas Bond to give his opinion on the extent of the murderer's surgical skill and knowledge. The opinion offered by Bond on the character of the "Whitechapel murderer" is the earliest surviving offender profile. Bond's assessment was based on his own examination of the most extensively mutilated victim and the post mortem notes from the four previous canonical murders. In his opinion the killer must have been a man of solitary habits,
subject to "periodical attacks of homicidal and erotic mania", with the character of the mutilations possibly indicating "satyriasis". Bond also stated that "the homicidal impulse may have developed from a revengeful or brooding condition of the mind, or that religious mania may have been the original disease but I do not think either hypothesis is likely".

Hans Gross, an Austrian criminal jurist, a lawyer by profession who spent many years studying the principles of criminal investigation published a book ‘Handbuch fur Untersuchungsräte’ and later written in English for Coroners, police officials, military policemen in 1893. He is generally acknowledged as the father of the field of criminalistics. The work combined in one system fields of knowledge that had not been previously integrated, such as psychology and physical science, and which could be successfully used against crime. Gross adapted some fields to the needs of criminal investigation, such as crime scene photography. He went on to found the Institute of Criminalistics in 1912, as part of the University of Graz' Law School. This Institute was followed by many similar institutes all over the world. In 1909, Archibald Reiss founded the Institut de police scientifique of the University of Lausanne (UNIL), the first school of forensic science in the world.

Sir Arthur Conan Doyle, through his fictional character, Sherlock Holmes in the late 19th century popularized scientific crime detection methods. This helped publicize amongst scientists and investigators that science could aid in criminal detection. He remains a great inspiration for forensic science, especially for the way his acute study of a crime scene yielded small clues as to the precise sequence of events. He made great use of trace evidence such as shoe and tire impressions, as well as fingerprints,

---

ballistics and handwriting analysis, now known as questioned document examination. Such evidence is used to test theories conceived by the police, for example, or by the investigator himself. All of the techniques advocated by Holmes later became reality, but were generally in their infancy at the time Conan Doyle was writing. In many of his reported cases, Holmes frequently complains of the way the crime scene has been contaminated by others, especially by the police, emphasizing the critical importance of maintaining its integrity, a now well-known feature of crime scene examination. He used analytical chemistry for blood residue analysis as well as toxicology examination and determination for poisons. He used ballistics by measuring bullet calibres and matching them with a suspected murder weapon.64

Between late 19th - early 20th centuries, Hans Gross applied scientific methods to crime scenes and was responsible for the birth of criminalistics. Edmond Locard expanded on Gross' work with Locard's famous Exchange Principle which stated "whenever two objects come into contact with one another, materials are exchanged between them". This means that every contact by a criminal leaves a trace. With all of the new forensics techniques emerging in the early 20th century, law enforcement discovered that it needed a specialized team to analyze evidence found at crime scenes. To that end, Edmond Locard, a professor at the University of Lyons, set up the first police crime laboratory in France in 1910. This was after persuading the Police Department of Lyon (France) to give him two attic rooms and two assistants. For his pioneering work in forensic criminology, Locard became known as “the Sherlock Holmes of France.”65

August Vollmer, chief of the Los Angeles Police, established the first American police

---

crime laboratory in 1924. When the Federal Bureau of Investigation (FBI) was first founded in 1908, it didn't have its own forensic crime laboratory. This was however set up in 1932. In 1930, scientist Karl Landsteiner won the Nobel Prize for classifying human blood into its various groups. His work paved the way for the future use of blood in criminal investigations. Other tests were developed in the mid-1900s to analyze saliva, semen and other body fluids as well as to make blood tests more precise.66 Also, Alexander Lacassagne, who taught Edmond Locard, produced autopsy standards on actual forensic cases. It wasn't until the early 1930s that universities began offering courses and degrees in criminalistics and police science. In 1950, the University of California at Berkeley established one of the first academic departments of criminology/criminalistics, and the American Academy of Forensic Science (AAFS) was formed in Chicago.67 At this stage, there was no stopping the forensic timeline. It was the time when we got the Federal Bureau of Investigation (FBI). The FBI launched its Automated Fingerprint Identification System (AFIS) with the first computerized scans. With the arrival of the computer, there was no looking back. Today there is no crime solving without forensic science.68

Alphonse Bertillon was a French criminologist and founder of Anthropometry (scientific study of measurements and proportions of the human body). He used anthropometry for identification, saying each individual is unique and by measuring aspect of physical difference, there could be a personal identification system. He created the Bertillon system around 1879, which was a way to identify criminals and

66 Ibid
67 New York State Police “Forensic Science History” available at https://troopers.ny.gov/cime_laboratory_system/history accessed 23/04/16 at 2.28am
citizens by measuring 20 parts of the body. In 1884, there were over 240 repeat offenders caught through the Bertillon system. Fingerprinting became more reliable than the Bertillon system.

2.2.3. Modern Stage (20th-21st centuries)

At the modern stage of the historical development of forensics, there was great advancement in the area of ballistics as bullet examination became more precise in the 1920s, when an American physician, an army colonel Calvin Goddard perfected the science of ballistics. He created the comparison microscope and test fired bullets to help determine whether or not a particular weapon was used in the offence and which bullets came from which shell casings.69 And in the 1970s, a team of scientists at the Aerospace Corporation in California developed a method for detecting gunshot residue using scanning electron microscopes.70 Several British pathologists, Mikey Rochman, Francis Camps, Sydney Smith and Keith Simpson pioneered new forensic science methods later in the 20th century. Alec Jeffreys pioneered/invented the use of DNA profiling technique in forensic science in 1984. He realized the scope of DNA fingerprinting, which uses variations in the genetic code to identify individuals. The method has since become important in forensic science to assist police detective work, and it has also proved useful in resolving paternity and immigration disputes. DNA fingerprinting was first used as a police forensic test to identify the rapist and killer of two teenagers, Lynda Mann and Dawn Ashworth, who were both murdered in Narborough, Leicestershire, in 1983 and 1986 respectively. Colin Pitchfork was

---

70 Ibid
identified and convicted of murder after samples taken from him matched semen samples taken from the two dead girls.

Forensic science has been fostered by a number of national forensic science learned bodies including the American Academy of Forensic Sciences (founded 1948), publishers of the Journal of Forensic Sciences; the Canadian Society of Forensic Science (founded 1953), publishers of the Journal of the Canadian Society of Forensic Science; Chartered Society of Forensic Sciences (founded in 1959), then known as the Forensic Science Society, publisher of Science & Justice; the British Academy of Forensic Sciences (founded 1960), publishers of Medicine, science and the law, and the Australian Academy of Forensic Sciences (founded 1967), publishers of the Australian Journal of Forensic Sciences. By the close of the 20th century, forensic scientists had a wealth of high-tech tools at their disposal for analyzing evidence from polymerase chain reaction (PCR) for DNA analysis, to digital fingerprinting techniques with computer search capabilities.\(^\text{71}\)

In the 21\(^{\text{st}}\) century, the past decade precisely has witnessed documenting forensic scenes which has become more efficient and popular. People started using laser scanners, drones and photogrammetry to obtain 3D point clouds of accidents or crime scenes. Reconstruction of an accident scene on a highway using drones involves data acquisition time of only 10–20 minutes and can be performed without shutting down traffic. The results are not just accurate, in centimetres, for measurement to be presented in court but also easy to digitally preserve in the long term. The science of forensics is now recognized as a critical ingredient in law enforcement and the solution of crimes. Protecting a crime scene from contamination and gathering and interpreting

Evidence accurately have become some of the most critical ingredients in crime-solving. As a result, advances in technology are being applied to the finite and exacting field of forensic science, a field in which technical competency is achieved only by the synthesis of a number of factors, including training, experience, supervision, continuing education, proficiency and an appreciation of scientific methods and protocols projected against a background of stringent professional ethics. In recent years, the blend of science and technology has enabled police to solve many crimes that once would have been considered beyond resolution. The State Police Crime Laboratory System is at the forefront of efforts to develop new scientific crime-fighting capabilities and methods, including the use of databanks, high-tech equipment, tele-forensics and training involving the use of simulated crime scenes.72

Since then, there have been great advances in both medical and scientific knowledge which has contributed considerably in the use of medical evidence or forensic evidence in courts till date. This breakthrough technology has also spread to many countries who are currently taking advantages of it in solving both civil and criminal matters, especially criminal matters which require proof beyond reasonable doubt to be able to secure conviction and exoneration. There is however some countries where this practice is still at infancy level if at all it exist.

2.3. Classification of Judicial Evidence

The main source of our law of evidence in Nigeria is the Evidence Act of 2011 which applies to judicial proceedings in most courts in all the States of the Federation.73 The Evidence Act classifies judicial evidence into three main categories: oral evidence, real

---

73 See section 256, Evidence Act, 2011
evidence and documentary evidence. Oral evidence and real evidence are covered under Part VII of the Act, while documentary evidence falls under Part V. One other category of evidence also captured by the evidence Act is the hearsay evidence. Other categories of evidence which are not directly captured by the Act are circumstantial evidence and Best evidence.

2.3.1. **Oral evidence**

Oral evidence is the statement of a witness in court which is offered as evidence of the truth of that which is stated\(^74\). This is the most common type of judicial evidence. The Evidence Act\(^75\) states that “all facts, except the contents of documents, may be proved by oral evidence”.

2.3.2. **Real evidence**

The Evidence Act\(^76\) defined real evidence as meaning anything other than testimony admissible hearsay or a document the contents of which are offered as evidence of a fact at a trial, which is examined by the court as a means of proof of such fact. It is “material objects, other than documents, produced for the inspection of the court”\(^77\). An object so produced in court is also an exhibit. Examples of such objects are instruments used in commission of crimes like a matchet, in a case of murder, or a machine for minting counterfeit coins, in a coinage offence. A document may also be real evidence if produced in evidence as an object and not for the purpose of using the statements

---

\(^74\) Colin Tapper, Cross on Evidence (6\(^{th}\) ed., UK: Lexis Lexis, 1985) p. 37
\(^75\) Section 125, Evidence Act, 2011
\(^76\) Section 258 of the Evidence Act, 2011.
contained therein as proof of a fact. Thus, where a document is tendered as the thing stolen in a charge of stealing, it is real evidence.\(^7^8\)

### 2.3.3. Documentary evidence

This is evidence offered to the court for the purpose of the court inferring therefrom, the existence of a fact in issue. Documentary evidence is the statement made in a document which is offered to the court in proof of any fact in issue. Such a statement can as a rule, be proved only by the production of the document itself. Generally, where documentary evidence is tendered, no oral version of the same evidence is admissible. The document speaks for itself. When tendered, a document becomes an exhibit.\(^7^9\)

It is generally in the form of oral evidence. It is usually contrasted with “direct evidence” which is evidence offered by a witness in proof of the truth of the fact asserted.\(^8^0\)

Documentary evidence is either primary or secondary\(^8^1\) as they are terms normally used with references to documents. Primary evidence is that which does not suggest that better evidence exists. Secondary evidence is that which suggests the existence of better evidence. The primary evidence of a document is the most certain and overriding evidence of a fact asserted. The original of a document is primary evidence while a copy of it is secondary evidence of its contents.

### 2.3.4. Circumstantial Evidence

By this is meant evidence offered to the court for the purpose of the court inferring therefrom the existence of a fact in issue. It is generally in the form of oral evidence. It is usually contrasted with “direct evidence” which is evidence offered by a witness in

---

\(^8^0\) Section 126 Evidence Act, 2011
\(^8^1\) *Ibid*, section 86 and 87
proof of the truth of the fact asserted by him.\footnote{Akinola Aguda, *The Law of Evidence*, Op. cit. p. 10} Where direct testimony of eye-witnesses is not available, it is permissible for the court to infer from the proven facts the existence of other facts that may be logically inferred. It has for long been established in our law that any case, including a charge of murder, may be proved by circumstantial evidence.\footnote{R v. Sala Sati (1938) 4 W.A.C.A. 10; Ogundipe & Ors. V R. (1954) 14 W.A.C.A. 458.}

The court of Appeal in the case of *Shonubi v. People of Lagos State*\footnote{Shonubi v. People of Lagos State (2015) All FWLR (Pt 801) 1439 para. 14} in considering when circumstantial evidence will ground a conviction, held that circumstantial evidence must be cogent, complete and unequivocally, but compelling and lead to the justifiable conclusion that the accused and no one else is he murderer. It must leave no ground for raising doubt before it can ground a conviction. Also in the case of *Ogogovie v. State*\footnote{Ogogovie v. State (2016) All FWLR (pt 847) at 429} per Mary U. Peter-Odili JSC in reading the lead judgment in considering when trial court may rely on circumstantial evidence as proof of crime held that the circumstances relied upon to be circumstantial evidence should point unequivocally, positively, unmistakably and irresistibly to the fact that the offence was committed and that the accused committed the offence. In the instant case, where the facts and evidence before the trial court suggested that the appellant participated in the robbery, the lower court was right by upholding appellant’s conviction based thereon.

### 2.3.5. Hearsay Evidence

Hearsay evidence arises where a witness gives as evidence a statement made by another person who is not himself called as a witness for the purpose of proving what is contained in that statement. As a general rule hearsay evidence is not admissible. Thus,
in a trial for the offence of stealing, in order to establish the guilt of the accused, a witness cannot be allowed to give as evidence that someone else told him that he saw the accused steal the goods in question for such evidence by the witness is hearsay. The person who saw the stealing should be called to give direct evidence of what he saw.\textsuperscript{86} In \textit{Abass v. People of Lagos State}\textsuperscript{87} the court held in considering the attitude of court to inadmissible hearsay evidence that “...the PW1 was an eyewitness to the events that led to the death of the deceased. On the other hand, the PW2 was a police investigator who was not present at the time the deceased met his death. The evidence of the PW2 of what happened at the scene of crime when he was not an eyewitness to the incident would be inadmissible hearsay evidence as seen in \textit{John Nwachukwu v. State}\textsuperscript{88} where it was held that “all that is permissible in such cases of non-sexual offences is for the police officer to give evidence of the fact that a complaint was made to him and then proceed to give evidence of what he did and saw, as distinct from what he was told which is clearly hearsay.”

So in the present case, only PW1, the appellant and DW1 gave evidence as eyewitnesses. The evidence of PW2 of what he did not see nor did at the time of the commission of the offence is irrelevant hearsay and was wrongly used by the appellant to compare with the evidence of the PW1 with a view of identifying alleged contradictions and discrepancies therefrom, with respect to the events that led to the death of the deceased. Also the Court of Appeal per U. M. Abba Aji JCA in \textit{Adeta v.}\textsuperscript{86} Fidelis Nwadialo, \textit{Op. cit.} pp. 9-10

\textsuperscript{86} \textit{Abass v. People of Lagos State} (2016) All FWLR (Pt 834) at 116-117 per Joseph Shagbaor Ikyegh JCA

\textsuperscript{87} \textit{John Nwachukwu v. State} (1985) 3 NWLR (pt. 11) 218 at 227
Nigerian Army\textsuperscript{89} defined hearsay evidence as evidence which does not derive its value solely from the credit given to the witness himself, but which rests also in part, on the veracity and competence of some other person, thus, where a third party relates a story to another as proof of the contents of a statement, such a story is hearsay.

2.3.6. **Best Evidence**

This refers to evidence of the highest quality available, as, measured by the nature of the case rather than the things being offered as evidence.\textsuperscript{90} It is also termed primary evidence or original evidence. Primary evidence is best evidence. Best evidence is usually applied to writing and recordings.\textsuperscript{91} If the original is available, it must be offered rather than a copy. In *Innocent Uchenna Ikedigwe v. Wong Yui Fai*,\textsuperscript{92} the court said that, a receipt is primary evidence and in the absence of fraud, the best evidence of payment. Consequently, the cash receipt issued to the appellant by the agent of the respondent, confirmed the existence of a business relationship between the appellant and the respondent.\textsuperscript{93} See also *Taiye v. State*\textsuperscript{94} the court held in considering what constitutes the best evidence rule and prerogative of prosecution on number of witnesses to call. That a party is not under any obligation to call a particular witness, if he can prove his case without calling the witness. Parties are obliged to call the best evidence that could prove their case and not all witnesses. This is the Best Evidence Rule. There is no duty foisted on the prosecution to call a particular person as a witness.

The duty of the prosecution is to prove the charge against the accused and the moment

\textsuperscript{90} *Shekse v. Plankshak* (2008) 15 NWLR (pt. 1109) 105.
\textsuperscript{91} *Ibid*
\textsuperscript{93} *Taiye v. State* (2015) All FWLR (Pt. 805) 48

75
that duty is discharged, the court can convict the accused. In the instant case, where the
witnesses called by the prosecution sufficiently gave evidence which proved its case,
prosecution’s failure to call victim of the robbery were held irrelevant. Also in
Abdulkabir v. State\textsuperscript{95} the court held in considering evidence of victim as best evidence
and needlessness of corroboration of that no evidence can be better than that of a victim
or witness. It does not need corroboration if and where believed by the trial court.\textsuperscript{96}

2.4. Classification of Forensic Science

Forensic Science classifications are quite numerous. They are referred to as forensic
science branches. For purposes of this thesis, some will be mentioned and explained.
These are:

2.4.1. Forensic Toxicology

Forensic toxicology aids legal investigations through the study of poisons, substances
that can harm or kill. The toxicity of a substance is dependent on various factors,
including the amount ingested, the age, weight, and health of the individual who
ingested it. Poison can be administered by ingestion, injection, inhalation, or
absorption, some of which are more dangerous than others. For example, some snake
venoms are only dangerous if absorbed straight into the bloodstream. Toxic reactions
can be one of three types; pharmacological, pathological or genotoxic reactions.
Pharmacological reactions cause injury to the central nervous system. Pathological
reactions cause damage to the liver. And genotoxic reactions result in the creation of
benign or malignant neoplasms or tumours. Though many toxins have antidotes, if
levels of the substance reach a certain level, the effects may be irreversible.

\textsuperscript{95} Abdulkabir v. State (2015) All FWLR (pt. 797) 65
\textsuperscript{96} See also the case of Idiok v. State (2008) All FWLR (pt 421) 797
Pathological reactions can be reversed, though only if they are discovered early enough. Genotoxic and carcinogenic effects may take up to forty years to materialise, by which time it may be too late.

Forensic toxicology is involved in most areas of a forensic investigation, particularly in suspicious deaths involving the suspected intake of some toxic substance. Drug testing methods are often used in cases of rape in which the victim has been slipped some kind of date-rape drug, rendering them unable to fight off their attacker while they are being sexually assaulted. Unfortunately many of such drugs leave the system quickly. An examination of the crime scene can often give investigators a clue as to what may have been ingested by the victim. Such evidence may include pill bottles, powders, trace residues and any other chemicals present.97

The application of poisons has been a common method of murder for hundreds of years, which as at then lacked methods of deducing such. Numerous methods of poisons detection have advanced in recent years. Initially one or more screening tests will be conducted in order to gain a general idea of what the toxin is. Common screening tests include physical tests (boiling point, refractive index), crystal test (treatment with a chemical reagent to produce crystals), chemical spot tests (treatment with colour-changing reagents), and chromatography (method of separating substance components). Following this, confirmation tests, such as gas chromatography and mass spectrometry may be conducted. Various chromatography methods are commonly used to separate the various compounds of a sample, allowing for the substance to be identified. In cases involving a corpse with little soft tissue present, insect analysis may

97 Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/toxicology.shtml accessed 17/06/16 at 2.51am
be beneficial. Carrion feeding insects will most likely have ingested any toxic substances whilst feeding on the corpse. By dissecting and extracted the ingested tissue, further analysis may be able to identify the substance. Hair is potentially an idea recording medium for long-term drug abuse. As chemicals are absorbed into the bloodstream they are transferred into the hair, where they may be stored. This can even provide a rough timeline of drug intake. Head hair grows at an approximate rate of 1 to 1.5cm a month, therefore cross-sections may be able to provide an estimation of when a substance was ingested.

Despite these techniques, the identification of toxic substances is still rarely straightforward. The body’s natural processes often complicate a substance, altering the chemical’s original form. For example, after ingestion, heroin is almost immediately metabolized into another substance and then metabolized further into morphine. Urine and blood samples are most commonly extracted for drug testing, though other bodily fluids and organs will suffice. The brain, liver and spleen are commonly used organs for this. While gastric contents are useful for the detection of undigested pills or liquids, such an analysis may not be useful hours after ingestion.98

2.4.2. Forensic Psychology

Forensic psychology is the professional practice by psychologists within the areas of clinical psychology, counselling psychology, neuropsychology, and school psychology, when they are engaged regularly as experts and represent themselves as such, in an activity primarily intended to provide professional psychological expertise to the judicial system. Common criminal issues tackled by such experts may relate to the

---

98 Ibid
treatment of mentally ill offenders and the competency and mental state of a defendant. The psychologist may also be employed in civil cases, such as public policies, new relevant laws, lawsuits, insurance claims, and matters of civil litigation. Competency referred to here is the defendant mental state at the time of the commission of the offence and trial. The psychologist must assess whether or not the defendant is capable of providing the plea they have made. If an individual is not deemed ‘sane’, meaning they do not understand what is right and wrong, they cannot be tried under ordinary circumstances. It is common for a defendant to fake a mental illness in order to receive a more lenient sentence, an act known as malingering. Similarly, an assessment of future risk can help establish whether the offender is likely to commit the act again in the future, particularly important when passing a sentence. The treatment of mentally ill offenders is a task usually undertaken by clinical psychologists specializing in the forensic field of work.

The Forensic psychologist does what is called offender profiling which involves the study of an offender’s behaviour, motives and background in order to build a profile and consequently aid further investigations. Based on research from previous offenders and the personal experience of the psychologist, it is possible to draw certain conclusions about an offender through profiling. The causes of criminal behaviour may never be fully understood, there are however a vast number of possible explanations, including biological, psychological, and sociological theories adduced to the causes.

---

99 The relationship between forensic psychologists and the judicial system as succinctly put by the American Board of Forensic Psychology.
A. Biological Explanations

Early biological theories view criminal behaviour as a result of defect in the individual, which can be psychological or genetic in nature. Cesare Lombroso, an Italian Doctor is a major pioneer of this theory. He drew some of his postulations from Charles Darwin, on the theory of evolution and some from biology and medicine. Lombroso believed that criminal behaviour was inborn, and that their lawless nature was accompanied by certain physical characteristics. He believed criminals displayed asymmetrical faces, large and slanted eyes, a huge jaw, fat lips and high cheekbones. To him, “criminal born” man or woman had physical features of ape-like creatures that were not fully developed as humans and criminals could be predicted by examining certain cerebral and skeletal features. These set of persons, he argued, lacked moral senses, had absence of remorse and use much slangs. Put succinctly, this basically postulates that criminal behaviour is the result of some flaw in the biological make-up of the individual.

To Lombroso therefore, punishment cannot serve as deterrent but as a tool used for protecting the society. William Herbert Sheldon, an American psychologist, believed that there were three basic body types; endomorphic (round and soft), ectomorphic (thin and fragile), and mesomorphic (muscular and hard). Those with the mesomorphic body type were apparently more likely to display criminal tendencies. Genetic Inheritance was believed to cause criminal behaviour. Some believe a kind of ‘killer gene’ exists, an inherited predisposition to criminal behaviour.

100 Stephanie Rankin, *Forensic Science Central*, available at [www.forensicsciencecentral.co.uk/psychology.shtml](http://www.forensicsciencecentral.co.uk/psychology.shtml) accessed 17/06/16 at 2.51am
Numerous researchers have claimed that criminal behaviour can be the result of genetic disorders. For example in the 1960s a genetic abnormality was discovered in which a selection of males have XYY chromosomes, allegedly making them more prone to aggressive behaviour.\footnote{Supra n. 100} Scientists following Darwin’s evolutionary theory theorized that aggression associated with criminal behaviour is an innate characteristic of the human species, acting as a kind of survival tactic. Neuropsychological theorists believe that certain disorders and damages to the brain can bring about deviant behaviour. Such abnormalities may include physical brain damage, particularly to the frontal cortex and temporal lobe, abnormal brainwaves, and peculiar functioning of the amygdala. Similarly, biochemical imbalances in the brain are also thought to be related to criminal behaviour.

Lombroso, however later conceded to the fact that social and economic factors constitute causative factors of crime, but that these factors were second in nature to the biological predetermined factors. Contemporary biological theories concentrate more on variations in genetic and other biological factors in interaction with the environment and are less likely to refer to biological defects or abnormalities alone. These recent researchers have fiercely rejected Lombroso’s findings, though still kept alive till date, not by agreement but by criticism.\footnote{Supra n. 100, available at www.forensicsciencecentral.co.uk/biology.shtml accessed 17/06/16 at 2.01am}

Maletzky reports on a study of twenty-two patients with the syndrome referred to as episodic dyscontrol, describes the subjects as usually have a history of hyperactivity and poor school performance as children, aggression toward other children and animals and fire-setting. Truancy and petty stealing frequently lead them to grand larceny,
assault and battery and even murder. Other typical symptoms are traffic violations and recklessness. The author states that central to this dyscontrol syndrome is the “storm of violence.” Upon minimal or even no provocation these patients lose control, wrecking property and directing violence against anyone in their way. They usually exhibit aggressive behaviour, anger, hostile, temper tantrums, impulsivity, rage, assaultive behaviour and violent behaviour.105

B. Sociological Explanations

The general trend in the study of criminology in the 20th century was to move to a sociological approach. It postulates that societal factors can predispose people to crime. Crime is the result of the social environment in which the individual lives. Crime is seen as a product of learning or as a failure of the socialization process which endeavours to teach children how to behave appropriately.

Children usually learn socially acceptable behaviour by acquiring an association of fear or anxiety with anti-social acts which prevents them from behaving anti-socially in the future. Ineffective parental strategies may produce inadequately socialized children who then go on to offend, which is particularly likely if these children also associate with other children from whom they learn offending pattern of behaviour. Examples of this explanation are theory of “differential association” which postulates that individuals learn criminal behaviour by having contact with those who offending has become a norm. The strain theory focuses on the extreme emphasis on material goals which characterizes the environment in every society which majority cannot. This produces strain/tension which results in crime as a way of realizing their dreams. The

104 Maletzky, B. M., Treatable violence, (Medical Times 100; 1972) pp. 74-79
Chicago theory claims that urban neighbourhoods with high levels of poverty often experience breakdown in the social structure and institutions such as family and schools as their control ability drips thereby creating an environment ripe for deviant behaviour. Labelling theory posits that when individuals are labelled/addressed as “deviants”, the tendency for segregation steps in and as such, such individuals react by continuing to engage in the behaviour society has labelled them with. Becker’s labelling theory states that a person displays criminal behaviour as a result of being labelled deviant. When a person is given a label by someone else, we may apparently live up to that label in what is known as the self-fulfilling prophecy. Social learning theory is one of the more renowned social theories of criminality. It states that such criminal behaviour is learned. An individual supposedly witnesses a criminal act and later repeats the behaviour. This idea is particularly focused on in the claim of violent television and video games resulting in aggressive behaviour.

The three explanations on the causes of criminality; biological, sociological, and psychological explanations are somewhat intertwined, but still have their distinctive features.

C. Psychological Explanations

This simply explains delinquent and criminal behaviour by focusing on an individual’s personality. In particular, examines the processes by which behaviour and restraints on behaviour are learnt. These processes often are concerned as being the result of the interaction of biological predispositions and social experiences. It is the symbolic expression of tensions and conflicts existing within the psyche of an individual.

106 Stephanie Rankin, Forensic Science Central, available at www.forensicsciencecentral.co.uk/psychology.shtml accessed 17/06/16 at 2.15am
107 Ibid
Psychological explanations were brought together by psychologists, psychiatrists and other mental health professionals. Among the nineteenth century pioneers were Charles Goring and Gabriel Trade. Goring studied 3,000 English convicts and found little differences in the physical characteristics of criminals and non criminals. He however, uncovered a significant relationship between crime and a condition he referred to as “defective intelligence”, which involved such traits as feeble mindedness, epilepsy, insanity, and defective social instinct. Others are Sigmund Freud who believed that the human personality is composed of three major components. The Id (the pleasure-seeking component), the Ego (the realistic component), and the Superego (the moral component).

He claimed that certain imbalances in these three, such as a dominating Id, would result in immoral behaviour. Bowlby’s maternal deprivation theory focuses on the link between the mother and child and its results. The theory states that if an individual is deprived of maternal care during childhood, they will suffer psychological damage which may potentially lead to unlawful manners later in life. Psychodynamic model draws links between childhood traumas and anxieties and later behaviour. Freudian theorists in particular, view aggressive acts as the result of repressed feelings regarding these memories. Hans Eysenck developed a simple personality test characterizing individuals as being extroverts or introverts, and neurotic, stable or psychotic. Those who were psychotic, neurotic and introverted were more likely to display criminal behaviour.\textsuperscript{108}

\textsuperscript{108} Stephanie Rankin, \textit{Forensic Science Central} available at www.forensicsciencecentral.co.uk/psychology.shtml accessed 17/06/16 at 2.15am
2.4.3. **Forensic Photography**

Forensic photography, also known as Crime scene photography, is essentially the use of the photographic methods and techniques to aid legal investigations. This it does by creating a permanent visual record of the crime scene in the state it was originally found as these forensic photographs will play a huge role throughout the entire investigation. They can act as triggers for both witnesses and investigators when trying to remember details of the event and scene. Such photographs will also be greatly beneficial in crime scene reconstruction of the events which took place. Again, the photographs taken at the scene can be called upon in court to support verbal and physical evidence, and give judge/jurors a clear image of the crime. The guiding principle in forensic photography is that nothing should be moved or even touched at the crime scene until the forensic photographer has arrived except it involves life-saving efforts. Extensive shots should be taken of the entire scene, including overall, mid-range, and close-up photographs, including all items of significance and all entrances and exits. The various ranges used are necessary to first capture an object relative to its surroundings, and then document any details close-up. The exterior of the property should be documented from various angles, along with any noted scene irregularities. If there is a corpse at the scene, the victim will be photographed copiously *in situ*, with particular attention being paid to any injuries, weapons and personal items. It is also common practice to photograph any crowds of onlookers gathering outside the crime scene, as members of the crowd may very well be implicated in the crime under investigation. Nearby vehicles are not left out, they should also be photographed. Scales will often be placed in the shot alongside the piece
of evidence to provide immediate information regarding the relative size and position of objects.109

The images taken at the scene may well become the only visual proof of the crime scene as it was, therefore it is vital to maintain perspective in photos. It is best to maintain a natural perspective by shooting photos with a camera aimed at a 90 degree angle. Any distortion in images may compromise the image, making it useless in court. For each photograph taken the photographer must produce a log of relevant information, including a description of the photograph, from where the shot was taken, camera settings, and any enhancement techniques used, such as a flash or lens filters. Generally, colour photographs will be produced, though on occasion black and white images may be beneficial for the purpose of enhancement. Various techniques are used during forensic photography to further enhance valuable pieces of evidence. Photomacrography uses extension tubes between the lens and the camera, allowing for an increased magnification that is particularly useful when documenting trace evidence such as fibres or glass fragments. Alternative light sources and different filters can visualize previously latent evidence, such as biological fluids.

Forensic photography began with the use of traditional wet photography, the use of a camera loaded with a light-sensitive film which was later processed in a dark room. Though in recent years digital photography has also been adopted and in some cases preferred, due to its obvious advantages. The ease and convenience of digital cameras is particularly beneficial for crime scene photography, when images must often be captured as quickly as possible. With no need to carry, change and process rolls of film,

109 Stephanie Rankin, Forensic Science Central, available at www.forensicsciencecentral.co.uk/photography.shtml accessed 17/06/16 at 1.18am
images can be taken on the camera and immediately transferred to a computer or printer within minutes, eliminating the need to wait for dark room processing.\textsuperscript{110} For similar reasons, digital photography can be considerably cheaper if it is not necessary to spend money on rolls of film and dark room materials and processing. Digital methods can also reduce the risk of errors being made. As most digital cameras include an LCD screen on which stored photographs can be viewed, the photographer can view the image taken to ensure it has been recorded correctly before moving on. However, some agencies do still work with traditional film photography, as digital methods do have limitations. Despite technological advances, film photography is far superior in terms of picture quality, boasting a greater resolution. The primary concern with digital photography in forensic investigation is that of security and integrity. Computer software such as Adobe Photoshop can allow an image to be altered with ease, such as by adding or removing objects from the image. The storage of such images can introduce further security risks, as files stored on a computer are potentially vulnerable to hackers. These factors have sparked great debate over whether or not digital photographs are suitable for criminal investigations.\textsuperscript{111} Notwithstanding this limitation, digital photographs still remains the most preferred and used.

2.4.4. **Forensic Odontology**

Forensic odontology is the application of dental science to legal investigations, primarily involving the identification of the offender by comparing dental records to a bite mark left on the victim or at the scene. Dental records may also be used in the identification of human remains. Criminals have been known to leave bite mark

\textsuperscript{110} Ibid
\textsuperscript{111} Ibid
impressions at the crime scene, whether it be in food, chewing gum or, more commonly, on the victim. When a bite mark is discovered, numerous steps should be taken. Once the mark has been sufficiently photographed, a saliva sample is taken from the area for potential DNA evidence. Casts or moulds can then be made. If another bite impression is found elsewhere or if a teeth impression is taken from a suspect, a comparison can be made.

Bite marks have been divided into seven classifications:

- **Haemorrhage:** A small bleeding spot.
- **Abrasion:** Undamaging mark on the skin.
- **Contusion:** Ruptured blood vessels, bruising.
- **Laceration:** Punctured or torn skin.
- **Incision:** Neat puncture of the skin.
- **Avulsion:** Removal of the skin.
- **Artefact:** Bitten off piece of body.

Bite marks may be found on the flesh of victims of a violent attack, particularly on the stomach or buttocks. Alternatively they may be found on the suspect, left by the victim during self defence. The quality and accuracy of a bite mark are dependent on numerous factors, including time-dependent changes, where the bite mark was found, damage on soft tissue, dental similarity among individuals, and poor photography, impressions or measurements. If a bite mark is only represented as a bruise it is often extremely difficult to detect any individual characteristics. Bite marks in food tend to be more useful than those in flesh.\textsuperscript{112} In identifying human remains based on their teeth,

dental records should ideally be obtained and compared to those of the unidentified body. If this is not possible, other clues in the teeth may be useful. Tooth roots become more transparent with age, giving a possible rough estimation of the victim. When working with a young victim, the stage of development of a child’s teeth may help determine their age. The state and wear patterns of an individual’s teeth may give insight into the person’s age, diet, and dental history, as well as personal habits such as pipe-smoking and eating disorders. There are no apparent sex differences in the morphology of teeth.

A common method of comparing bite marks is to use transparent overlays to record the biting edges of a suspect’s teeth and compare them with the crime scene sample. These are often drawn on sheets of acetate, which can then be placed over one another for comparison. If it is possible, a dental cast will be made of the bite mark for later comparison to a suspect sample. Aside criminal cases, forensic odontologists and dentists are greatly involved in the identification of victims of mass disasters. Dental records in particular are beneficial in identifying such victims.\textsuperscript{113}

In a legal process, it may be necessary to establish the identity of a deceased person(s) whose body has been destroyed or decomposed beyond recognition by visual identification. In such a situation, the need for a forensic dentist (also known as forensic odontologist) becomes necessary and this may arise in mass disaster incidents such as plane crash, petroleum pipeline explosion, fire outbreak, genocide (e.g. Rwanda genocide of 1994), motor vehicle accidents, floods, earthquakes, terrorist attack (for example, the World Trade Centre attack of September 11, 2001 in the New York) and locally, recent decomposed bodies found at Soka area in Ibadan, Oyo State. This

\textsuperscript{113} Ibid
question of identification may also arise in a murder case where the identity of a suspect who inflicts bite mark on a deceased person is in issue in a judicial proceeding. In establishing the identity of persons in courts, three methods have gained popularity over time and these are DNA, fingerprint and dental identification. Forensic scientists have maintained that dental identification is the most reliable method of establishing identity of persons because human teeth, like skulls, are almost indestructible.\(^{114}\)

2.4.5. **Forensic Pathology**

Human remains are treated as a separate and unique type of forensic evidence. An autopsy of the remains is completed to determine the cause and manner of any death that is violent, unusual or untimely. A forensic pathologist will examine the human remains (post-mortem examination) and consider death scene findings. The medical history of the individual may also be reviewed to help determine if the death was natural, accidental or criminal. During the examination, the pathologist may recover critical evidence such as a bullet, which may help to determine the cause and manner of death. Furthermore, the pathologist may identify a wound pattern that can be matched to a weapon or can determine entry and exit wounds in deaths involving firearms and other projectiles.\(^{115}\)

2.4.6. **Forensic Trace Evidence**

Edmond Locard\(^{116}\) developed what has become known as Locard’s Exchange Principle. This states that “every contact leaves a trace”, implying that a criminal will leave trace and take away trace evidence when at a crime scene. Trace evidence often refers to

\(^{114}\) Kehinde Adegbite, *Law and Forensic: Techniques of Evidence Gathering and Case Presentation in Court*, available at [www.gettipsforeveryday.blogspot.com/.../law](http://www.gettipsforeveryday.blogspot.com/.../law) accessed 22/05/16 at 2.16am


\(^{116}\) Founder of the Institute of Criminalistics at the University of Lyon, France.
minute samples of a substance, particularly fibres, hairs, glass fragments and paint chips. Crime scenes will commonly contain trace evidence, often caused by the perpetrator unconsciously coming into contact with surfaces and leaving behind or picking up particulates.

The presence of trace evidence is particularly dependent on its persistence, as some particles and substances will remain on a surface more readily and for a longer period of time than others. The amount of time evidence will persist for, depends on the size and shape of the particle, the amount deposited, activity between deposition and recovery, the nature of the environment, and the amount of time passed. Small particles will persist for longer than larger particles, as they are more likely to become lodged in the surface material. Irregular surfaces, such as certain fabrics and wood, will collect particulates more readily than smooth surfaces, as there may be minute crevices for particles to adhere to.

When trace evidence is found, numerous factors should be taken into consideration. The regularity of a material is of great significance, as extremely common items may not be particularly useful. It is the forms of trace evidence that are unusual or unique to a particular environment or scene that will be of the greatest importance to an investigation. Some forms of trace may be especially unusual at a scene, giving them particular significance. It should be considered that the lack of trace evidence may either indicate extensive cleaning by the perpetrator or, perhaps more likely, the fact that the event did not occur at that location.

Many methods abound in the collection of trace evidence. The method used depends on the type and nature of evidence. Larger items, such as long fibres, may be collected by
hand or tweezers.¹¹⁷ One of the simplest methods of recovery is to shake the item over a sheet of paper or container. However this does not allow for the exact location of evidence on the item to be documented. Some particles will not be dislodged by shaking the item, therefore brushing the item may be necessary. A common method of trace evidence collection is the taping technique, particularly beneficial in the case of fibres and hairs. A strip of clear adhesive tape is applied to the surface, peeled off, and placed against backing card. This allows a note to be made of the exact location of the trace evidence. Vacuum lifting is a particularly useful method of trace collection. The scene is divided into smaller grids for the purpose of ease and documentation. The vacuum is used in each grid with a different filter every time. Each individual filter can then be packaged and analyzed separately, allowing for the exact grid location of items of evidence to be noted. This method is not as precise as adhesive taping, but it is ideal for collecting particulates.

Fibres are commonly found at all crime scenes, they are either natural or synthetic. Natural fibres are generally obtained from animal or plant sources, with common examples including cotton, silk and wool. They are generally circular in cross-section and have scalar cuticles. They tend to be readily transferable and often intertwine with other fibres, making them more persistent. The application of heat may cause them to curl. However since the development of nylon in 1939, man-made fibres have increasingly replaced natural fibres in garments in particular. Most natural fibres have distinctive appearances that can be detected using microscopy. However silk and synthetic fibres are produced by drawing out and solidifying a liquid, giving them a smooth and unfortunately indistinguishable surface. These fibres can display a variety

of cross-sectional shapes though rarely circular. They are almost always dyed and are less persistent on surfaces. Common examples of synthetic fibres are polyester, nylon and rayon.\textsuperscript{118}

Standard samples should be taken from the crime scene for later comparison with suspect samples. Using micro-spectrophotometry, light wavelengths are passed through the fibre, some of which are absorbed and some of which pass through. By examining which wavelengths are absorbed, the nature and colour of the fibre can be determined. Gas chromatography is used to study the chemical compositions of fibres by decomposing the fibre to gas and analysing the individual components. However this is a destructive method which should only be employed following non-destructive methods.

Approximately 100 hairs are naturally shed by the human head every day, therefore they are often found at crime scenes. Human hair undergoes a series of three growth phases. Anagen is the growth stage, which can last for up to six years. The catagen stage follows this, which is essentially a transitional phase which lasts for several weeks. Finally is the resting stage, telogen, which can last for up to six months. Examining a collected hair can help establish at what stage in this cycle the hair was. If a hair is pulled during the anagen stage, the root will be bulb-shaped, tapered, and there will most likely be follicular tissue attached. During the catagen stage the root of the hair is long and thin. Finally in the telogen stage, the root is club-shaped and the hair will be shed naturally. Based on morphological features, experts can classify any human hairs found as one of six types; head, facial, eyebrow/eyelash, body, axillary (underarm), and pubic. Hair is composed of the medulla (inner core), the cortex

\textsuperscript{118} Ibid
(surrounding layer), and the cuticle (covering layer). The cortex contains the pigment granules which determine the colour of the hair. The outer cuticle resembles a single layer of overlapping scales.

An examination of the hair found can help determine the origin of the hair, based on its length, shape, size, colour and microscopic appearance; whether from the head, pubic hairs, facial hairs or limb hairs. The microscopic examination of human hair can allow for it to be classified into one of three racial groups, Caucasoid or European hairs, Mongoloid/Asian hairs and Negroid hairs. The age of an individual cannot accurately be determined from analysis of hair, though there are some indicators that may be useful. For example, the hair of infants tends to be very fine and usually contains few racial indicators. It is also less likely to be dyed. The hair of an elderly individual may display signs of pigment loss and usually has a variable diameter.

If a hair is forcibly removed, a root will remain bearing tissue ripe for nuclear Deoxyribonucleic Acid (DNA) profiling. However if no root is present it may still be possible to extract mitochondrial DNA. As hair grows out of follicles in the skin, any substances taken in by the body will often be absorbed into the hair. Therefore hair can be analysed for the presence of various chemicals. Any drugs and toxins taken in by the individual may appear in the hair, as with certain metals from body piercings. Conversely, the lack of certain materials can also be of significance, such as insufficient amounts of vital nutrients. The exact location of such substances within a hair can act as a kind of timeline, aiding experts in establishing when that substance was taken into the body. Though the analysis of hair can suggest the presence of particular elements

---

119 Ibid
and compounds, further tests should be conducted to confirm, such as blood or urine tests.

It may be necessary to collect a number of hairs from a victim or suspect for comparison purposes. Approximately 100 head hairs should be collected and 30-50 hairs from elsewhere on the body. Hairs collected from a crime scene are compared with standard samples with the use of a comparison microscope, allowing them to be viewed side by side.\(^\text{120}\)

Glass is an inorganic product of fusion, cooled to a rigid condition. It is essentially composed by heating a mix of sand (silicon dioxide, SiO2), limestone (calcium carbonate), and soda (sodium carbonate), along with various impurities. Different types of glass are produced in different ways, and the way in which glass is made causes it to behave variously. Window glass, perhaps the most common type does not resist high temperatures or sudden temperature changes, and can be damaged by corrosive substances. Tempered glass, commonly used in vehicle passenger windows, is much stronger. On impact the glass breaks into small squares, making it particularly useful for use as side and rear windows in cars. However laminated glass is produced with a layer of plastic in between the sheets of glass, holding it together if it breaks. This is often used in car windshields. Due to the nature of glass and how it behaves, it may be possible to determine whether two pieces of glass originated from the same source. The density and refractive index of glass can both be used to distinguish between fragments. Pieces of broken glass can be physically reconstructed to form the original object or pane. By studying this glass, the investigator can determine which side of the glass the

\(^{120}\) Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/traceevidence.shtml accessed 17/06/16 at 2.43am
impact came from. A fast-moving projectile, such as a bullet, will leave a crater-shaped hole in the pane of glass, whereas a slow-moving projectile will usually shatter the entire pane. Tiny shards of glass will often be found on the clothes of the perpetrator, or anyone else standing in the vicinity when the glass was smashed. Whereas most glass will fall inwards with the impact, fragments will spray in the opposite direction, known as backscatter. These fragments will cling to clothing and footwear even after washing. However about 90% of glass fragments are shed from clothing within 24 hours of deposition.

Paint is a manufactured liquid that dries to form a thin, hard coating. It is composed of a number of main constituents. These are carriers, pigments, modifiers, extenders and binders. The carrier is the substance that solidifies on evaporation of the solvent, which is usually an organic liquid. The pigment gives the paint its colour, often being a specific substance for certain colours. Blue and green pigments are usually caused by organic compounds, whereas red, yellow and white colours tend to be from inorganic compounds. Modifiers generally control the properties of the paint instead, such as flexibility, gloss, and chip resistance. Extenders, as their name suggests, add volume to the paint and improve its coverage. Finally, binders are natural or synthetic resins which stabilize and enhance the paint.

The analysis of paint can take on three forms; physical, mechanical and chemical. The physical analysis of paint relates to texture, thickness, appearance, and the pattern of occurrence. The mechanical analysis will attempt to make matches between flakes of paint, similar to reassembling a jigsaw puzzle. The chemical analysis aims to establish the exact composition of a sample using various chromatography techniques. All of
these can be determined using microscopy. The paint of automobiles can often be traced back to a specific make and even model, particularly beneficial in hit and run accidents in which paint chips from the suspect car have been left behind at the crime scene. As each car manufacturer will mix paints to a specific formula, the chances of two shades being exactly the same are very slim. These fragments may have been transferred to the victim’s clothing, to another vehicle, or simply left on the ground following an impact.\textsuperscript{121}

2.4.7. \textbf{Forensic Nursing}

Forensic nursing is essentially the application of nursing techniques and methods to legal proceedings. The forensic nurse will interact with law enforcement, government agencies and the community, as well as victims and offenders, acting as a liaison between medicine and the law. Most will work out of a hospital, though some may be employed by police forces, psychiatric facilities, correctional facilities, and private practices. In the earlier days of this field, forensic nursing focused primarily on sexual assault and cases of abuse. However today the nurse may be involved with crime scene investigation, work with offenders in prison, counselling school children, and helping with death investigations.

Particularly in cases of sexual abuse, forensic evidence may not be immediately recognised by healthcare providers as crucial physical evidence, potentially resulting in it being lost. The presence of a forensic nurse can ensure the evidence is preserved and collected correctly. The nurse will document and collect evidence from the victim’s body, taking extensive notes and photographs in the process. Some nurses may be specifically trained sexual assault nurse examiners (SANE). Forensic nurses will

\textsuperscript{121} \textit{Ibid}
generally become familiar with using rape kits or sexual assault evidence kits (SAEK). These are used to collect various forms of biological evidence from a victim of rape or sexual assault following such an incident. This however can only be done with the victim’s informed consent. When processing the victim, the nurse will often first collect the victim’s clothing and package them individually in paper bags for further examination.122 The victim’s hair and pubic region is combed to collect any trace evidence. A sample of pubic hairs will also be collected from the victim as a control sample so as to confirm whether any hairs found on the victim belong to the offender or otherwise. Scrapings will be taken from under the victim’s fingernails to collect any possible trace evidence or skin cells belonging to the offender. Any obvious blood or seminal stains, potentially visualized using a UV light source, on the victim’s body will first be collected using a swab, either dry if the sample is still wet or dampened using distilled water if it is a dry sample. A number of vaginal and perhaps anal and oral swabs will be taken from the victim. The victim will be examined for any forms of physical trauma, which will be documented and photographed using light sources if necessary. A colposcopy light can be attached to a camera and used to magnify, examine and photograph the vagina for any tears during an assault. Nurses may also use an omnichrome, which is a useful device that can detect bruising beneath the surface of the victim’s skin. This procedure of evidence collection is not limited to sexual assault victims, but also applies to any other case of assault or similar ones. Nurses do not only collect evidence in a hospital environment, but they may also be taken to crime scenes to collect evidence, blood and tissue samples. The nurse will also

122 Stephanie Rankin, Forensic Science Central, available at www.forensicsciencecentral.co.uk/nursing.shtml accessed 17/06/16 at 2.32am
play a great role in the physical and emotional recovery of victims of trauma. This is so in that victims of domestic violence, sexual assault, and child or elder abuse or neglect may require psychological treatment following the incidents. They may also play a role in the psychiatric evaluation of offenders and suspects, helping to determine whether or not they are fit for trial. A role may also be played in non-criminal matters. For example the forensic nurse will liaise with family of potential organ donors and ensure all legal paperwork is taken care of.¹²³

2.4.8. **Forensic Firearms and Ballistics**

Forensic firearms and ballistics are closely related in the field of forensic investigations. While firearm investigation is a specialty of forensic science focusing on the examination of firearms and related subjects, forensic ballistics on the other hand relates to the flight path of projectiles, often associated with forensic science during the investigation of firearms. Forensic ballistics examines the path of a bullet from when it leaves the firearm up until it strikes the target. During investigations in which the use of firearms is suspected, a number of artefacts may be collected for examination, including firearms, cartridge cases, bullets, live ammunition, trace materials, and any material damaged by a projectile.

The study of firearms and ballistics is often divided in internal, external and terminal ballistics. Internal ballistics refers to the processes inside the firearm, the minute space of time between the shooter pulling the trigger and the bullet exiting the muzzle of the gun, external ballistics deals with the bullet’s flight between leaving the firearm and

¹²³ *Ibid*
striking a target while terminal ballistics, also known as impact ballistics, refers to the study of the projectile striking a target.\textsuperscript{124}

Tracing the flight path of a bullet can provide important details such as what direction the projectile was fired during a forensic investigation. This is often vital in reconstructing the series of events throughout an incident. Establishing the path of a bullet may not be straightforward, as numerous factors must be taken into consideration. Air resistance and gravity affect the bullet’s flight path, causing it to project in a downward arc rather than a straight line. Environmental conditions such as strong winds could additionally slightly alter a bullet’s flight. How a bullet’s flight will be affected will depend on the initial velocity of a bullet, as those with a higher velocity will be less influenced, as well as the shape of the bullet. Numerous factors can result in abnormal bullet flight characteristics. Tumbling is a phenomenon relating to flight imbalance, caused when a bullet is subjected to defective rifling or has been damaged. Another problem is ‘yaw’, an effect referring to a bullet’s deviation from a linear path. This can be caused by defective rifling, poor loading or a badly cast bullet. The choice and loading of bullet can also cause problems. If the user of the firearm loads the weapon with a bullet of incorrect calibre, the bullet may not achieve a spin rate that will ensure stability, resulting in excessive bore friction which ultimately leads to a low muzzle velocity. Incorrect bullet choice can also lead to an excessive bore velocity, causing the bullet to slide over bullet rifling and so resulting in a low spin rate.

One of the primary methods of categorizing bullets is based on their calibre. Calibre refers to the diameter of the bullet, which can be expressed in various terms, including millimetres (metric system), inches (imperial system) or 100ths of an inch (American

The examination of cartridges, precisely-fitting metal cases containing the bullet, propellant and primer, can provide vital information to an investigation. In some instances, cartridge cases may be found at the scene of a shooting, though this often depends on the type of gun used. Self-loading handguns will eject the cases from the weapon, whereas revolvers retain the cartridges until the shooter manually removes them. However the absence of cartridge cases is not an accurate sign of the type of firearm used, as the perpetrator may have picked up the cases from the scene before leaving. Any cartridge cases retrieved from the scene should be accurately measured in all dimensions to aid future comparison. The examination of any cartridge cases found can provide clues as to the firearm used during the shooting. For example, cartridges designed for use in a revolver have projecting base rims, whereas those designed for self-loading firearms do not. Cartridge cases also bear more distinguishing features that can be used to identify them. The head stamp is an indentation produced at the base of many cartridges during the manufacturing process. These markings can then be used to trace a cartridge back to the manufacturer and determine the make and type of the ammunition. When the firing pin strikes the cartridge case, a characteristic indentation is caused that can be used to link cartridges to specific firearms. Other markings that should be looked for include ejector, extractor and breech face marks.\textsuperscript{125} Firearms often have different firing pin, extractor and ejector designs, therefore the examination and comparison of marks produced by these implements can aid in establishing the firearm used. It should be noted that it is possible for cartridge cases to be reloaded with a new bullet and fresh propellant and primer and reused, in which case the cartridge may bear numerous additional markings. Furthermore, cartridge cases recovered from the

\textsuperscript{125} Ibid
shooting scene should be examined for fingerprints and similar forensic evidence which can also help trace the offender.

During the manufacturing process, legally produced firearms are stamped with a uniquely identifying serial number, usually on the barrel or action. These numbers are stamped into the firearm, a process which also impresses the digits below the surface of the metal. Even though criminals may attempt to erase these serial numbers to avoid the weapon being traced, it may be possible to restore these serial numbers to a state in which they are legible. Serial numbers are often erased by filing or grinding, which will not necessarily remove the digits below the surface. Alternatively the perpetrator may attempt to change the serial number. Various techniques and reagents have been used to successfully restore these original numbers. Similar to serial numbers are proof marks, markings imprinted on a firearm specific to the manufacturer or testing facility. These unique imprints are applied to a weapon before it is released and after any significant repair work is conducted on the firearm.  

When a firearm is discharged, a cloud of gases and fine particles is released composed of gunshot residues (GSR), sometimes referred to as firearms discharge particles (FDRs) or cartridge discharge residues (CDRs). The mixture will often contain both organic and inorganic particulates, the organic matter consisting of unburned and partially combusted propellant and inorganic matter produced by hot gases acting on the bullet. When released, these fine particles will settle on any nearby surfaces and are easily carried away from the scene. The presence of such residues can provide strong

---

links between suspects or objects and the scene of a shooting, therefore various methods of detecting gunshot and other residues have been developed.

Gunshot residues are initially collected using swabbing, washing an item with dilute acid, film lifts or adhesive tape. Once collected, these residues can be analysed and compared both physically and chemically. Initially colour tests such as the paraffin test were used, though this lacked sensitivity and specificity so is no longer used. Further methods such as the Greiss test were developed to detect gunshot residues, however it was soon established that this technique was not sensitive enough and positive results could be caused by any nitrites. Scanning electron microscopy with energy dispersive X-ray spectroscopy has been successfully utilised in visualising and detecting minute particles associated with firearms. This technique allows for the morphology of the particles to be observed and their chemical compositions established. Neutron activation analysis (NAA) is a technique primarily used for determining concentrations of elements and has been used in the analysis of residues from firearms. However the use of this technique is very expensive and requires access to a nuclear reactor which is not readily available to all organisations. Flameless atomic absorption spectroscopy (FAAS) largely replaced the use of NAA due to it having various advantages and costing a more reasonable price.\textsuperscript{127}

The examination of gunshot residue has been utilized in establishing the distance from which a firearm was discharged. For example, the closer a firearm is to the target, in theory the more concentrated the gunshot residue pattern will be, whereas shots fired from a greater distance will produce a more widespread pattern. Research has also been

\textsuperscript{127} \textit{Ibid}
conducted into the study of the chemical composition of gunshot residues in determining firing distance. Analytical techniques have been used to analyze the elemental composition of gunshot residue produced during the discharge of a firearm at varying distances. Attempts have been made to produce a mathematical model by which firing distance can be determined based on the elements and their relative amounts present in the residue. However it should be taken into consideration that the use of gunshot residues in establishing firing distance can only give an estimated distance.

The investigation of a shooting scene is aimed at establishing the number of shots fired, the direction from which the projectiles originated, and the type of ammunition and firearm used. A thorough examination of a shooting scene is often vital to the accurate reconstruction of events. The exact location of spent bullets and cartridge cases and even the firearm itself should be thoroughly documented before the evidence is collected. Similarly, the location of any bullet damage should also be photographed and, if possible, collected. A post-mortem examination of victims may be required to retrieve bullets and fragments. Suspects of shootings incidents may claim that the firearm was unintentionally discharged, either accidentally by the individual or through malfunction of the weapon. Various tests can be conducted on the suspect firearm to help establish the details of the shooting. Trigger pressure relates to the force required to pull a trigger and fire a weapon. In some cases firearms with light trigger pulls may result in accidental discharge, so by calculating the trigger pressure it may be possible to determine the likelihood that the trigger was accidentally pulled. Some firearms allow the user to select either normal trigger pull or light trigger pull (hair trigger);
therefore it is also important to discover whether the firearm has this feature and which setting was selected. Firearms are often fitted with numerous safety mechanisms.\textsuperscript{128} The examination of the firearm should include the investigation of these mechanisms to conclude whether any of the safety features were malfunctioning. An investigation known as a jarring test may also be performed, in which the firearm is subjected to a series of impacts involving various surfaces and distances to determine whether the action could have resulted in the firearm being discharged.

Prior the examination of any firearm can be conducted, it must first be established that the weapon is not loaded and it is safe to handle. This check should be carried out by an appropriately trained individual. During the initial examination of a firearm, a number of details should be noted. This includes the state of the weapon when received, its type, the make and model, the serial number and any other unique engravings and anything else that the investigator deems important. It is vital to document whether the weapon was locked or cocked, the position of the safety catch, and how many cartridges remain in the firearm’s cylinder or magazine. In some instances it may be necessary to load and even test-fire a weapon into water or a gelatine block to obtain test bullets and cartridge cases, often for purposes of comparison with items of evidence. Again, this should only be carried out by a competent person in a safe environment, and at times it may be necessary to use a remote firing device rather than using the firearm by hand. When dealing with a self-loading weapon that ejects spent cartridge cases, the direction and distance travelled by ejected cartridges should be documented. Test-firing a suspect weapon should only occur once other forensic tests

\textsuperscript{128} Wikipedia, \textit{Forensic Science: History and Branches}, available at \url{www.en.wikipedia.org/wiki/forensic-science} accessed 27/04/17 at 3.20pm
have been completed such as fingerprinting, swabbing, etc. It may also be necessary to measure the trigger pressure of the weapon. Following this, the weapon should once again be checked to make sure it is not loaded before being returned to storage.\textsuperscript{129}

One of the primary focuses of the investigation of a firearm is often to establish whether or not the weapon was responsible for firing the shots in question. Various pieces of evidence recovered from the shooting scene can be used to establish this, including spent ammunition, cartridge cases, gunshot residues and the characteristics of wounds or other bullet damage. This evidence can help narrow down the search for the weapon used. For example, if scattered shotgun pellets are found at a scene, it is likely that investigators are looking for some form of shotgun. However it must be taken into account that weapons can be modified to fire a variety of ammunition, so the investigator should always keep an open mind. Databases have been produced to store images of bullets and cartridge cases, allowing comparisons and matches to be made. In the UK, the Forensic Science Service and the Association of Chief Police Officers set up the National Firearms Forensic Intelligence Database, a system allowing information on weapons and firearms to be stored and analysed. This was later replaced by the National Ballistics Intelligence Service database for matching purposes.\textsuperscript{130}

2.4.9. Forensic Reconstruction

When investigating incidents of crimes such as vehicle collisions, it may not be known exactly what has occurred due to lack of evidence or lack of witnesses. Forensic reconstruction therefore comes in handy as it is essentially the process of establishing a sequence of events about the occurrences during and after a crime or other incident

\textsuperscript{129} Ibid
through the study, analysis and interpretation of evidence. Through scientific method, gathered information, logical reasoning, and experience, events may be established, whether through a simple mental exercise or an elaborate re-enactment. The resulting reconstruction will hopefully be used to clarify the sequence of events and even jog the memories of victims and witnesses who were present at the time. If being used to help witnesses remember, the reconstruction will often take place at the same time, in the same place, and on the same day so as to recreate the event as accurately as possible.

The reconstruction may often begin with a simple walkthrough of the scene at which the incident occurred. The investigator may be able to construct a rough hypothesis of what happened, why it happened, and how. The scene is fully documented through note-taking, photography, video recording, and sketching. Evidence will be thoroughly located and collected for analysis. Victims or witnesses will be interviewed and detailed statements taken. All of this information will be vital in the accurate reconstruction of the incident. This will include events before, during and after the incident, with the location, position and actions of anyone involved. If successful, it should give indication as to how and why the incident took place. It is likely that the investigator's reconstruction will be challenged in court, particularly as there are so many variables and possible outcomes to be taken into consideration. It may never be completely clear exactly what happened, so there may always be doubt regarding the accuracy of the reconstruction. Individual pieces of evidence may prove vital in crime scene reconstructions, particularly blood spatter evidence, firearm evidence, and road traffic collisions.\footnote{Gail S. A., \textit{Forensic Science Branches, Op. cit.}}
Reconstructions are often conducted during the investigation of road traffic collisions. When such an incident occurs it is vital to conduct a thorough investigation, particularly if a crime has taken place, an individual has been killed, or there is debate over who is responsible for the collision. Unfortunately the scene of a road traffic collision is often cleared away quickly so as to cause minimal disturbance to traffic, so reconstructions are often relied upon to establish a sequence of events. As much evidence as possible is collected from the scene itself, including vehicles involved, eyewitness reports, photographs, detailed sketches, any video footage available, information on weather conditions, and any known details regarding the positions and velocities of vehicles involved. The investigation will often start from the end and work backwards, as the final positions of vehicles involved are generally known, though witness statements and videos may give information on the velocities and actions of the vehicles.

Fundamental laws of physics are often followed during the investigation of vehicle collisions; the laws of conservation of energy and momentum. The law of conservation of energy, based on Newton's third law of motion, states that energy is neither created nor destroyed but can be converted into different forms of energy. A moving vehicle has kinetic energy. If a collision occurs, this energy will be dissipated either against the road when the vehicle skids, or upon striking a surface or object, causing deformation of the vehicles or injury to the pedestrian. Based on this law of conservation of energy, the energy prior to impact will remain in existence but be converted into other forms of energy. Momentum relates to the vehicle's mass and velocity. Similarly, the law of conservation of momentum states that the total momentum of all vehicles involved will
stay the same, though the momentum of the individual vehicles will change. As an example, if a stationary vehicle is hit by a moving vehicle, the stationary vehicle will gain momentum and the moving vehicle will lose it, though overall momentum will remain the same. By calculating and analysing the energy and momentum of vehicles and pedestrians, it is possible to establish the initial and final velocities of those involved, thus establishing the sequence of events. This can ultimately help determine whether a vehicle was moving too fast, where another vehicle or pedestrian was positioned at the time of the collision, and essentially who, if anyone, is to blame for the incident.  

Accurate measurements, known facts or possibilities can be input into the computer and the software instructed to generate conclusions based upon these assumptions. Animation and computer-aided design (CAD) software can produce images of crime scenes and vehicle collisions, running through various possible scenarios until the most likely sequence of events is established. Such programs allow for an endless number of factors to be taken into account, such as weather conditions and the actions of individuals that may have had an impact on the outcome of the incident. Whereas computer software reconstructions can aid investigators in piecing together the sequence of events, the scenarios produced can also be used to jog the memories of witnesses. By seeing a visual representation of the incident, they may remember additional information or be able to correct inconsistencies in the currently assumed sequence of events. The reconstructions produced by the software are also ideal for use in court when attempting to explain to the court how the crime or vehicle collision is likely to have occurred. However computer software simulation is often placed under

\[132\] *Ibid*
greater scrutiny than physical reconstructions. When acting as an expert witness using computer simulations, the expert must be able to explain the mechanisms of the software itself, what computer systems were used, where the inputted information was gathered from, and what the outcome shows.\textsuperscript{133}

Evidence dynamics refers to any influence that may change, obscure, or obliterate physical evidence, whether accidentally or maliciously. If a piece of evidence is compromised in any way, it must be established when and how. Specific physical evidence reconstruction can be used to trace any alterations made to evidence, later allowing forensic reconstruction of the scene as a whole to be carried out. Possible influences to be taken into consideration are:

A. Offender Actions - The actions of an offender both during the crime and after. This may include precautionary acts, those which consciously attempt to confuse investigators, hide the offender's identity or connections, or conceal the crime itself. Ritual or fantasy acts are those carried out by the offender for their own personal reasons, such as necrophilia and post-mortem mutilation. Staging involves acts performed by the offender to purposely deflect suspicion from them, such as incriminating someone else.

B. Victim Actions - Activities performed prior to or following the crime may influence the integrity of evidence, such as cleaning up of the crime scene after the crime, or the victim showering after an attack. Such actions may compromise or even eliminate vital evidence.

C. Secondary Transfer - This is the exchange of evidence between objects or persons that occurs following an original exchange. Such transfers may be useful in establishing routes taken by suspects or victims.

D. Witness Actions - The actions of witnesses, usually after a crime has occurred may include preserving victim dignity by covering their body or, more maliciously, the theft of items from the scene. Though these may seem harmless to the witness at the time, these acts have the potential to damage or destroy evidence.

E. Natural Activity - The activity of weather, insects and animals can also affect evidence. These should be taken into account during the reconstruction of a crime, though this may be particularly difficult due to the numerous possible factors.

F. Emergency Service Actions Police, fire-fighters and paramedics can all alter or damage evidence during life-saving efforts. Such actions will often occur at the very beginning of an investigation, therefore the results may often be mistaken for being related to the crime itself.\textsuperscript{134}

2.4.10. Forensic Questioned Documents

Forensic questioned documents analysis revolves around the study of handwriting, typewriting, imprinted documents, alterations, ink, paper, and writing instruments. The primary aim is to gain as much information as possible regarding the document without damaging or altering the document itself if possible. Individuals may fraudulently manipulate or forge documents for a number of reasons, including monetary gain, identify fraud, benefit fraud, the concealment of information, or as an alibi. Forensic graphology for example (the study of handwriting), is based on the idea that no two

\textsuperscript{134} Stephanie Rankin, \textit{Forensic Science Central}, available at www.forensicsciencecentral.co.uk/reconstruction.shtml accessed 17/06/16 at 2.22am
individuals have exactly the same handwriting. It closely examines the potential differences in people’s handwriting, with variations existing in slope, speed, angularity, pressure, letter dimensions, character spacing, connections, pen movement, finger dexterity, writing skill, grammar, spelling, punctuation, margins, crowding, phraseology, and alignment. It can give insight into the likes of the writer’s frame of mind, mood, motivation, intelligence, and emotional stability. It may even be possible to assume the writer’s nationality from their handwriting, as certain character constructions are more common in particular parts of the world.\textsuperscript{135}

Samples of the suspect’s handwriting will be collected to compare to that of the suspect document to conclude whether or not the suspect was the author. Even if a suspect attempts to alter their handwriting, key characteristics will be visible, especially if the individual was required to write for a long period of time. As many handwriting samples as possible should be obtained, preferably pre-existing, fairly recent exemplars produced in the course of day-to-day business. If possible, the samples should contain words or phrases matching those found in the suspect document. It is also important that like is compared with like. In other words, only block capitals should be compared with block capitals, and cursive with cursive. It should be taken into account that natural variation will occur in handwriting, due to the likes of illness, stress, drugs, and similar. Many forged signatures were originally traces of the genuine one. In these cases, faint pencil lines from the tracing may still be visible under the ink. A lack of flowing consistency in the signature may also be a sign of forgery. Impressions of handwriting may be left on one document if another document was written on whilst placed on top of it. These indentations may be visible following the

application of oblique lighting. The Electrostatic Development of Indented Writing Impressions test can also visualize this latent evidence.

Word processed documents are printed onto paper by laser, ink jet, or dot matrix printers. Laser printers work in a similar way photocopiers do. They contain a photosensitive drum which, when it becomes charged, produces an electrostatic negative of the image to be printed. Laser printers do not produce many distinguishing characteristics on their documents. Ink jet printers use grids of tiny nozzles which, when heated, drop ink onto the paper. Ink jet printers often produce print with a somewhat ragged appearance which is easy to spot. Though it is easy to recognize documents produced by ink jet printers, it is not easy to differentiate between documents. Dot matrix printers use a ribbon with a number of pins to strike the paper, transferring the ink. Due to their large number of freely moving parts, when pins become damaged they will leave behind individual marks on the paper. These unique marks may be linked to a particular printer. It is however often possible to distinguish between different inks, and therefore establish whether the same ink was used to write two documents, or whether alterations were made in a different ink.\textsuperscript{136}

The examination of the paper itself can help establish whether two samples are of the same composition or not. This involves studying the size, thickness, density, colour and finish of papers. Some manufacturers will incorporate biological fibres, optical brighteners, and watermarks into their papers, adding distinctive features that may be useful in a forensic investigation. It may often be necessary to determine whether any modifications have been made. Under oblique light, erasures may be visible, even if it is not observable on the original material. Erasures made with a rubber will often leave

\textsuperscript{136} Ibid
behind minute rubber fragments, detectable by sprinkling a powder of dyed Lycopodium spores (lily) on the document. The use of ultraviolet or infrared light sources may visualise erased ink, particularly if the ink has been erased using a chemical solvent. Criminals will often attempt to forge bank notes, bank drafts and passports for monetary gain, though fortunately all of these are now produced using methods which deter counterfeiting. Papers are used which will change colour if certain chemical are applied or if erasure is attempted, preventing manipulation. Particular coloured fibres, complex patterns, and specialized inks are used in the documents, making forgery extremely difficult and expensive.

On many occasions a document is presented that is supposedly of a certain age and value, something which the forensic document examiner may be required to prove. The age determination of the paper or ink can at least establish whether the raw materials used were from the claimed time period. By testing the ‘dryness level’ of the ink, the examiner may be able to determine how long the ink has been on the paper. This method can also discover whether the entire document was written at the same time, over a long period of time, or if slight alterations or additions were made. Some inks may even contain chemical date tags indicating the precise Manufacturing year.\(^{137}\)

2.4.11. **Forensic Linguistics**

Forensic linguistics applies the study of written or spoken material to legal investigations, generally for the purpose of identifying the author or speaker, and consequently, the wrongdoer. They are also known as forensic stylistics. The field of work is often applied to various pieces of evidence. Example is suicide letters that are

---

\(^{137}\) Stephanie Rankin, *Forensic Science Central*, available at [www.forensicsciencecentral.co.uk/questioneddocuments.shtml](http://www.forensicsciencecentral.co.uk/questioneddocuments.shtml) accessed 17/06/16 at 2.22am
sometimes studied to determine whether they were actually written by the deceased or created in attempts to cover up a homicide. Ransom notes and anonymous threat letters can be examined in order to aid in the identification of the writer through various means. Recorded emergency service calls are sometimes analyzed if there are suspicious circumstances surrounding a particular event. It has also been used in the analysis of cybercrime, identifying particular codes used by certain hackers. Forensic linguistics may also be utilized in civil cases. For example, in cases of authorship dispute, pieces of writing may be analyzed in attempts to confirm or refute a particular individual as the author of a text. However one of the most common uses of forensic linguistics is to aid in identifying an anonymous writer or speaker.\textsuperscript{138}

The forensic study of the written and spoken language can potentially provide a variety of information. With the appropriate knowledge and experience, it may be possible to make estimations regarding an individual’s age, gender, race, religion, level of education, culture, socio-economic background, and more. Written language is less informative than speech, however spelling, grammar and vocabulary can be indicative of level of education. The ordering of nouns, verbs and subject words in a sentence can give some clue as to the native language of the speaker or writer. Numerous other factors can also potentially be established, such as religious or philosophical beliefs which may be indicated by the use of biblical references and similar indications. The occupation of the writer or speaker could be suggested by the use of technical language or references to specific topics. Not only can forensic linguistics help establish the

\textsuperscript{138} Stephanie Rankin, Forensic Science Central, available at \url{www.forensicsciencecentral.co.uk/linguistics.shtml} accessed 17/06/16 at 2.52am
identity of the subject, but it may also be useful in determining the likelihood of past or previous actions.

In the 1960s a technique was developed known as voice spectrography. This technique can produce a visual representation of sound, allowing for what is essentially a voiceprint to be developed. The most common format consists of a graph with a horizontal axis representing time and a vertical axis displaying frequency. Amplitude may also be incorporated. Studying these graphs of sounds can allow for voices to be compared and analyzed to establish if two voices are the same or if a particular voice is displaying signs of stress. Linguistic investigations may involve the use of a polygraph test, more commonly (and inaccurately) known as a lie detector test. This test is essentially utilized in attempts to give indication as to whether or not the subject is lying. There is however much debate over the accuracy of polygraph tests. According to the American Polygraph Association, polygraph tests have an accuracy of between 85 and 95%. However research by the Congressional Office of Technology Assessment has shown false positives in polygraph tests can be as high as 75%.139

2.4.12. **Forensic Latent Prints**

Latent prints are found in various forms. They include the skin, fingerprint, tyre impression, instrument mark, and footwear impression. The human skin is composed of numerous layers: the epidermis on top, followed by the papillae, and then the dermis. The form and pattern of ridges on the surface of the skin is determined by the dermal papillae. These ridges, known as minutiae, are formed pre-birth (before birth), and stay with individuals throughout their life time. Each skin ridge holds a row of pores

139 Ibid
through which sweat is released. It is a combination of these ridges and the sweat that causes prints to be left behind when the skin comes into contact with any surface, even without the individual imagining it. Hence the ease with which forensic experts access such latent prints.

Fingerprints are unique to every individual and are composed of a collection of loops, whorls and arches. Loops are characterized by ridge lines that enter from one side of the pattern, curve around, and exit from the same side. Whorls are divided into four types; plain, central pocket whorl, double whorl, and accidental. Arches are characterized by ridge lines that enter the print from one side and exit the other side. There are four basic bifurcations (divides) in fingerprints; where a ridge divides, where a ridge ends, a lake, and an independent ridge. For purposes of forensic analysis, fingerprints can be visible, plastic or latent. Visible prints are left in a substance such as paint or blood, thereby making it clearly visible. Plastic prints are left in some kind of soft surface, such as putty or wet paint, and are also visible. However latent prints are left in bodily oils, and may require treatment before it can be visualized. Treatment is required for latent prints so as to enhance their visual state to ease collection and comparison for matching purposes. There are a variety of print enhancements which are based on the fact that latent prints contain numerous different compounds that will react to certain enhancement tests. The type of enhancement used will often depend on the surface on which the print has been left, the environment and other circumstances surrounding the print. An example is prints on a non-absorbent surface, such as glass, are usually enhanced using powders or superglue fuming. However prints on soft and

---

140 Stephanie Rankin, *Forensic Science Central*, available at [www.forensicsciencecentral.co.uk/latentprints.shtml](http://www.forensicsciencecentral.co.uk/latentprints.shtml) accessed 17/06/16 at 2.32am
porous surfaces, such as cloth, may require some kind of chemical treatment as an enhancer, such as the application of aluminium powder which is the most common method of developing latent prints. The fine powder is applied with a brush, after which it adheres to perspiration residues and body oil deposits, thereby visualizing the print. The Magna Brush can be used to apply magnetic-sensitive powder, since the brush has no bristles, thereby reducing to a very large extent, the chances of the print being damaged.

Other enhancement methods include the use of Ninhydrin, or triketohydrindene hydrate, a compound that reacts with the amino acids in the print to produce a purple colouring. This technique is particularly useful on porous surfaces such as paper, though is not useful on wetted items or silk finish surfaces. Prints will generally begin within an hour or two after application. The iodine fuming method uses iodine crystals that vaporize by sublimation when heated. These vapours combine with components on the latent print, making it visible. The print developed will eventually fade, so should be photographed immediately once observable. The superglue fuming method used ethyl or methyl cyanoacrylate which, when fumed, produces a white deposit on the latent print. The superglue is placed in an enclosed chamber with the item and heated, causing the superglue to adhere to the print. Care should be taken when lifting an enhanced print; tape should be applied to the entire print and pressure applied before being lifted smoothly without pauses.\textsuperscript{141}

\textsuperscript{141} Ibid
2.4.13. Forensic Impressions

Impression evidence includes any markings produced when one object comes into contact with another, leaving behind some kind of indentation or print. Common such evidence encountered includes footwear impressions, tire marks, and markings created by tools and similar instruments.

A. Footwear Impressions

Whenever an individual takes a step, a footwear impression may potentially be left behind on the surface. Such an impression may be two-dimensional, the print left behind on a flat surface in some deposited material, or three-dimensional, formed in a soft surface such as soil. Numerous techniques are available for the enhancement and recovery of footwear impressions, though non-destructive methods should always be employed first.

Two-dimensional impressions can often be treated in a similar way as fingerprints. The gentle application of a fine powder may develop footprints on flat surfaces. Certain chemicals and dyes may enhance impression on surfaces such as glass or tile. However paper and similar porous surfaces will simply absorb such chemicals, rendering the impression useless. The application of alternative light sources can enhance two-dimensional footwear impressions. The light source should be positioned to give a low angle of incident light, creating shadows to provide a contrast.142 One of the more common methods of recovering three-dimensional impressions is to create a cast of the impression, usually using plaster of Paris, dental stone, or a similar casting material. The plaster is mixed with an appropriate amount of water and gently poured into the

---

impression. Once set, it can be removed and taken for examination and comparison purposes.

Impressions in dust are obviously extremely delicate, though can be carefully recovered using electrostatic treatment. An electrostatic lifter passes a voltage across a thin layer of conductive film, which is composed of a lower layer of black insulating plastic with an upper layer of aluminium foil. The electrostatic charges cause particles of the impressions to jump onto the black underside, recovering the dust impression. As dental stone emits heat as it sets, it is evidently not suitable for casting impressions in snow. In this instance aerosol products exist, such as Snow Impression Wax. This is applied to the impression numerous times at intervals of one to two minutes and then left to dry. The impression can then be cast as normal. Alternatively flour sulphur may be used to cast snow prints. This is boiled to produce a hot casting compound which, upon contact with the cold snow, solidifies to produce a detailed cast.

Any footwear impressions collected from the crime scene may be useless unless there are suspect samples available for comparison. By applying a film of light oil to the undersole of a shoe and pressing it into a sheet of oil-impregnated foam rubber, a test impression can be produced. Alternatively the undersole is oiled and pressed onto plain white paper, which is then dusted with fine black powder similar to that used to develop latent prints. If a three-dimensional impression is to be obtained, it should, if possible, be produced using the same methods and mediums as the original impression.\textsuperscript{143}

Even if no other samples are available for comparison, a recovered shoe impression may yield a vast amount of information. Almost all footwear bears undersoles with distinctive patterns, which manufacturers are increasingly designing to be specific to

\textsuperscript{143} Ibid
them. In some locations such patterns have been stored in databases for comparison purposes. Though these patterns are the same for the same brand and type of shoe, a certain degree of individuality may be imparted from the manufacturing process or general wear. As a shoe is worn certain details fade in different places, depending on the weight and walk of the wearer, and specific damages may be caused. The size of the shoe, which may easily be obtained by examining the recovered impression, may prove useful, though not as a positive identifier.

B. Tyre Impressions

As vehicles are commonly present at crime scenes, before, during or after the crime, tyre impressions will often be discovered at the scene, usually left behind in soil. The enhancement and collection of these is similar to that of footwear impressions. If a tyre impression is discovered at a scene the opposite impression should also be searched for, as the distance between these may provide further information on the vehicle in question.\(^\text{144}\)

C. Instrument Marks

Instruments and tools used during a crime will often leave marks behind at the scene, which may prove beneficial in establishing links between a particular object and the scene. Common instruments encountered fall into two categories; cutting instruments and levering instruments. Common cutting instruments include knives, bolt croppers and drills, with screwdrivers and jemmies being common levering tools. Such instruments will often suffer severe damage when used, giving them characteristic features which may leave behind a distinctive impression at the scene. A cast can be

\(^{144}\) Ibid at 381-397
made of the impression at the scene, usually using a type of silicon rubber. This can then be used in comparison with other impressions or instruments to establish a match and determine which tool was used. The cast itself will be a negative of the original mark, and so should not be directly compared with the suspected tool. Instead the suspected instrument can be used to make a number of test marks in a similar medium.\(^{145}\)

2.4.14. Forensic DNA Analysis

The majority of cells making up the human body are diploid cells carrying identical DNA, with the exception of haploid gametes (egg and sperm) and red blood cells (which have no nucleus). Several types of biological evidence are commonly used in forensic science for the purpose of DNA analysis, including blood, saliva, semen, skin, urine and hair, though some are more useful than others. The use of biological evidence in DNA and genetic analysis varies, with areas of study including blood typing, gender determination based on chromosome analysis (karyotyping), DNA profiling and, more recently, forensic DNA phenotyping. Since the advent of DNA profiling in the 1980s, it has been successfully utilized in criminal cases, disaster victim identification and paternity testing to name a few. However despite their merits, DNA fingerprints are not ideally used as the sole piece of evidence in a case, and in certain countries, such as the United Kingdom, DNA fingerprints must be presented in conjunction with other evidence.

DNA is essentially the molecule that holds all genetic information and ‘instructions’ for an organism. The human genome is composed of over 3 billion base pairs of

\(^{145}\) Stephanie Rankin, *Forensic Science Central*, available at [www.forensicsciencecentral.co.uk/impressions.shtml](http://www.forensicsciencecentral.co.uk/impressions.shtml) accessed 17/06/16 at 2.32am
information organized into 23 chromosomes. Genes are the regions of DNA that encode and regulate protein synthesis, though this involves just 1.5% of the entire genome. A significant amount of the human genome, approximately 75%, consists of extragenic DNA, which contains regions that do not actually contain known gene sequences. About 50% of extragenic DNA is made up of something called repetitive DNA, which is of particular use in forensic DNA analysis. It is due to the number and location of these polymorphisms that every individual has unique DNA which produces a distinctive band pattern when analyzed.\(^{146}\)

It is through the extensive study of the genome that DNA fingerprinting has been produced as a useful and reliable technique in forensic science. 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 the lack of intact cells and high levels of contaminants preventing successful analysis. Such samples will be collected depending on the type of sample. Prior to analysis, it will be necessary to extract DNA from the sample. The use of DNA analysis in forensic science is based on a variety of techniques focusing on polymorphisms, which essentially refers to variation in sequences. Single Nucleotide Polymorphisms (SNPs) are the simplest and most common type of genetic variation, composing around 90% of genetic variation in humans. They occur during meiosis when DNA is replicated, with each SNP representing a difference in a single nucleotide. These can act as biological markers and

\(^{146}\) Stephanie Rankin, *Forensic Science Central*, available at [www.forensicsciencecentral.co.uk/dna.shtml](http://www.forensicsciencecentral.co.uk/dna.shtml) accessed 17/06/16 at 2.32am
has allowed for the faster apprehension of suspects used in cold cases, wrongly imprisoned individuals have been exonerated through the advent of new DNA analysis techniques and databases. There is also the potential benefit of identifying bodies that have been too badly damaged or decomposed to identify, provided the individual’s DNA profile is stored.\textsuperscript{147}

\textbf{2.4.15. Forensic Fire Investigation}

Fire investigation involves the examination of all fire-related incidents once firefighters have extinguished the fire. The practice is similar to the examination of crime scenes in that the scene must be preserved and evidence collected and analyzed, but with numerous additional difficulties and dangers. The primary purposes of a fire investigation is to establish the origin (seat) of the fire, determine the likely cause, and thus conclude whether the incident was accidental, natural or deliberate. It is vital to establish the cause to ensure similar events do not occur (in the case of natural or accidental) or to allow a legal investigation to be conducted (in the case of deliberate fires). Information regarding a fire can be obtained from witnesses. Witnesses may be able to provide details of the premises prior to the fire in addition to details of the fire itself, such as suspicious activity or apparent fire spread and smoke colour. Onlookers may even have taken photographs or video recordings of the incident on their mobile phones or cameras. The owner of the building/area may be able to detail the contents and layout of the building as well as any other potentially pertinent facts. Fire fighters in particular may be able to provide useful information on the possible origin of the fire and any unusual conditions. Fire fighters should also be interviewed to identify any

\textsuperscript{147} Ibid
disturbances made to the scene during fire-fighting efforts. A fire incident should be treated as a crime scene in that the area should be strictly controlled by a cordon to preserve evidence and allow access to authorized personnel only, with the scene and evidence being fully documented. A plan of the premises should be produced where possible to include the locations of objects, though it must be taken into consideration that disturbance may have been caused during fire-fighting efforts.

The investigation should ideally begin with an external examination of the scene. This allows for the identification of entry point, signs of forced entry, indications as to the origin and cause of the fire, artefacts, and any possible safety concerns. There are numerous indicators that can be used to determine the possible origin. Fire effects on certain materials can indicate the direction of fire. As fire burns upwards and outwards, V-shaped smoke/burn patterns may be found on surfaces adjacent to the fire, with the end of the V pointing towards the point of ignition. However ventilation can affect the path or shape of V-shaped patterns. Smoke deposits of object surfaces can suggest the direction, from which the fire originated, and glass and plastics tend to melt in the direction of fire, thus distortion of such materials can act as directional indicators.

Structural damage to the building can also be used to locate the seat of the fire. The investigator may be required to excavate the scene and systematically remove debris in order to identify the possible origin. Once debris and other evidence can be collected the scene can be lightly cleaned to expose fire burn patterns. However, depending on the extent of fire damage, the seat of fire may have been destroyed, particularly if the fire has been burning for a significant length of time. There may be multiple seats of fire, which in some cases can indicate arson if the arsonist has started fires in numerous
places. However burning wallpaper, curtains or debris can also produce apparently
distinct ignition points. Due to the range of factors affecting the origin of a fire, it is not
generally possible to specify the exact point of ignition of a fire. Therefore investigators
generally define a confidence perimeter or radius of error.148

Determining the cause of the fire is often greatly aided by locating the seat of fire, at
which point investigators can identify characteristics or artefacts associated with
ignition. The investigator will aim to establish whether the cause of the fire was
accidental, natural, deliberate or undetermined. Accidental fires generally involve no
malicious human contact, natural fires include “acts of God”, such as lightning strikes,
while deliberate fires are those ignited purposely by individuals, often with malicious
intent, in an act known as arson. Finally, if the cause of the fire cannot be ascertained
due to lack of evidence, it may be classed as undetermined. Evidence directly linked to
the fire may be found at the point of origin, such as fuel sources, incendiary devices,
electrical appliances or pools of accelerant. The lifestyle of individuals living or
working in the building should be taken into consideration. For example, factors such
as whether individuals were smokers, used candles or kept large amounts of possible
fuel packages such as newspapers and magazines may be relevant.

Arson are of particular importance to the forensic investigator, and such incidents may
arise for a variety of reasons, such as insurance fraud, terrorism, in attempts to harm a
person or their property, mental health problems, or to conceal a previous crime. In
cases of suspected arson, samples are collected from the incident scene for the analysis
of accelerants. The use of accelerants is not always apparent, therefore investigators
may need to use detection dogs or hydrocarbon sniffer dogs to detect these volatile

substances. Hydrocarbon sniffers are vapour detectors used to discover the presence of fuel and solvent vapours associated with flammable liquids. Early devices implemented treated paper or crystals which changed colour when exposed to hydrocarbons, whereas more modern devices are essentially portable gas chromatographs or flame ionization detectors. However these devices can only ever act as a preliminary test for accelerants, as similar substances can also be produced through the thermal decomposition of various natural and synthetic materials that may be found at the scene.\textsuperscript{149}

2.4.16. Forensic Biology

Forensic biology is the application of biological analysis methods, particularly serological methods, to legal investigations. Serology involves the investigation of bodily fluids, particularly the likes of blood, semen, saliva, all of which are commonly found at certain crime scenes. There are numerous types of bodily fluid that may be found at a crime scene or on a victim, all of which have the potential to be analysed and used in the identification and incrimination of the perpetrator. The examination of such substances can not only provide clues as to the identity of the offender, but also help investigators develop a detailed picture of the sequence of events which occurred. The presence of certain bodily fluids can be excellent indicators of what has occurred. For example, the presence of semen may suggest a recent sexual encounter, whether consensual or otherwise. Perhaps more obviously, blood at a crime scene is often indicative of some form of physical struggle, assault, or even murder. The analysis of bodily fluids may also determine the presence of quantities of certain substances in the body, such as alcohol or toxins. Bodily fluids can be divided into two categories: excreted fluids and secreted fluids. Excreted fluids that may be found at a crime scene

\textsuperscript{149} Ibid
include faeces, vomit, bile, and sebum (skin oil). Secreted fluids include blood, plasma, semen, saliva, female ejaculate, and urine.\textsuperscript{150}

When a potential bodily fluid is first discovered at a crime scene, actions may be required to visualize the stain. Some biological samples are difficult to see with the naked eye, and require particular light or chemical additions to reveal their presence. Presumptive tests may be conducted to give some indication as to the identity of the substance, though these tests are by no means conclusive, and further analysis will be essential. The sample must be then collected and stored appropriately so as to preserve its integrity as best as possible. Wet samples will often be swabbed, with the swab then being placed in a vial or other airtight container. Individual samples should obviously all be stored separately to prevent contamination. All biological samples are generally dried or frozen during transport and storage. If the samples are to be dried, they should be left to dry by air without the addition of heat, as heat can be damaging to such specimens. These extensive measures are taken to not only protect the samples for analysis, but also protect the staff handling the samples from biohazards, such as infection from a biological sample. The sample will then be transported to a laboratory so that the analysis can be conducted.

The primary goal of this analysis will be to establish exactly what the sample is. Though the answer may seem obvious from the appearance of the sample, conclusive tests should always be conducted. The substance should also be subjected to species-specific tests, as the biological sample may belong to another animal rather than a human. After the completion of such confirmatory tests, DNA analysis may be conducted to attempt to identify the secretor of the sample. A biological sample may

\textsuperscript{150} Wikipedia, \textit{Forensic Science: History and Branches, Op. cit.}
not always contain sufficient DNA to obtain a DNA profile. Individuals may be known as secretors or non-secretors. Secretors present aspects of their blood’s protein in other bodily fluids, whereas non-secretors will not have sufficient levels of protein in their bodily fluid to establish a match between two samples. Fortunately, the percentage of the population who are non-secretors is comparatively small. 

2.4.17. Forensic Entomology

Forensic entomology is also known as medico-criminal entomology, which is the use of insect evidence to aid legal investigations. There are roughly 700,000 known species of insect in the world, of which many have been known to play a role in a vast number of criminal and civil cases, as well as automobile accidents. Most insects undergo a complete holometabolous development, passing from egg to larva to pupa and finally adult. However some insects will deposit living larvae instead of eggs. The blowfly’s lifecycle has been fairly well documented being the most prevalent insect at a death scene. Certain factors may however affect the rate at which insects infest a body. If the cadaver was frozen for a period of time, the arrival of insects will be severely delayed. Similarly, a buried or wrapped body will also attract insects at a delayed rate. Unusual blood spatter patterns may be explained by insect activity. Insects will frequently move through pools of blood, disturbing the original spatter.

In criminal investigations, insect evidence has been most commonly employed when determining the post mortem interval of a victim. A wide variety of insects are attracted to the scene of a corpse, where they will move through their life cycles at a fairly predictable rate. The presence of specific insects alone can indicate a rough time of

---

151 Stephanie Rankin, *Forensic Science Central*, available at [www.forensicsciencecentral.co.uk/biology.shtml](http://www.forensicsciencecentral.co.uk/biology.shtml) accessed 17/06/16 at 2.52am
death estimate, as different species arrive at the scene of a body at different intervals. Some insects will prefer a fresh corpse, whereas others will arrive at a later stage of decomposition. During the first three days after death the proteins and carbohydrates in the body will begin to break down. In this time, blowflies will be the first to arrive at the scene to lay their eggs, usually in the orifices of the body. Over the next three days, the body begins to decay further and the abdomen inflates. The eggs previously laid will begin to hatch, releasing larvae, and some species of beetle will arrive. Between days 8 and 18 more insects join the scene, including numerous flies, beetles, ants and cockroaches. Between days 19 and 30 the body enters the post-decay stage, eventually attracting further beetles and mites. As the body is drying out after this, dermestids, tineids, and mites will be the dominant insects present. As insects are cold-blooded and their temperature is dependent on the environment, their metabolic rate will be severely affected by the ambient temperature.\footnote{Alan Axelrod and Guy Antinozzi, \textit{The Complete Idiot's Guide To Forensics}, Op. cit. pp. 173-184}

Insects at the scene may have toxicological benefits. The body may reach a stage at which it is not possible to extract any useful biological samples. In this case, any maggots present may be analyzed in order to examine any human tissue they may have ingested. Insect evidence can be used to determine if a body has been moved, as certain species of insect are endemic, being unique to specific areas. For example, a body found in an urban environment would only hold rural insects if the corpse had been in a rural environment previously. This would suggest someone had moved it. Disturbances to insects’ life styles are also an indication of some post-mortem interruption. Insect evidence has also been known to help in the investigation of illegally imported goods and drugs. If insect specimens are found in such products, their native origins may help
establish where the goods came from. The presence of insects may also hinder an investigation. Many roach species have extremely strong mandibles that can produce post-mortem damage that will closely resemble abrasions or chemical burns. This damage must not be mistaken for injuries sustained prior to death.\textsuperscript{153}

2.4.18. Forensic Bloodstain Pattern Analysis

Bloodstains often found at the scenes of violent crimes, can provide vital clues as to the occurrence of events. The successful interpretation of bloodstain patterns may provide clues as to the nature of the offence, the possible sequence of events, any disturbance to the scene that may have occurred, and even the position of individuals and objects during the incident. It may prove beneficial in refuting or corroborating eyewitness accounts. Documentation of bloodstain evidence will most typically be carried out using photography, including photographs of the wider scene along with close-up images of particular bloodstains. A ruler or other form of scale may be placed in the photograph in order to give perspective as to the size of a bloodstain. Sketches and even videos may also be utilised for further documentation. Collection of bloodstain evidence can be a complex matter, as the evidence will not likely be confined to a small object that can be easily removed from the scene. After rigorous documentation of the evidence, ideally the bloodstains themselves will be collected. This can involve simply removing objects from the scene or, more problematically, sections of carpet or large pieces of furniture. Evidence removed should be packaged in such a way that the stains are not altered or damaged. Collection of blood evidence for the purpose of DNA profiling will generally be conducted using a swab.

\textsuperscript{153} \textit{Ibid}
The appearance of a bloodstain can depend on a number of factors, including the velocity at which it was travelling, distance travelled, the amount of blood, the angle of impact, and the type of target onto which it lands. The types of bloodstain pattern include single drop, impact spatter, cast-off stain, transfer bloodstains, projected pattern/arterial damage stain, pool stains, insect stains and expiration stains. Various factors must be taken into account in order to successfully interpret a bloodstain. The surface onto which the blood is found may have had an effect on the behaviour and appearance of the stain. For instance, a bloodstain pattern may appear different if landing on an absorbent surface such as fabric as oppose to tile or plastic. Studying the state of the bloodstain may be able to shed light onto how much time has passed since the blood was shed, as over time blood will naturally coagulate (the process by which liquid blood turns into a gelatinous substance through various clotting factors). Furthermore, the extent of drying or coagulation will depend on the quantity of blood present, for instance a single drop will dry significantly faster than a large pool of blood. During this process of coagulation serum stains may be formed, which occur when the serum (liquid portion of the blood) separates.\(^\text{154}\)

Bloodstains at an incident scene may not always be visible to the naked eye, either due to low amounts of blood present or an individual cleaning in attempts to remove signs of bloodshed. Despite the use of cleaning reagents or even attempting to cover the stains with paint, detectable traces will generally remain, which can be visualized using various chemicals or specialized light. However it should always be remembered that these chemical reagent tests are often presumptive, meaning that they can only indicate that the stain is possibly blood. In reality, other substances may react with the reagent in

the same way. The absence of blood in a continuous bloodstain may suggest that something or someone was present in that area when the bloodstain was caused, and that an object present at the time of the incident may have been removed from the scene.\footnote{Ibid}

2.4.19. **Forensic Art**

The application of artistic methods to legal investigations, forensic art is primarily used in the identification of victims and suspects. This may be to aid police searches, jog the memories of witnesses to an incident, or for wider distribution. Additionally, the artist may be involved in providing artistic evidence for courtroom presentations, the sketching of crime scenes, and the modification or enhancement of images. A common task carried out by the forensic artists is the drawing of potential suspects or victims. These are basically freehand sketches completed by the artist based on all available pieces of information. The process will generally begin with an interview with the witness or victim, during which they will describe the appearance of the subject to the best of their ability. Using this information, the artist can compose a sketch of likeness. The witness will be invited to view the sketch throughout the process so that they may request any alterations be made if the image is not accurate. These sketches can also involve any relevant distinguishing features such as tattoos, scars, jewellery, clothing and distinctive hairstyles or facial hair. Once the composite drawing has been completed, the image can be distributed amongst law enforcement agencies and even members of the public via the media.

They are however not considered to be an exact portrait of the subject, but merely an account of the witness’ memory, therefore cannot be used to positively identify the
suspect, but can be a tool of elimination and corroboration. Forensic artists also use Image modification, in cases of missing persons or fugitives who have not been seen for a long time. The most recent photograph available of the subject is taken. Using knowledge of complex craniofacial growth patterns and various other pieces of information, it is possible to alter an image to portray how they will most likely appear now. The expert will often take into consideration the subject’s living environment, family history and genetics, and personal hygiene. However certain factors cannot possibly be established, such as hair colour, style, facial hair, and clothing. This can all be done by hand or using computer software. In cases involving unidentified skeletal remains, the forensic artist may be required to attempt to identify the victim using facial reconstruction along with an anthropological expert. Initially as much information is gathered as possible, such as race, sex and approximate age. There are however some factors which cannot be assumed by the artist, including weight, hair colour and length, and eye colour. The nose is also difficult to reconstruct, as the underlying bone is fairly limited while variation is potentially great. An alternative form of identifying a victim using an unidentified skull is superimposition. This technique superimposes a photograph of an individual over an x-ray of the skull. If the skull does indeed belong to the individual, the anatomical features of the face should align accurately with the image. However this is not a positive means of identification, though can act as a useful indicator.\(^{156}\)

Various pieces of computer software are available for use in legal investigations. Some programs are designed for the purpose of creating a two or three-dimensional likeness

\(^{156}\) Stephanie Rankin, *Forensic Science Central* available at [www.forensicsciencecentral.co.uk/art.shtml](http://www.forensicsciencecentral.co.uk/art.shtml) accessed 19/06/16 at 2.13am
from skull bones, aiding in identifying unknown victims. Computer programs have also been used for creating facial composites, especially in the UK, where computerized composites are preferred to hand sketches. The expert will sit down with the witness and ask them to describe the individual of interest, after which they can produce the image. It also allow for the addition of hairstyles, clothes, jewellery and other distinctive features. A forensic artist may often be called upon to make sketches of a crime scene. Such sketches must include accurate dimensions of the room, the locations of significant objects and items of evidence, distance measurements between objects and two fixed positions, a legend or key as necessary, and a compass designating north.\footnote{Ibid}

\textbf{2.4.20. Forensic Engineering}

Forensic engineering is primarily concerned with the link between engineering and law, whether civil or criminal. The purpose of an investigation will usually be to discover the cause of failure in a particular material, component, product or structure, and determine whether this failure was accidental or intentional. Whilst accidental failures may be the result of a natural cause, such as corrosion or fatigue, they may also include car, rail and aviation accidents. Engineering disasters, such as the collapse of a commercial bridge, will often be subject to such an investigation. However intentional failures could prove criminal intent, and will often result in court proceedings. The forensic engineer will conduct an investigation involving various inspections of the faulty structure or item, the collection of evidence and data, and performing various experiments. The engineer’s report at the end of the investigation will often include information on the problem and its cause, documental evidence (photographs,
engineering drawings, testing records, quality control records, etc), potential solutions and suggestions for improvement, and evidence to support the entire report. It may be necessary for the engineer to present any findings in court, particularly in matters of litigation. If neither side agrees to accept responsibility for the fault which caused the incident, forensic engineers may be employed to provide evidence in order to establish the facts surrounding the case. The facts will then be presented in court, where the outcome can be decided.

Through the investigation conducted by the forensic engineer, a vast array of techniques is available for use in order to analyze evidence and ascertain certain details. The methods used are largely dependent on the circumstances of the investigation and what the engineer hopes to achieve. Trace evidence for example is often vital in reconstructing the sequence of events, particularly in the case of vehicle accidents. Vehicles involved in collisions may leave tire marks on road surfaces, beneficial in determining routes of travel and speed.\textsuperscript{158} Other techniques include radiography, optical microscopy, nuclear magnetic resonance spectroscopy, infrared spectroscopy, failure modes and effects analysis, fault tree analysis, accelerated life testing and differential scanning calorimetry.

\textbf{2.4.21. Forensic Archaeology}

Closely linked to anthropology, forensic archaeology is the application of archaeological techniques and methods to legal investigations. Employers will often be police and other government agencies who hire the archaeologists to assist in locating potential gravesites through geological and geophysical surveying methods, carrying

\textsuperscript{158} Stephanie Rankin, \textit{Forensic Science Central} available at www.forensicsciencecentral.co.uk/engineering.shtml accessed 19/06/16 at 2.13am
out assessments, documenting and mapping scenes, excavating artefacts and remains, and reporting the findings. Primarily dealt with will be sites of clandestine burials or other buried artifacts relevant to a criminal matter, such as personal effects of a victim or murder weapons. Forensic archaeological techniques are particularly utilized in the excavation of mass graves, generally under investigation by the UN or a similar organization, aiming to both identify victims and gather evidence for war crime indictments.

A vast array of detection techniques are available to aid in locating sites of interest. Archaeologists will particularly look for any indicators of clandestine graves, including visible skeletal remains, decomposition odours, clothes and items on the surface, signs of animal scavenging, soil and vegetation disturbances, and alterations in soil compaction. Following the identification of a site of potential importance, an excavation will be conducted. Any archaeological excavation is conducted slowly and painstakingly, with every stage being recorded scrupulously. The proper excavation of a grave can provide information regarding the time and circumstances of burial, the manner of death, and the tools and techniques used throughout. The excavation aims to carefully uncover bodies and any artefacts, artefacts being the likes of weapons, jewellery, clothing and other personal effects.

Soil and debris is often filtered through a fine wire mesh to separate any potential items of trace evidence, whether through hand-held screens or larger rocking screens. The colour and state of the soil itself may be useful to the investigation, such as if bodily fluids seep from a discarded body into the soil. Due to this, samples are often taken of soil from different layers of an excavation site. The archaeological site is mapped in
intricate detail, including scale drawings and detailed descriptions of the state of the site. Like with any crime scene, the location of any individual piece of evidence is documented carefully. They employ Aerial Photography which is a remote sensing technique that allows for large areas to be studied from the air. The method involves photographs being taken from a helicopter, aircraft or satellite, allowing archaeologists to study the images of the ground to search for any signs of burials or other areas of interest. Aerial Photography may also be coupled with remote sensing, a technique utilizing infrared and radio waves. Thermal Imaging is another technique based on utilizing natural sources of infrared radiation, perhaps emitted from warm materials such as the human body.

Ground Penetrating Radar Ground Penetrating Radar, or GPR, is a geophysical technique used to study the subsurface. A sound pulse is emitted through discharging a capacitor into the ground under investigation. This pulse is then reflected back, receiving antennas detecting this. The time taken for the reflected pulse to return to the device can provide information regarding the depth of any buried items. Similarly, the direction in which the pulse is reflected can give further details of what is buried. Magnetometry is a detection technique based on the magnetic susceptibility of materials, which is essentially how magnetic a particular substance is. As time passes, materials become magnetized along with the Earth’s field. Any disturbances to this, such as those caused by digging and burials, can be detected by magnetometry. Metal detector is one of the better-known methods of detection. They can generally detect objects up to 40cm underground through soil, concrete and vegetation,

---

160 Ibid
depending on conditions and the metallic material. During forensic investigations and
the search for clandestine graves, metal detectors are only useful in locating buried
bodies if there is an associated metal object such as jewellery or dental fillings.
Resistivity surveys are beneficial in the detection of recent burials and resistivity
changes can be caused by such disturbances. During archaeological investigations,
dating method may be necessary to estimate the age of any artefacts found. Dating
method is particularly vital in establishing whether an object found is relevant to the
current investigation. Numerous methods of dating are available. ¹⁶¹

2.4.22. Forensic Explosives

Explosion occurs as a result of chemical reaction which releases a vast amount of
physical or chemical energy accompanied by light, heat and sound in a short space of
time. The cause of an explosion could range from a simple accident in the home to a
major terrorist incident. Either way, an intricate investigation must take place to
establish the exact circumstances of the event.

The site of an explosion must first be deemed safe before officers may proceed with
their investigation. As with in fire investigations, consideration must be given to the
structural instability of buildings, dangerous materials such as glass and metal, and
flammable or toxic substances. In bombing cases, there is always the possibility that
second devices have been placed, either bombs that did not detonate or those
specifically designed to harm people responding to the incident. Therefore the area
should be deemed structurally safe, explosives experts are called in to locate any further
explosives, and appropriate protective clothing should be worn. As with any crime
scene, a cordon will be placed around the area to preserve evidence and control who

can enter the scene. The diameter of the cordon will be dependent on the incident, as an unexploded device requires a smaller cordon as no debris is involved. Initially the investigation will establish whether an explosion has actually occurred. Explosions will result in specific damage being caused to surrounding areas, the presence of which may indicate such an incident has taken place. Therefore investigators will search for this characteristic damage.

Textiles will take on specific material when subjected to the heat caused by an explosion, with many melting and once again solidifying, displaying clubbed damage. Surfaces slightly further away, such as rooftops and stationary vehicles, are likely to collect soot deposits from materials burned during the explosion. The pressure and heat of the blast will cause specific damage to nearby surfaces, the kind of damage being specific to the material. Once confirmed, the origin of the explosion will be located. The presence and depth of specific damage or a crater may indicate the origin, or seat, of the explosion. It must then be established whether the incident was caused by maliciously placed explosives or if it was an accident, such as a gas leak. Investigators will be on the lookout for both signs of potential gas leaks and similar but also for indicators of bomb use. Before and throughout the investigation any witness to the incident will be interviewed. Witness reports are useful for gathering information on any occurrences leading up to the explosion, details of the explosion itself, and anything else that may be relevant, such as the sightings of suspicious individuals.¹⁶²

During the investigation of an explosion scene, investigators must search far and wide for possible fragments, as much of the bomb is thrown far from the epicentre due to the heat and kinetic energy produced. Fragments may be found on rooftops, under other

¹⁶² Ibid
debris, and even embedded in other objects or victims. All fragments should be collected to ensure the bomb can be reconstructed. Such fragments may also carry fingerprints belonging to the perpetrator. Components searched for at a crime scene include detonators, tapes, wires, timers, switches, and batteries. Once all present components have been collected, experts may be able to establish what kind of explosive device was used, including its construction and how it was triggered. The type of explosive used, its construction, or specific components used may be useful in locating the bomb maker, particularly if a series of explosions have occurred over a period of time. Similarly, particular terrorist organizations may be known for using a specific type of explosive. An investigation may often be conducted into recent purchases of certain substances. Explosives are generally strictly regulated by the government, and so a flag may be raised when an individual purchases a particular chemical. However materials used in bombs are often stolen or smuggled into the country, so the components may be more difficult to trace.

Investigations are not limited to the scene of the explosive incident itself, but can be extended to the homes of suspects. Homes may be examined and analyzed for any indication of bomb construction, including bomb fragments and explosive substances. Surfaces will be swabbed to detect the presence of minute traces of explosive residues, either using chemical indicators or to collect samples for further laboratory analysis. The identity of suicide bombers can often be ascertained from CCTV footage and witness statements. Parts of the bomber may even be found, as the upper torso and head sometimes survive the blast and are found a distance away from the epicentre of the blast. Many organizations will publish or advertise the identity of the bomber after the
event has occurred. Letter and parcel bombs often yield forensic evidence as the
devices rarely cause fires and so less evidence is destroyed. In the use of vehicle bomb,
it is usually possible to at least identify the make and model of the vehicle used and
potentially even its owner.\textsuperscript{163}

Throughout the investigation various techniques may be utilized to detect explosive
residues, either traces left behind by the explosive device or materials used in the
production of the explosives. The use of specially trained dogs is perhaps one of the
oldest methods of detecting explosives. These canines are trained to use their
exceptional sense of smell to detect and locate the presence of even the slightest traces
of explosive material. They may equally be utilized at the crime scene itself to detect
more explosive devices or residues, and in homes of suspects to establish whether the
location bears any trace of such substances. The dogs may also be instructed to detect
explosive scents on people and their clothing. Electronic ‘sniffer’ devices can detect
certain scents which explosives generally give off. The air is drawn through a filter,
causing the heavier explosive chemicals to collect where they can then be analyzed,
giving some indication as to its presence. However some explosives, such as plastic
explosives, are not easily detected by these devices, therefore canines may be more
useful in this respect. Detection techniques should always be used in unison rather than
exclusively.

X-ray techniques are frequently used in the detection of explosive devices, particularly
when dealing with suspicious objects or containers. Dual energy technology
simultaneously passes two x-ray beams through the item. One of these will detect
organic materials, displaying them as red, and the other beam focuses on inorganic

materials, displaying them as blue or green. These colour differences allow for the quick and efficient scanning of items, particularly useful in airports and other public areas. Away from the crime scene, standard analytical techniques may be used to detect and identify explosive substances. Mass spectrometry and gas chromatography are frequently used in the analysis of samples collected from the scene to identify any explosive residues.\(^{164}\)

### 2.4.23. Forensic Anthropology

Forensic anthropology combines the theories and methods of anthropology, osteology and archaeology with legal investigations. The role of the forensic anthropologist can be varied, including aiding in the collection and analysis of human remains, the identification of victims beyond recognition, the estimation of time since death, and the establishment of injuries and potentially cause of death. The victims examined by anthropologists are usually in the late stages of decomposition; completely skeletonised, or have been rendered otherwise unrecognizable by fire damage or other injuries.

The forensic anthropologist will sometimes be called in when suspected human remains are first discovered to aid in the excavation and initial analysis of the bones. Following the careful excavation, documentation and collection of the remains, they are cleaned up in preparation for the analysis. During the investigation, the anthropologist will conduct a variety of examinations and tests to determine various features to aid in the identification of the victim. Whilst studying the bones, it may also be possible to identify evidence of trauma which occurred prior to the fatal incident, acting as

---

\(^{164}\) *Ibid*
potential identifiers, or trauma which occurred during the incident, providing details as to the cause of death. Finally, the details of the anthropological analysis and any results are recorded in a detailed report for use in the investigation and potentially in court, at which point the expert may be required to stand as an expert witness. They can use Carbon dating to establish the age of remains through the bones or objects.\textsuperscript{165}

Whenever remains are discovered, before a full investigation ensues, it must first be established that the bones are of human origin, this is because, up to 30\% of remains seen by a forensic anthropologist are non-human. If the larger bones are present in a set of remains, it is generally much easier to determine whether they belong to a human or not. Smaller bones can provide greater difficulty, and will require great knowledge and experience on the part of the expert to confirm their origin. If the remains are deemed to be non-human, the investigation will generally come to an end, unless relevant to the criminal proceedings.

One of the initial factors to determine when identifying a set of human remains is the sex of the individual. There are numerous features of the human skeleton that can be studied to help establish this, the most obvious being the pelvic bone. Women generally have proportionally wider pubic bones than men to allow room for a baby’s head to pass through during childbirth. However this is not a useful indicator when determining the sex of a pre-pubescent child, as the pelvic bone in girls is yet to widen, thus meaning there is a lack of sexual dimorphism between the sexes. The skull is equally beneficial in the establishment of sex. Although there are additional points of sex identification, but they are less accurate.

\textsuperscript{165} Gail S. A., \textit{Forensic Science Branches, Op. cit.}
A vital feature of identification is the age of the victim. By studying the appearance of condition of particular bones, it may be possible to estimate this, sometimes as accurately as within a few months. As an individual ages, a process known as ossification occurs in around 800 points around the body, in which separate pieces of bone fuse together. As the bones fuse together, sutures are formed in between them, appearing as ‘zigzag seams’. The fusion of particular bones generally occurs at specific points in an individual’s life, making them invaluable in age determination.\(^\text{166}\) Though not particularly accurate, cranial sutures (on the skull) can aid age determination if no other methods are suitable. Similarly, certain sections of cartilage around the body gradually turn into bone over time, again usually at a particular age.

Again, studying the pubic symphysis, the midline joint between the left and right pubic bones, can give an estimation of the age of the victim. In terms of the elderly individuals, worn teeth, signs of bone degeneration, arthritis, osteoporosis (increased bone porosity), and similar diseases can indicate old age. However the level of wear of teeth can be influenced by diet and cultural practices, so this should be taken into consideration. On the other hand, if dentures or other false teeth are found in or near the remains, this is a further sign of an elderly victim. Other methods include Osteon counting by microscopy (Osteons are minute tunnels within the bone housing nerves and nutrient-providing blood vessels. In general, the more osteons present in the bone, the older the victim). Tooth eruption (beneficial particularly in younger individuals).

Ethnicity can be determined through the differences in the structure and appearance of bones between individuals of different races that can be observed and used in the establishment of a victim’s ethnic origin. Although this is not always obvious,

\(^{166}\) Ibid
particularly with the increasing likelihood of mixed-race victims. Aside from establishing the identity of the victim, a major duty of the forensic anthropologist is the estimation of time since death. The condition of the bones and the amount of flesh remaining, which are dependent on the likes of time, exposure, and temperature, can be studied to help determine this.\textsuperscript{167}

With little or no flesh remaining, it may be the duty of the forensic anthropologist to figure out clues as to how the victim died and what injuries they received. If a forensic anthropologist has been called upon, the remains are most likely skeletonised, meaning bodily tissues have decayed. In these situations, it is highly unlikely that nuclear DNA can be extracted. However it may be possible through mitochondrial DNA. Forensic anthropologists also do facial reconstruction; method of reconstructing the living face of an individual from skeletal remains to aid identification. In more recent years, computer technology has been utilized in facial reconstruction, producing computerized 3D facial mapping, which can allow for the better manipulation of the image and easy transfer between computers.\textsuperscript{168} They can also determine the stature, weight in individuals.

2.4.24. Forensic Accounting

Forensic accounting applies accounting and auditing methods and procedures to legal matters of both criminal and civil nature. Criminal cases often include the likes of fraud or illegal insurance claims, whereas civil investigations generally relate to family matters and business disputes. Throughout any investigation, the accountant must be as discreet and efficient as possible to protect the reputations of their clients.

\textsuperscript{168} Stephanie Rankin, \textit{Forensic Science Central} available at www.forensicsciencecentral.co.uk/anthropology.shtml accessed 21/06/16 at 2.13am
Most specialists are hired on a case-by-case basis, though some larger accounting firms employ their own forensic accountants. These may be assigned very particular tasks, such as fraud investigation or dealing with insurance or personal injury claims. Those hired individually are commonly called upon by law enforcement agencies, businesses, and insurance companies.

Fraud can be defined as an intentional deception in order to obtain undeserved or unlawful benefits. The accountant may be required to conduct a detailed analysis of the company’s accounts in order to ensure that the numbers reflect reality. The figures of the company accounts may have been altered to show less than their actual profits, manipulated so that the company can avoid paying certain taxes. Similarly, an employee may have manipulated figures to conceal the theft of company funds. If any anomalies and inconsistencies are found in accounts, all transactions must be traced in order to establish when funds were removed, to what account, and by whom. The malicious handling of funds may not be immediately obvious, as the individual responsible may have taken steps to ensure their actions are concealed. Part of the fraud investigation may be the observation and interviewing of employees suspected of embezzlement. One obvious sign of such behaviour is lavish spending by the suspected employee, such as new cars and holidays and starting additional businesses. The accountant may need to trace the transfer of sums of money using "paper trails" or "audit trails" and assist in recovering these funds. Some employees have been known to establish ‘dummy’ businesses in order to siphon off large sums of money for their own personal use. Following a fraud investigation, the accountant may provide the client with suggestions on developing a system to prevent further fraudulent activity. These
measures may include environments in which people are deterred from committing fraud and internal controls to minimize the chance of it occurring.\textsuperscript{169}

\textbf{2.4.25. Forensic Computing}

Computer forensics is a particular sub-specialty of forensic science dealing with computer and digital evidence relevant to legal investigations. In recent years computers have been increasingly used in criminal activities, including theft, fraud, computer hacking, software forgery, computer virus creation, and child pornography. Computer forensic specialists will often be called upon when the computers of suspects are seized following criminal involvement, particularly for the retrieval of data files. This field of work can be split into three main specialties; obtaining and documenting digital information, computer-related expert testimony, and basic investigation. The search for digital evidence in computer forensics is extensive, with everything being investigated including home and work systems, modem pools, deleted and existing files, networks, cookies, print spool files, temp files, swap files, slack space, caches, log in files, and any other related media. The data the investigator searches for may come in numerous forms.

However before the search begins the computer must be protected from any damage or alteration and all contents copied before being examined. The state of the computer in which it was found should also be documented, including all connections and cables attached to the computer and any files or programs open. Dead analysis involves the examination of a computer’s contents without the machine being turned on. Using hard-drive duplicating software, the original files may be duplicated without altering them. These copies must be analyzed to ensure they are true and accurate. Hashing tools can

be used to compare the original hard disk to the copy made of it, ensuring that the files have been correctly copied.

Many individuals mistakenly believe that when a file is deleted it cannot be recovered. In actual fact a file is simply hidden when deleted by the user, and so can be retrieved until that space is overwritten. Information previously stored on the hard drive remains in an unused sector known as slack space, until this is overwritten. However, even if the file has been overwritten, some fragments may still exist. It is possible to copy the contents of a computer without switching it on, though this process can take hours. Incriminating files may have previously been encrypted in order to prevent undesirable individuals from viewing its contents, whether by the user or automatically by the computer. However, using cryptography, it may be possible to decrypt these files.

Email is used by millions of people worldwide every day, and ripe for criminal activity, particularly malicious SPAM and email viruses. Fortunately there are ways of tracking the source of such crime. Each computer has a unique IP (Internet Protocol) address which is recorded every time a computer connects with a particular server. The IP address may be used to track the computer responsible. Every time an email is sent, logs are kept storing information including the sender, receiver, plus dates and times. Such data may also prove beneficial in forensic investigations.

Metadata is essentially data about another piece of data. When a file is created using certain programs, information will be produced regarding the file’s history. This may include the time and date of its creation, when it was last accessed, and when it was last modified. As digital evidence can be so fragile, all extracted evidence must be kept away from mechanical and electromagnetic devices. However computer forensics is not

\[\text{Ibid}\]
limited to PCs and laptops, but may be utilized in the investigation of cameras, video
recorders, mobile phones, and fax machines. Some computer criminals may employ
more advanced methods of concealing incriminating evidence. Anti-forensics tools can
further hinder an investigation. Some of these can change the metadata attached to a
file, or expertly encrypt data. Certain programs can be established that will erase data if
an unauthorized user attempts to access the system. Fortunately, numerous tools are
available for use in the forensic analysis of computer systems, common ones being
Access Data’s FTK, Guidance Software’s EnCase, and Brian Carrier’s Sleuth Kit.\footnote{Wikipedia, Forensic Science: History and Branches, Op. cit.}

\subsection*{2.4.26. Forensic Botany}

Forensic botany is the study of plants and plant remains in the aid of a criminal
investigation. This would include the analysis of wood, fruit, seed, twigs, leaves, plant
hairs, pollen, spores, and algal cells. Though plants and their constituents are found
almost everywhere, their great morphological diversity makes them distinctive,
allowing for comparisons and ‘matches’ to be made between samples. Forensic
palynology, a branch of botany, is the study of pollen and spores in criminal
investigations. Pollen and spores are generally seasonal and often geographically
specific, making them beneficial in linking a suspect, victim or object to a particular
scene. These minute and light substances can easily be breathed in or stick to hair and
clothes. However the lightness of pollen also means it can easily cause cross-
contamination. The seasonal production of certain pollens can help investigators
develop a timeline for a particular event. For example, if a buried body is discovered
bearing pollen only found in summer, this would suggest the season in which the victim
was buried. Unfortunately the pollen of grasses are fairly featureless, meaning that
despite their commonality, they are not useful in forensic investigations. However seeds and fruits often have very specialised features, giving them particular forensic botanical importance. The production and dispersal patterns of spores and pollens are known as pollen rain. While they are scattered in a variety of ways, Anemophilous (wind-pollinated) are the most common type of pollen.\textsuperscript{172}

The study of such evidence can help determine the location of a crime, the time of year in which it occurred, whether a body was buried and for how long, and the location in which a suspect was present. Palynology can also be utilized in drug detection, as substances such as cannabis and cocaine are derived from plants. Techniques may be able to link drug samples to a specific batch or location. It may also be possible to obtain trace evidence from plant cells found in gastric contents, seeing as seeds and plant components are common food sources. These materials may help investigators pinpoint the rough time of the victim’s last meal, helping develop a timeline of events. Certain techniques can be employed to determine how long a body has been in a particular spot. Dendrochronology, the process of the counting of the rings in a root, can be used to determine when a body was buried, usually within a year. An array of information exists on the growth rates of different plant species, allowing the investigator to utilize this data to make estimations relevant to the case.

\textbf{2.4.27. Forensic Geology}

Forensic geology uses geological methods to aid criminal investigations through the study of soils, rocks and minerals. Soils can be defined as a natural body composed of the decayed organic matter, rocks, minerals, and fossils, the study of which is pedology, a sub-specialty of geology. Its properties are affected by the five forming factors; parent

\textsuperscript{172} Ibid
material, topography, climate, organisms, and time. Parent material refers to the material from which the soil is originally formed. The topography relates to the physical configuration and features of a land formation. The climate, including heat, rain, ice, and wind, affect the speed of the soil formation process. Plants and animals will also affect soil formation by influencing the amount of water and nutrients available. All of these factors occur over a period of time, which may be hundreds or even thousands of years.

A soil profile refers to the appearance of the soil when cut from the ground, composed of numerous layers known as soil horizons. These horizons may be from a few millimetres to over a meter thick. Soil samples are frequently collected from crime scenes for later comparison to suspect samples. Perpetrators may often carry soil away from the scene on their shoe, clothes and cars. Layers of soil will be disturbed when graves are dug, the soil often being carried away from the scene on shovels and the offender’s clothing. Soils of a darker colour suggest the increased presence of organic matter, a common sight at gravesites. During the comparison of soil, the geologist will look for unusual or rare particles or particle combinations that may help distinguish between samples.\(^{173}\) This comparison is often conducted using petrographic microscopy, in which thin sections are mounted on slides to be viewed as light filters through its particular attachments. Scanning electron microscopes are also utilized in these analyses.

The presence of minerals in a sample of soil can further distinguish it. Whilst there are over 4000 varieties of mineral, only 20 of these are considered common, and most soil samples will contain only 4 or 5. The combinations of minerals in soil samples, along

with other identifying factors, are used by the forensic geologist to distinguish between soils from different areas, thereby able to tell where a crime took place. Rocks are naturally occurring collections of minerals formed by one of three processes. Igneous rocks are produced by the melting of older rocks, metamorphic are formed by pressure, and sedimentary rocks are formed by continuous weathering.

Another common task of the forensic geologist is the interpretation of photographs and videos as this can be used to determine the location of crime since it can shed light on the location in which the images were taken.

2.5. **Classification of Crime**

Generally, the various types of crime are contained in the Criminal Code Act\(^\text{174}\) and the Penal code laws.\(^\text{175}\) There are however some other enactments that deal with specific offences, such as the Economic and Financial Crimes Commission (Establishment) Act,\(^\text{176}\) the Corrupt Practices and other Related Offences Act,\(^\text{177}\) the Money Laundering (Prohibition) Act,\(^\text{178}\) and the Cybercrimes (Prohibition, Prevention etc) Act.\(^\text{179}\) Flowing from the provisions of these enactments, crime can be safely classified into four broad heads, which are crimes against persons, crimes against property, crimes against public order and cyber crimes.

2.5.1. **Crimes against Persons**

Societies place crime against persons as top priority offence and therefore give it priority by way of prevention and punishment. Crimes against persons are a category of

\(^{174}\) Cap C39, Laws of Federation of Nigeria, 2004
\(^{175}\) Cap 89, Laws of Federation of Nigeria, 2004 (applicable to Northern states and Federal Capital Territory, Abuja)
\(^{176}\) 2002
\(^{177}\) 2000 Act No 5
\(^{178}\) 2011
\(^{179}\) 2015
crime that consists of offenses that usually involve causing or attempting to cause bodily harm or a threat of bodily harm. These actions are taken without the consent of the individual the crime is committed against, or the victim. These types of crimes do not have to result in actual harm - the fact that bodily harm could have resulted and that the victim is put in fear for his/her safety is sufficient. These include homicide (this is the most serious crime amongst crimes committed against persons), Robbery, Assault and rape.\textsuperscript{180}

2.5.2. **Crimes against Property**

Crime against property is any criminal act that destroys another's property, or that deprives an owner of property against the owner's will. This is second in priority to crimes against persons as the criminal law generally considers these crimes less serious than violent crimes, or crimes against persons, but they can still constitute very serious felony charges. They include burglary, arson, stealing and receiving of stolen property.\textsuperscript{181}

2.5.3. **Crimes against Public Order**

Crimes against public order are violations that interfere with the normal operations of society. These crimes go against publicly shared values, norms, or customs. A public order crime does not require an identifiable victim. Individuals can be charged with public order crimes if their conduct or acts are considered “harmful to society.” Public order crimes primarily focus on the offensive conduct. Examples of crimes against public order include treason, treachery, sedition and unlawful assemblies.\textsuperscript{182}

\textsuperscript{180} These categories of offences are clearly stated in part 5 of the Criminal Code Act, Cap C39, LFN, 2004.
\textsuperscript{181} Ibid, part 6.
\textsuperscript{182} Ibid, part 2.
2.5.4. Cyber Crime

Cyber crime also known as computer crime is any illegal activity that involves a computer or network - connected device, such as a mobile phone. Cyber crime has been divided into three categories, namely:

A. Crimes in which the computing device is the target, for example, to gain network access,

B. Crimes in which the computer is used as a weapon, for example to launch a denial of service (DoS) attach and,

C. Crimes in which the computer is used as an accessory to a crime, for example, using a computer to store illegally obtained data.

As wonderful as the benefits computers have brought to commerce and the economy may be, the technology has also provided a new vehicle for criminals of many kinds. Nigeria for example, now has specific enactments targeted at addressing the issue of cybercrime.\(^\text{183}\)

2.6. Classification of Crime Scenes

Crime Scenes can basically be classified into three broad heads; namely- The Outdoor Crime Scene, The Indoor Crime Scene and The Conveyance Crime Scene.

2.6.1. The Outdoor Crime Scene

The outdoor crime scene is the most vulnerable to loss, contamination, and deleterious change of physical evidence in a relatively short period of time. Individuals with access to the scene can potentially alter, destroy or contaminate evidence. The risk is greatest when crime scene investigators fail to secure the crime scene properly. Destruction or deterioration of evidence due to environmental conditions such as heat, cold, rain, snow

---

\(^{\text{183}}\) Nigeria’s Cybercrimes (Prohibition, Prevention etc) Act, 2015
and wind are problems associated with outdoor scenes. Evidence that cannot be protected under these conditions should be collected expeditiously without compromising its integrity. Investigators who encounter a combination of an indoor and outdoor scene should give priority to processing the outdoor component. Night-time outdoor crime scenes are particularly problematic. Regardless of the quality of the light source used to illuminate the scenes, the lack of sunlight can lead to investigators inadvertently missing or destroying evidence. Whenever possible, outdoor crime scenes should be held and secured until daylight for processing.\textsuperscript{184}

2.6.2. The Indoor Crime Scene

Evidence at an indoor scene is generally less susceptible to loss, contamination and deleterious change. Indoor crime scenes are usually easier to secure and protect, and securing a scene can be as simple as closing a door. The methods used by forensic laboratories have evolved so that very small amounts of biological material can produce a usable DNA profile. This, however, means that the potential for detecting DNA traces deposited by contamination at crime scenes becomes a factor. Contamination of any crime scene can easily occur if proper precautions, such as limiting the number of people inside the scene, are not taken. For example, first responders, emergency medical personnel, patrol supervisors, crime scene investigators, and medical examiners are all potential sources of contamination and/or loss of evidence.\textsuperscript{185}

2.6.3. The Conveyance Crime Scene

Conveyance is defined as "something that serves as a means of transportation." Types of crimes committed in conveyances include, but are not limited to: Vehicle Burglary,
Grand Theft, Car Jacking, Sexual Battery and Homicide. It is important that the crime scene investigator recognize that physical evidence recovered from these scenes may extend well beyond the conveyance itself. The flight path of the perpetrator may reveal evidence important to the investigation. For example, impression evidence, such as shoe or footprints in soil, may be found leading away from the scene, and property removed from the conveyance may be deposited or dropped as the perpetrator flees the scene.

Cigarette butts are sometimes found in and around the conveyance. The nature of the crime may give the investigator an idea of the type of evidence present. To protect the scene against inclement weather and other factors that may contribute to evidence loss and/or destruction, a conveyance such as a vehicle may be transported to the laboratory after proper documentation has been completed.\textsuperscript{186}

\textsuperscript{186} \textit{Ibid}
CHAPTER THREE
FORENSIC EVIDENCE AND NIGERIAN LAW OF EVIDENCE

3.1. History and Sources of Nigerian Law of Evidence

Before the establishment of the British Courts, the courts in Nigeria were mainly customary courts presided over by traditional rulers and chiefs. In the northern areas of the country there were Islamic religious courts presided over by person learned in Islamic law. The rules of evidence in the customary courts were the applicable customary rules, whilst the rules of evidence in the Islamic courts were Islamic rules of evidence. To a very large extent those same rules are still applicable in those courts. We are however concerned with the rules of evidence applicable in the courts established by the British government as subsequently developed, namely, the magistrates’ courts, the High courts, the Court of Appeal, and the Supreme Court.

Prior to the year 1945, the Nigerian law of evidence in the courts was the English common law of evidence including rules of evidence contained in applicable English statutes, as there was no single local legislation on the law of evidence to be applied in judicial proceedings in or before courts established by the British colonial government in Nigeria such as the Magistrates’ Courts and High Courts. The law of evidence applicable in the Magistrates’ Courts and the High Courts (then known as Supreme Court) was the English Common Law Rules of evidence which were received in Nigeria as part of the Common Law of England. The statutory authority for the application of the English Common Law relating to evidence in those courts at least as
at 1914, was section 10 of the Provincial Courts Ordinance, 1914, beyond which we need not go here, had provided that subject to the terms of that or other ordinance, the common law of England should be, as far as applicable, in force in what was then known as the colony and Protectorate of Nigeria. This provision was repealed but was subsequently re-enacted by section 12 of the Protectorate Court Ordinance of 1943. This clearly provided for the application of the Common Law of England in the Protectorates’ Courts. Similar provisions for the application of the Common Law of England were also contained in section 14 of the Supreme Court Ordinance, 1943 which replaced the Protectorate Courts Ordinance, and in section 30 of the Magistrates’ Courts Ordinance, also of 1943.

In the same year the Evidence Ordinance, 1943 was enacted for the whole Colony and Protectorate of Nigeria but the Evidence Ordinance was brought into operation on 1st June, 1945 and until that year the law of evidence applicable in those courts continued to be the English common law of evidence. The authorities for the application of this were contained in some of the legislations enacted in the colonial days. The Evidence Ordinance, 1943 was based to a large extent on the seminal work authored by Sir James

---

1 Ordinance No. 7 of 1914 (Cap. 4, Laws of Nigeria, 1923).
3 Ordinance No. 45 of 1943.
4 *Ibid*, No. 23
5 *Ibid*, No. 24
6 *Ibid*, No. 27
7 See Notice No. 618 in Gazette No. 33 of 1945.
9 Examples are in section 10 Provincial Courts Ordinance 1914; section 12 Protectorate Courts Ordinance 1933; section 30 Magistrates Courts Ordinance 1943; section 14 Supreme Courts Ordinance 1943, Ordinance No 4 of 1876 which provided for the application of English Common Law and Equity and Statutes of general application passed on or before 1900.
Fitzgerald Stephen titled: *A Digest of the Law of Evidence*. Arguably, the Digest of the Law of Evidence, itself was a bold attempt made by Sir James Stephen following his commission in 1872 by Lord Coleridge (then Attorney-General of England) to draw up a code of evidence law for England. The English Code of Evidence was “drawn on the model of the Indian Evidence Act, and contained a complete system of law upon the subject of evidence.” It can therefore be very safe to state that the Evidence Ordinance, 1943 was to a large extent a transplant of the English common law relating to evidence since the Evidence Ordinance, 1943 was based on Sir Stephen’s Digest of the Law of Evidence which on its own, was a codification of the common law relating to evidence. 1958 experienced the incorporation of the Evidence Ordinance, 1943 in the Laws of the Federation of Nigeria and Lagos, 1958 as Evidence Act, Cap 62, Laws of the Federation of Nigeria and Lagos 1958. At the time of the passing of the Act, the country had a unitary form of Government. Its application was therefore country-wide. This universal application of the Act continued also after the introduction of federalism in Nigeria and was brought about in this way. First the Evidence Act, though in existence before the constitution of 1960 was deemed to have been made under that constitution. 

In that Constitution as well as in the Constitution of 1963 there were two Legislative Lists; the Exclusive and the Concurrent. The Federal Legislature that is, Parliament alone could legislate for the whole country over any matter in the Exclusive List and its power in this respect also extended to matters of evidence which were incidental to the

---

11 See section 3 of the Nigerian (Constitution) Order in Council, 1960
12 Parts I & II of the Schedule to the 1963 Constitution.
subject under the list.\textsuperscript{13} In the case of subjects in the Concurrent List the Parliament, for the whole country, or the state legislature, for the state, could legislate on them. Either of these legislatures was also empowered to legislate on matters of evidence incidental or supplementary to those subjects.\textsuperscript{14} Where, however, there was a conflict between enactments by the two Legislatures on a matter under this heading, that of the Parliament prevailed.\textsuperscript{15} Thus, as far as subjects under the Legislative Lists were concerned, the Parliament had either exclusive or over-riding power to legislate for the whole country on evidence in relation to the items under them. For items not included in these two Lists, that is residuary items, section 83 of the Constitution of the Federation 1963 provided that Parliament might make laws for Nigeria or any part thereof with respect to evidence in regard to them provided however that an Act of Parliament enacted in pursuance of the section should have effect in relation to any state only to the extent that provision in that behalf was not made by the legislature of that State.\textsuperscript{16} Although the States were thus empowered to exclude Federal legislation on evidence relating to the residuary subjects by themselves passing such law, no state in fact exercised this power.

The result therefore was that since any principle of the Law of Evidence must relate to subjects either in the Legislative Lists or under the residuary items, the Evidence Act applies throughout the whole country, the federal structure of the country notwithstanding. In the 1979 Constitution of the Federal Republic of Nigeria, this universal application of the Act is firmly consolidated by the inclusion of Evidence in

\textsuperscript{13} Item 45 of Part I of the Schedule to the 1963 Constitution.
\textsuperscript{14} Item 29 of part II of the Schedule to the 1963 Constitution
\textsuperscript{15} Section 69(4) 1963 Constitution.
\textsuperscript{16} This was the same as section 77 of the Constitution of Federation of Nigeria, Second Schedule to the Nigeria (Constitution) Order in Council 1960.
the Executive Legislative List. Before 1979, the states re-enacted the Act as State Laws, dropping however, only those provisions that dealt with matters purely Federal in character such as service of witness summons outside the state of issues. In the case of the Northern States, the Penal Code which applies in those states was substituted in the sections of the Evidence Act in which references are made to the Criminal Code applicable formerly throughout the country but now to the Southern States alone. In the Laws of the Federation and Lagos 1958, the Evidence Act was in Chapter or CAP 62 with 229 sections. One of these was section 35a inserted following an amendment in 1977.


---

18 Example is the Eastern States.
19 See sections 228 and 229 of the Evidence Act
21 In *Yero v. Union Bank of Nigeria Ltd* (2000)5 NWLR (Pt.764) 542 at 476 where the Court held that it was inappropriate to cite the Evidence Act as Evidence Act, 1990 as the Act was not enacted in 1990 but merely republished in the 1990 edition of the Laws of the Federation of Nigeria. It was further held that the correct citation was Evidence Act, CAP 112, Laws of Federation of Nigeria, 1990.
The Evidence Amendment Decree, 1991 was promulgated by the Federal Military Government to amend the Evidence Act, Cap 112 L.F.N. 1990 by excluding in civil causes or matters and limiting in criminal causes or matters the application of the Evidence Act to proceedings before any Sharia Court of Appeal, Customary Court of Appeal, Area Court or Customary Court unless the President, Commander-in-Chief of the Armed Forces or the Military Governor or Military Administrator of a State by Order published in the Gazette conferred upon any or all the courts aforementioned, power to enforce any or all the provisions of the Act. These amendments necessitated the insertion of section 1(2) (c), 1(3) and 1(4) to the original section 1 of the Evidence Act Cap.112.

The Evidence Act, Cap 112 L.F.N. 1990 was clearly a reproduction of the Evidence Act, Cap 62 Laws of the Federation of Nigeria and Lagos, 1958 except for few minor differences. These are section 35 (a) of the Evidence Act Cap 62 which was introduced by the Evidence (Amendment) Act, 1977 was inserted in the Evidence Act Cap 112 as a new substantive section 36. This section made provision for the admissibility of written statements of absent Investigating Police Officers in criminal trials in certain circumstances. By the insertion of section 35 (a) of the Evidence Act Cap 62 as the new substantive section 36 in the Evidence Act Cap 112, the original section 36 in the Evidence Act Cap 62 was consequently re-numbered as section 37 in the Evidence Act Cap112 and this renumbering affected all successive sections in the Evidence Act Cap 112. However sections 1-35 in the Evidence Act Cap 62 and sections 1-35 in the Evidence Act Cap 112 remained exactly the same. Again, section 230 of the Evidence Act Cap 62 which dealt with service of processes issued in Nigeria in Southern
Cameroon was expunged from the Evidence Act Cap 112 with the effect that section 229 of the Evidence Cap 62 was renumbered as section 230 of the Evidence Act Cap 112. Thirdly, two new sub-sections which were not contained in the Evidence Act Cap 62 were added to section 1 of the Evidence Act Cap 112 as section 1 (3) and (4) respectively by the Evidence Amendment Decree, 1991.

The two sub-sections provided for the limited application of the Evidence Act to judicial proceedings in any criminal cause or matter before an Area court. Following the publication of a new edition of the Laws of the Federation of Nigeria in August, 2004 the Evidence Act was published as Cap E.14, Laws of the Federation of Nigeria, 2004.22 The Evidence Act, Cap E.14 Laws of the Federation of Nigeria, 2004 was deemed to have come into force on 1st day of June, 1945, thus bringing to an end the operation and application of the Evidence Act Cap 112. The Evidence Act cap E14 was a complete reproduction of the Evidence Act, cap 112. With effect from the 3rd day of June, 2011, the Evidence Act cap E14 was repealed and replaced with the Evidence Act, 2011 which came into force throughout the federation of Nigeria.23 According to its long title, the Evidence Act, 2011 is an “Act to repeal the Evidence Act Cap E.14, Laws of the Federation of Nigeria and enact a new Evidence Act which shall apply to all judicial proceedings in or before courts in Nigeria and for related matters.” In line with its long title, section 257 of the Evidence Act, 2011 expressly repeals the Evidence Act Cap E.14, Laws of the Federation of Nigeria 2004 as it provides that “The Evidence Act Cap E14 Laws of the Federation of Nigeria, 2004 is repealed.” It means that it has ceased to have any force of law in the Federation of Nigeria with effect from

23 No. 18 of 2011, see section 259, Evidence Act
the 3rd day of June 2011. As the code of Nigerian law of evidence, the Evidence Act, 2011 contains a complete system of law upon the subject of evidence as applicable in judicial proceedings before courts in Nigeria subject to the exclusionary provisions contained in section 256(1) (a), (b), (c), and (2) thereof. It is pertinent to also have a look at the salient provisions in the 2011 Evidence Act.

3.1.1. **Provisions Introduced in the Evidence Act, 2011**

A careful perusal of the Evidence Act, 2011 clearly indicates that there is an improvement in its provision when compared with the repealed Evidence Act, Cap E14. This is so in that the Evidence Act 2011 contains some innovative provisions, thereby making it an improved version of the repealed Evidence Act. It contains new provisions which were previously not contained in the repealed Evidence Act and also made modifications and expansion of previously existing provisions. These may be analyzed thus:

**A. Improperly Obtained Evidence**

Although relevancy is said to govern admissibility, but there was no clear provision in the repealed Evidence Act, Cap E14 that dealt with the admissibility of improperly procured evidence in judicial proceedings. Our courts had relied on principles of the English Common Law in admitting such evidence subject to the discretionary power of the trial Judge, particularly in criminal proceedings to exclude such evidence where its admissibility would operate unfairly against the accused in all the circumstances of the case. In all this however, justice remains the guiding principle in determining the admissibility of such evidence. This lacuna in
the Evidence Act has now been cured by the insertion of sections 14 and 15 in the Evidence Act, 2011. Section 14 of the Evidence Act, 2011 provides thus:

Section 14 - Evidence obtained;

(a) improperly or in contravention of a law; or

(b) in consequence of an impropriety or of a contravention of a law, shall be admissible unless the court is of the opinion that the desirability of admitting the evidence is out-weighed by the undesirability of admitting evidence that has been obtained in the manner in which the evidence was obtained.

The Evidence Act, 2011\(^{24}\) specifies the matters that the court would take into account in respect of section 14 in forming its opinion. In that the admissibility of evidence which has been improperly obtained may operate unfairly against the adverse party and that such evidence should be excluded in the interest of justice. These matters are the probative value of the evidence; the importance of the evidence in the proceedings; the nature of the relevant offence, cause of action or defence and the nature of the subject-matter of the proceeding; the gravity of the impropriety or contravention; whether the impropriety or contravention was deliberate or reckless; whether other proceeding (whether or not in a court) has been or is likely to be taken in relation to the impropriety or contravention; and the difficulty, if any, of obtaining the evidence without impropriety or contravention of law. Section 15 provision of the Evidence Act, 2011 is to provide a guide for the exercise of the court’s discretion to exclude improperly obtained evidence in

\(^{24}\) Section 15(a)-(g) Evidence Act, 2011
deserving cases without necessarily limiting that discretion.\textsuperscript{25} The importance of
the inclusion of these provisions in the Evidence Act, 2011 lies in the fact that the
admissibility or inadmissibility of improperly obtained evidence is now governed
expressly by the Act thereby making the law in Nigeria on this matter predictably
certain.

B. Judicial Notice of Custom once Adjudicated upon once by A Superior Court of
Record

Customary law is a question of fact to be pleaded and proved by evidence by the
party asserting its existence unless it can be judicially noticed and the burden of
proving the alleged custom lies on the party alleging its existence.\textsuperscript{26} That is to say
that, where a custom cannot be established as one judicially noticed, it shall be
proved as a fact.\textsuperscript{27} Thus, proof of a custom either by judicial notice or by evidence
was expressly provided for in the repealed Evidence Act which remained the same
in the 2011 Evidence Act. This is not to say that that exactly the same as there still
exist some difference. The difference between the repealed Evidence Act and the
Evidence Act, 2011 in this regard is in the condition precedent that must be satisfied
before a court can take judicial notice of a custom that is relevant to the proceeding
before it. Section 14(2) of the repealed Evidence Act, cap. E14 provided that:

\begin{quote}
A custom may be judicially noticed by the court if it has
been acted upon by a court of superior or co-ordinate
jurisdiction in the same area to an extent which justifies
the court asked to apply it in assuming that the persons or
class of persons concerned in that area look upon the
\end{quote}

\textsuperscript{26} Section 16 Evidence Act 2011, formerly Section 14(1), (2), (3) of the repealed Evidence Act.
\textsuperscript{27} Section 18 Evidence Act 2011, formerly Section 14(1) of the repealed Evidence Act.
same as binding in relation to circumstances similar to those under consideration.  

This simply means that under the repealed Evidence Act, more than one previous decision of a court of superior record on the applicability of a particular custom was required before another court called upon to enforce a right based on that same custom could take judicial notice of it without the necessity for proving same by evidence. In summary, the custom in question must have frequently been the subject-matter of litigation and must have been pronounced upon repeatedly by superior courts of record within the same area as to become notorious and common knowledge.

In line with the forgoing, it was held in the case of Buraimo v. Gbamgboye,\textsuperscript{28} that it was unnecessary to bring evidence to prove particular customs which have been so frequent before the courts as to be well established and notorious. This does not spell out in detail the requirement of frequent judicial pronouncement on a rule of customary law as the criteria for judicial notice created confusion since it did not specify the number of judicial pronouncements on an applicable rule of customary law necessary to justify judicial notice. In Larinde v. Afikpo\textsuperscript{29} the court declined to take judicial notice of a custom which had been acted upon only once by a superior court of record. On the other hand, in Cole v. Akinyele,\textsuperscript{30} the court took judicial notice of a custom which had been acted upon only once in the earlier case of Alake v. Pratt.\textsuperscript{31} In the same vein, in the case of Osinowo v. Fagbenro\textsuperscript{32} the court took

\begin{footnotes}
\textsuperscript{28} Buraimo v. Gbamgboye (1989)115 N. L. R. 139.  
\textsuperscript{29} Larinde v. Afikpo (1940) WACA 108  
\textsuperscript{30} Cole v. Akinyele, (1960) 5 FSC 84  
\textsuperscript{31} Alake v. Pratt (1955) 15 WACA 20.  
\textsuperscript{32} Osinowo v. Fagbenro (1954) 21 NLR 3
\end{footnotes}
judicial notice of a custom which had been acted upon thrice. The seeming confusion arising from the complexity created by the above requirement that the custom must have been so frequently before the courts as to be well established and notorious clearly gave reason for the need for amendment to facilitate judicial notice of customs. The amendment is set out in the Evidence Act, 2011 which provides that “A custom may be judicially noticed when it has been adjudicated upon once by a superior court of record.” Thus, under the Evidence Act, 2011 a single decision by a superior court of record is sufficient to justify judicial notice of that custom in another judicial proceeding. It is sufficient for the purpose of taking judicial notice of a custom that there exists a single decision delivered by a superior court of record on that custom which is still subsisting and has not been set aside on appeal. Given the emphasis placed by section 17 of the Evidence Act, 2011 on “superior court of record,” it is obvious that the decision of an inferior court such as the customary court on an applicable rule of customary law cannot be relied upon for purposes of taking judicial notice of a custom in a subsequent judicial proceeding. This is because an inferior court such as a customary court is not a superior court of record within the meaning of section 17 of the Evidence Act, 2011.

C. Hearsay Rule

Unlike the Evidence Act, cap E14 which did not contain any specific or explicit provision on the inadmissibility of hearsay evidence in judicial proceedings or even a reference to the term “hearsay evidence”, the Evidence Act, 2011 contains

---

33 Section 17 of the Evidence Act, 2011
provisions dealing specifically with hearsay evidence. Hearsay evidence is defined under section 37 of the Evidence Act, 2011 as meaning any statement “oral or written made otherwise than by a witness in a proceeding; or contained or recorded in a book, document or any record whatever, proof of which is not admissible under any provision of this Act, which is tendered in evidence for the purpose of proving the truth of the matter stated in it.” Again, unlike the position under the repealed Evidence Act wherein the exclusion of hearsay evidence in judicial proceeding was not explicitly stated, but rather inferred from the combined provisions of sections 77 and 91 of that Act. Section 38 of the Evidence Act, 2011 explicitly provides for the general rule of exclusion of hearsay evidence in all judicial proceedings to which the Act applies. Thus, by virtue of section 38 of the Evidence Act, “hearsay evidence is not admissible except as provided in this Part or by or under any other provision of this or any other Act.” It is clear from a literal interpretation of this provision that the admissibility of hearsay evidence is permissible either under the Act itself or by virtue of the provisions of any other Act of the National Assembly. Thus, the statement of exclusion of hearsay evidence under section 38 of the Evidence Act, 2011 is subject to the exceptions provided in the Evidence Act or in any other Act of the National Assembly. The codification of the rule of exclusion of hearsay evidence in section 37 of the Evidence Act, 2011 and the explicit provision in section 38 of the Act that hearsay evidence may be admitted in evidence in judicial proceedings under certain

35 The application of the hearsay rule was previously predicated on the second proviso to s. 6 which incorporated the common law rules of exclusion of evidence and s. 77 which prescribed that oral evidence must in all cases whatever be direct in the sense defined in paragraphs (a)-(d) thereof.
36 See the case of Ogbonna v. Ogbuji (2014) 6 N. W. L. R. (Pt. 1403) 205 at 231
circumstances specified either in the Act or in any other Act of the National Assembly have introduced a good measure of certainty into law on the subject-matter.\textsuperscript{37}

D. Dying Declaration

The repealed Evidence Act,\textsuperscript{38} with regard to dying declaration provides thus:

When the statement is made by a person as to the cause of his death or as to any of the circumstances of the transaction which resulted in his death, in cases on which the cause of that person’s death comes into question; such statements are relevant only in trials for murder or manslaughter of the deceased person and only when such person at the time of making such declaration believed himself to be in danger of approaching death although he may have entertained at the time of making it hopes of recovery.

What can be gleaned from the above is that dying declaration was only rendered relevant and admissible in trials for murder or manslaughter of the deceased person and only when such person at the time of making such declaration believed himself to be in danger of approaching death although he may have entertained at the time of making it hopes of recovery. This sums up the fact that, under the repealed Evidence Act, a dying declaration was inadmissible in all judicial proceedings except those involving murder and manslaughter. The Evidence Act, 2011\textsuperscript{39} has come to the rescue as it has relaxed the restriction contained in section 33(1) of the repealed Evidence Act\textsuperscript{40} by providing that such statements shall be admissible irrespective of the nature of the proceeding in which the cause of death comes into question. This therefore makes evidence of a dying declaration admissible in all

\textsuperscript{38} Section 33(1) of The repealed Evidence Act
\textsuperscript{39} Section 40(2) of the Evidence Act, 2011
\textsuperscript{40} As spelt out above
judicial proceedings where the cause of death of the declarant is a fact in issue irrespective of nature of the matter. The provision of the evidence act, 2011 may be provided for purposes of better understanding; “A statement referred to in subsection (1) of this section shall be admissible whatever may be the nature of the proceeding in which the cause of death comes into question”.

E. Evidence Of Character Of An Accused In Criminal Proceedings

There is a new provision in section 82 (5) of the Evidence Act, 2011 that acts as a clog in the application of section 82(4) of the Act. For clarity, section 70 (4)\(^\text{41}\) which is *impari materia* with section 82(4) of Evidence Act, 2011 provided that whenever evidence of bad character was admissible, evidence of previous conviction was also admissible. The repealed Act was silent on the kind of evidence of previous conviction that could be tendered to prove bad character pursuant to section 70(4) thereof. It did not make clear from the repealed Evidence Act whether the evidence of previous conviction rendered admissible under section 70(4) should be related in substance to the offence charged in the latter proceeding wherein the evidence was sought to be tendered. That is, the repealed Evidence Act was not explicit on whether for example, evidence of a previous conviction for burglary, would be admissible to prove the accused’s bad character in a latter charge of murder since both offences are not related. This gap in the repealed Evidence Act was disturbing in that at common law, whenever evidence of bad character is admissible; such evidence needs not be confined to those bearing direct relevance to the offence charged in the latter proceeding.

\(^{41}\) Of the repealed Evidence Act, cap E14, LFN 2004.
This disturbing issue and potential prejudice has now been put to rest by the Evidence Act, 2011 because section 82(5) provides specifically that in cases where section 82(4) of the Act applies, the court “shall only admit evidence of the previous convictions which are related in substance to the offence charged.” It can safely be said that the effect of section 82(5) of the Evidence Act, 2011 is to displace the common law principle which gives the prosecution the right to tender evidence of previous conviction of an accused to establish his bad character in subsequent judicial proceeding irrespective of whether the previous conviction is related to the offence charged in the subsequent proceeding. Thus, under the Evidence Act, 2011, evidence of an accused’s previous conviction for burglary would be inadmissible to prove his bad character in a subsequent trial for murder under section 82 (4) of the Evidence Act, 2011 on ground that there is no relationship between both offences.\(^\text{42}\)

**F. Admissibility of Computer-Generated Evidence**

The Evidence Act, 2011 has been specifically applauded for the inclusion of several provisions dealing specifically with the admissibility of computer-generated evidence. Although computer-generated evidence, particularly entries in bankers’ books has been held admissible under the provisions of the repealed Evidence Act,\(^\text{43}\) the Evidence Act, 2011 contains elaborate provisions dealing with the admissibility of computer-generated evidence.\(^\text{44}\) Section 84(1) of the Evidence Act, 2011 provides that:


\(^{43}\) Section 97(1)(h) and 97(2)(e) of the repealed Evidence Act cap E14; *F. R. N. v. Fani-Kayode* (2010) 14 NWLR (1214) 481

\(^{44}\) See sections 50, 51, 84, 86, 87, and 93 of the Evidence Act, 2011.
In any proceeding a statement contained in a document produced by a computer shall be admissible as evidence of any fact stated in it of which direct oral evidence would be admissible, if it is shown that the conditions in subsection (2) of this section are satisfied in relation to the statement and computer in question.

From the above provision of the sub-section. It is evident that the admissibility of computer-generated evidence or document produced from the computer in any judicial proceeding is made subject to the fulfilment of the conditions prescribed in sub-section (2) of the same section of the Evidence Act, 2011. In line with the forgoing, the Supreme Court held in the case of *Kubor v. Dickson*, that a party that seeks to tender in evidence a computer-generated document needs to do more than just tendering same from the bar. Evidence in relation to the use of the computer must be called to establish the conditions specified in section 84(2) of the Evidence Act, 2011 and that failure to fulfil those conditions will render the computer-generated evidence inadmissible. It is apparent therefore that the conditions set out in section 84(2) must be fulfilled by the party seeking to tender computer-generated evidence before same can be admitted by the court. For purposes of clarity, it is necessary to reproduce in extension the conditions spelt out in section 84(2) of the Act which must be proved in evidence in order to render computer-generated evidence admissible. They are:

(a) that the document containing the statement was produced by the computer during a period over which the computer was used regularly to store or process information for the purposes of any activities regularly

---

47 2011
carried on over that period, whether for profit or not, by anybody, whether corporate or not, or by any individual;
(b) that over that period there was regularly supplied to the computer in the ordinary course of those activities information of the kind contained in the statement or of the kind from which the information so contained is derived;
(c) that throughout the material part of that period the computer was operating properly or, if not, that in any respect in which it was not operating properly or was out of operation during that part of that period was not such as to affect the production of the document or the accuracy of its contents; and
(d) that the information contained in the statement reproduces or is derived from the information supplied to the computer in the ordinary course of those activities.

G. Expansion of the Definition of “Document”

The repealed Evidence Act\(^{48}\) though gave a definition of the term “document”, but it is not as encompassing as the one provided for by the 2011 Evidence Act. The repealed Act defined the term “document” to include-

books, maps, plans, drawings, photographs and any matter expressed or described upon any substance by means of letters, figures or marks or by more than one of these means, intended to be used or which may be used for the purpose of recording that matter.

It was not however surprising when it was held in *Udoro v. Governor Akwa Ibom State*,\(^{49}\) that a video cassette did not qualify as documentary evidence under the

\(^{48}\) Section 2(1) of The repealed Evidence Act
repealed Evidence Act. This was clearly borne out of the fact that the term “document” was defined narrowly in terms of inscriptions made on paper thereby excluding materials stored in disc, tape, video cassette, film, negative etc., from the categories of document. Flowing from this obvious lacuna in the repealed evidence act provision, it became necessary to amend it. This was taken care of by the Evidence Act, 2011. In it, the definition of the term “document” was amended by way of expansion to include in addition to the provision of the repealed Evidence Act:

(a) disc, tape, sound track or other device in which sounds or other data (not being visual images) are embodied so as to be capable (with or without the aid of some other equipment) of being reproduced from it, and

(b) any film, negative, tape or other device in which one or more visual images are embodied so as to be capable (with or without the aid of some other equipment) of being reproduced from it, and

(c) device by means of which information is recorded, stored or retrievable including computer output.

H. Marriages Celebrated Under Customary And Islamic Laws

Under the repealed Evidence Act, cap E14, the terms “wife” and “husband” were defined to mean respectively “the wife and husband of a monogamous marriage.”

The practical implication of the above definition was that spouses of polygamous marriages...
marriages celebrated in accordance with customary and Islamic laws were denied
the testimonial privileges guaranteed under sections 161(2), (3), (4), 162, 163 and
164 of the Act. This discriminatory policy against spouses of customary and
Islamic marriages which was a painful relic of colonialism had been roundly
condemned by learned writers. According to Hon. Justice Niki Tobi:

The point which must be made and quickly too for that
matter is that the provisions of the section apply only to
husband and wife of a monogamous marriage within the
meaning of section 2 of the Evidence Act. And this is
where our problem emanates. It is rather sad that the
immunities contained in the section are restricted only to
monogamous marriages, excluding polygamous marriages.
In a society which is mostly polygamous, both in its
cultural and sociological content, the restriction is out of
tone with the practice and realities of the people.... It is
obvious that the discriminatory piece of legislation is a
relic of colonialism which should no longer find a place in
modern Nigeria. Certainly, the sociological and cultural
content of the society will not lend support to that
parochial and sophisticated definition of wife and husband
in the Evidence Act. It is too English for our liking. It is
our submission that the definition of wife and husband
under section 2 of the Act should be expunged. The
implication of this is that the provision will then
automatically apply to both types of marriages. That is
how it should be.53

The Evidence Act, 2011 has however addressed the above criticism of the
provision of the repealed evidence act by the formal recognition accorded
marriages celebrated under customary and Islamic laws for the purposes of
enjoying testimonial privileges. This has been addressed in section 258 (1) of the
Evidence Act, 2011 which defines “wife and husband” to mean respectively “the
wife and husband of a marriage validly contracted under the Marriage Act, or under

53 Niki Tobi, A Critique of the Law of Evidence, (Ogbruigwe A. E. and Uchegbu A., Essays in Honour of
Islamic or Customary law applicable in Nigeria, and includes any marriage recognized as valid under the Marriage Act.” The implication of the recognition accorded customary and Islamic marriages is that the testimonial privileges guaranteed under sections 182(2), (3), (4), 183, 186 and 187 of the Evidence Act 2011 also applies to spouses of customary and Islamic marriages. This brought to an end the long standing discrimination embedded in the repealed Evidence Act, while that of the evidence act, 2011 has been embraced.

I. Exclusion of Evidence

The law in the repealed Evidence Act has been that no piece of evidence could be excluded in any judicial proceeding except as otherwise provided by the Evidence Act. Put differently, no court could reject a piece of evidence except such rejection was permitted by the Evidence Act. This implied that neither the Common Law of England nor any other Nigerian legislation could form the basis for the inadmissibility of evidence. This principle was enunciated by the West African Court of Appeal in R v. Agwuna, when the court held that “there is no provision in the Evidence Act which allows any evidence to be rejected as inadmissible save as provided in the Act itself.” As a result, where a piece of evidence was rendered admissible under the Evidence Act, such evidence could not be excluded or rejected in any judicial proceeding by reference to either the common law or any other Nigerian legislation. Therefore, inadmissibility of evidence was governed by the Evidence Act alone. In line with the aforesaid, in Jadesimi v. Egbe, it was held that the common law rules of evidence which barred the admissibility of

54 R v. Agwuna, 12 WACA 456 at 458.

178
statements made without prejudice could not be used to exclude evidence in Nigerian courts since the matter was specifically dealt with in section 25 of the repealed Evidence Act.\textsuperscript{56} The above legal position has been modified under the Evidence Act, 2011 because of the explicit provision in section 2 of the Act which provides that:

For the avoidance of doubt, all evidence given in accordance with section 1 shall, unless excluded in accordance with this or any other Act or any other legislation validly in force in Nigeria be admissible in judicial proceedings to which this Act applies. Provided that admissibility of such evidence shall be subject to all such conditions as may be specified in each case by or under this Act.

Without any form of ambiguity, the interpretation of the above provision of section 2 of the Evidence Act, 2011 is that the exclusion, rejection or inadmissibility of evidence in any judicial proceeding is explicitly permitted by reference to the Evidence Act, 2011 itself, any other Act or any other legislation validly in force in Nigeria. That is to say, the Evidence Act 2011, any other Act of the National Assembly or any law passed by the House of Assembly of a State of the Federation which is validly in force in Nigeria may provide for the exclusion or inadmissibility of a piece of evidence in any judicial provision. In the Evidence Act, 2011, for example, the relevancy of a piece of evidence is not enough to render it admissible because in addition to its relevancy, such evidence must satisfy such conditions as may be specified under the relevant provisions of the Act. That is, although relevancy is the primary basis of admissibility of evidence, it is however not the only yardstick for admissibility. A court of law may lawfully reject a piece of

\textsuperscript{56} The Evidence Act 2011 has a corresponding provision in section 26.
evidence which is otherwise relevant pursuant to the provisos to s. 1 or section 2 of the Evidence Act, 2011. This principle was stated extensively in the case of *Suberu v. State* as follows:

The court below held that exhibit ‘1’ was admissible against the appellant because it was relevant. With due respect, relevancy is not the only yardstick or test for admissibility. A document may be relevant and still be excluded if there is in existence a law, like the provision of section 27(3) of the Evidence Act, which renders exhibit 1 inadmissible as against the appellant. It is akin to a deed of conveyance which though relevant in an action for declaration of title and yet may be excluded because it had not been registered.\(^{57}\)

In civil proceedings, it is established that admissibility of documentary evidence is not based on relevancy alone but also by the rules of pleading and that a relevant document may be rejected in evidence unless it is pleaded. In that wise, a document that has not been pleaded becomes inadmissible in evidence.\(^{58}\) The court may also exercise its power to exclude a relevant piece of evidence under the Evidence Act 2011, that is where an uncertified copy of a public document is sought to be tendered in evidence. In such a case, irrespective of the relevance of the document to the determination of the facts in issue, the court will still be bound to reject it in evidence by virtue of the provisions of sections 89(e), (f) and 90(1)(c) of the Evidence Act, 2011. This issue may be properly driven home in *Aromolaran v. Agoro*,\(^{59}\) where the Supreme Court of Nigeria held that by virtue of section 97(1)(e) and 2(c) of the repealed Evidence Act, Cap. 112, Laws of the Federation

---


\(^{59}\) *Aromolaran v. Agoro* (2014) 18 N. W. L. R. (Pt. 1438) 153 at 170 *per* Galadima, J. S. C.
of Nigeria 1990, only a certified copy of a public document is admissible as secondary evidence of the document. The court stated the position of the law thus:

There is no exception provided in the kind of secondary evidence of a public document admissible other than a certified true copy. The fact that the original has been lost or destroyed does not give the court any power to admit a photocopy which is not certified. The plausible reasons advanced by the court below for the admission of exhibit 7 are not in compliance with the relevant evidence law dealing with the matter.60

As explained earlier, inadmissibility of evidence is also governed by any other Act in force in Nigeria including subsidiary legislation to the extent that a piece of evidence may be excluded by a court of trial based on the provisions of a federal legislation other than the Evidence Act, 2011. An example readily available can be found in the Legislative Houses (Powers and Privileges) Act which provides thus:61

23. No evidence relating to any of the following matters, that is to say -

(a) debate or other proceedings in a Legislative House;
(b) the contents of the minutes of evidence taken or any documents laid before a committee of a Legislative House or any proceedings or examinations held before any such committee by any member or officer of the House or any shorthand-writer employed to take minutes of any such evidence or proceedings or, in respect of any of the matters specified in paragraph (b) of this section, by any person who was a witness before the committee shall be admissible in any proceedings before a court or person


authorized by law to take evidence unless the court or such last-mentioned person is satisfied that permission has been given by the President or Speaker, as the case may be, of the House or the chairman of the committee (as the case may require) for such evidence to be given.

The provisions of the Federal High Court (Civil Procedure) Rules 2009\textsuperscript{62} also comes in handy. It provides that “No document, plan, photograph or model shall be receivable in evidence at the trial of an action unless it has been filed along with the pleadings of the parties under these Rules, except the Judge in the interest of justice otherwise orders or directs.” It can be gleaned from the above quoted provisions of the Act and Rules of Court that it is to render evidence inadmissible in judicial proceedings under certain circumstances thereby lending support to the position of the Evidence Act, 2011 that inadmissibility of evidence is no longer governed exclusively by the Evidence Act.

There are a host of other laws enacted by the State Houses of Assembly in the Federation which falls into this category as they render specified classes of evidence inadmissible in judicial proceedings unless certain conditions precedent are fulfilled. Amongst them are section 20 of the Land Instruments (Preparation & Registration) Law of Rivers State,\textsuperscript{63} provides that: “No instrument shall be pleaded or given in evidence in any court as affecting any land unless the same shall have been registered.” This provision obviously renders inadmissible in evidence any unregistered registrable instrument which is sought to be tendered as proof of legal title to land although the same unregistered registrable instrument may be received

\textsuperscript{62} Order 20 Rule 3 of the Federal High Court (Civil Procedure) Rules, 2012
\textsuperscript{63} Cap. 74 Laws of Rivers State of Nigeria, 1999.
in evidence to prove payment of purchase money or rent for land and to establish an equitable interest therein. Section 3 of the Survey Law of Oyo State also prescribes that no map, plan or diagram of land if prepared after the 1st June 1918 shall be accepted for registration with any registrable instrument which is required by any written law to contain a map, plan or diagram; and if prepared after 20th October, 1897 shall save for good cause shown to the court, be admitted in evidence in any court unless the map, plan or diagram has been prepared and signed by a surveyor or is a copy of a map, plan or diagram so prepared and signed and is certified by a surveyor as being a true copy.

These formed the basis of the holdings in these cases; in the case of *Babatola v. Aladejana*, the Supreme Court held that the sketch map (Exhibit “C”) of the land in dispute prepared by the appellant who was said to be a geography teacher was inadmissible in evidence having been prepared and signed by a person who was not a surveyor as required by section 3 of the Survey Law of Oyo State. Also in *Alashe v. Ilu*, it was held by the Supreme Court that a survey plan which was not countersigned by the Regional Director of Surveys contrary to section 23(1)(b) of the Survey Act was inadmissible in evidence. Thus, a survey plan which does not comply with the provisions of the Survey Act or Law is inadmissible in evidence.

---

64 Babatola v Aiadejana (2001) 12NWLR (pt. 728) 597
65 Alashe v. Ilu 1 All N.L.R., 390 at 396
66 Another related law can be found in Section 12 (3) of the Land Instruments (Preparation & Registration) Law of Rivers State provides that “No instrument executed after the 1st June 1918, having thereon or attached thereto a plan of the land affected, shall be registered unless the plan is signed by a surveyor or is a copy of a plan which has been signed by a surveyor.”
J. Documents Marked “Without Prejudice”

Documents marked “without prejudice” are inadmissible in judicial proceedings which is justified on the ground that parties to a dispute should be encouraged to negotiate settlement or compromise without any fear that concessions or admissions made by them in the course of the negotiations could be used against them in court. As such, statements contained in a letter marked “without prejudice” or evidence of facts emanating from offers of compromise or attempt at negotiation for out of court settlement of dispute is not admissible in evidence. In the repealed Evidence Act 2011, the exclusion of such evidence had been based on its provision which states thus: “In civil cases no admission is relevant, if it is made either upon an express condition that evidence of it is not to be given or in circumstances from which the court can infer that the parties agreed together that evidence of it should not be given.” Marking a document “without prejudice” was thought to imply an understanding by the parties that evidence of the statements or facts contained therein is not to be used against the maker of such document if negotiations failed. Although section 25 of the repealed Evidence Act has been re-enacted as section 26 in the Evidence Act 2011, the new Act has taken extra steps further by adding section 196 as a substantive provision dealing with the exclusion of statements contained in documents marked “without prejudice.” Section 196 of the Evidence Act 2011 provides as follows: “A statement in any document marked “without prejudice” made in the course of negotiation for a settlement of a dispute out of court, shall not be given in evidence in any civil proceeding in proof of the

---

67 See the case of Fawehinmi v. NBA (No. 2) (1989)2 N. W. L. R. (Pt. 105) 558
68 Section 25 of the repealed Evidence Act
matters stated in it.” It is glaring from the provision of section 196 of the Evidence Act 2011 that the exclusionary rule applies only to statements contained in documents marked “without prejudice” made in the course of negotiation for a settlement of a dispute out of court. This has now made a document marked “without prejudice” which was not made in the course of negotiation for a settlement of a dispute out of court not to be excluded pursuant to section 196 of the Evidence Act.\textsuperscript{69} Section 196 of the Evidence Act, 2011 therefore has a limited application than section 25 of the repealed Act.

K. Regulations

The Evidence Act 2011\textsuperscript{70} empowers the Minister charged with responsibility for justice from time to time, to make regulations generally prescribing further conditions with respect to admissibility of any class of evidence that may be relevant under the Act. In line with this grant of power, the Hon. Attorney-General and Minister of Justice of the Federation may now enact subsidiary legislation, prescribing further conditions with respect to admissibility which any class of evidence declared to be relevant under the Act must satisfy to render it admissible in any judicial proceeding.\textsuperscript{71} It is settled that every statutory power must be exercised within the confines for which such power was given, the Attorney-General and Minister of Justice can only exercise such powers granted to the office within the specification; the making of subsidiary legislation prescribing further conditions for admissibility of any class of relevant evidence under the Evidence

\textsuperscript{70} Section 255 of the Evidence Act 2011
Act. Any subsidiary legislation that goes beyond this limit may be challenged as being *ultra vires.*

L. Statement Against Interest Of Maker

One of the known exceptions at common law to the rule against hearsay evidence is the admissibility of statements or declarations made against interest. By this exception, oral or written statements of relevant facts made by deceased persons are admissible between third persons when the statements are against their proprietary or pecuniary interest. The basis for this may not be farfetched, as no one is expected to make any statement to his own detriment unless it is true. This can be gleaned from the words of Sarkar, who pointed out that such statements are “received on the ground that what a man says against his interest is in all probability true.... The principle of admissibility is that in the ordinary course of business a person is not likely to make a statement to his own detriment unless it is true.”

For clarity, the condition for admissibility of such statement or declaration at common law is that the statement or declaration must be prejudicial to the pecuniary or proprietary interest of the maker. It must be a statement by which the maker acknowledges that his legal right to recover certain sum of money or debt from a named third party or that his entitlement to certain estate has ceased to exist or that he holds a lesser estate than he originally possessed. That was the decision in *Briggs v. Wilson,* it was held that a statement made by a deceased declarant

---

72 That is, the Attorney-General has crossed the line pertaining to the power granted under section 255 of the Evidence Act, 2011.


74 *Briggs v. Wilson,* (1854) 5 DEGM & G 12; 43 ER 772
wherein he acknowledged that he was an illegitimate child was admissible as being against his pecuniary or proprietary interest.\textsuperscript{75}

However, statements or declarations against other interest, such as penal, are inadmissible as it does not affect proprietary or pecuniary interest as permissible by law. This common law rules found its way into the now repealed Evidence Act,\textsuperscript{76} which made admissible statements, written or verbal, of relevant facts made by a person who is dead against his pecuniary or proprietary interest of the person making it and this said person had peculiar means of knowing the matter and had no interest to misrepresent it. From the above, it can be seen that, under repealed Evidence Act, cap E14, two forms of statement or declaration against interest were only admissible, these are namely; statements against pecuniary interest and those against proprietary interest. Statements against other interest outside the above two listed ones such as one that would render the maker liable to criminal prosecution or payment of damages in a civil action were inadmissible under the Evidence Act, cap E14.

In \textit{Alli v. Alesinloye},\textsuperscript{77} it was held by the Supreme Court that the evidence of Ladejo Adeleke Alesinloye, a member of the respondents’ family, who had testified on behalf of his family as a boundary man in a previous suit involving the appellants’ family and another family to the effect that the land in dispute belonged to the appellants’ family was admissible as a declaration against the proprietary interest of

\begin{itemize}
\item \textsuperscript{75} See also the case of \textit{Higham v. Ridgway}, (1808) 10 East 109, 119; 103 E. R. 717, where it was held that an entry in a deceased man-midwife’s book showing that his fee for midwifery services rendered to a certain Mrs. Fowden in respect of the birth of one Fallow had been paid was admissible in evidence as a statement against the pecuniary interest of the maker.
\item \textsuperscript{76} Section 33(1)(c) of the Evidence Act, cap E14
\item \textsuperscript{77} \textit{Alli v. Alesinloye}, (2000) 6 N.W. L. R (Pt. 660) 177 at 214-5
\end{itemize}
the respondents in the land in dispute within the meaning of section 33(1)(c) of the repealed Evidence Act.

The position of the law has further been restated in the Evidence Act, 2011 and this makes a departure from the provisions of section 33(1)(c) of the repealed Evidence Act in that the restriction that the declaration would only be admissible if it was against the pecuniary or proprietary interest of the maker has been relaxed as it has been further expanded to include more other interests. The Evidence Act, 2011\textsuperscript{78} recognizes declarations against pecuniary interest, proprietary interest, criminal liberty and civil liability as they are all rendered admissible.

Although the Evidence Act is the main source of the law of Evidence in Nigeria, the English Common Law of Evidence or any relevant local statute may be resorted to for the purpose of supplementing the provisions of the Act where necessary. This can be seen in the provision of section 3 of the Evidence Act, 2011 which provides that “nothing in this Act shall prejudice the admissibility of any evidence that is made by any other legislation validly in force in Nigeria”

As the English common law of evidence was the applicable law before the coming into operation of the Act, evidence that would have been admissible apart from the provisions of the Act, is evidence admissible under the common law or under any Nigerian statute. By the wordings of this provision, any evidence which would have been admissible, under the common law had the Act not been passed, will still be admissible. The provision is particularly useful where the Act does not provide for the admissibility of a matter but such matter is admissible under a common law rule. The

\textsuperscript{78} Section 42 of the Evidence Act, 2011
West African Court of Appeal remarked on this issue in *Onyeanwusi v Okpukpara* as follows: “It is the Evidence Act, or if it is silent, the common law of England that applies in the High Court.” Hence, in *R v Itule*, where the court had to consider whether part of a confession of an accused person which tells in his favour is evidence of the fact alleged, the Federal Supreme Court had to resort to the principle of the common law on the matter by virtue of section 5(a) of the Evidence Act as the Act does not deal with it. In the Act a confession is defined as an admission made at any time by a person charged with a crime stating or suggesting the inference that he committed that crime and is admissible as evidence. Whatever the accused says in his favour cannot therefore be part of a confession under this definition. But then under the common law, the whole of the account of which a party gives of a transaction must be taken together and is admissible. It was this principle of the common law that the court invoked in admitting the accused’s statement which was in part a confession as such and in part assertions favourable to him. Although by the section, evidence admissible under the common law is also admissible under the Act; evidence is not inadmissible under the Act because it is so under the common law. Inadmissibility is governed solely by the Act. “There is no provision in the Act which allows any evidence to be rejected as inadmissible save as provided in the Act itself”. The dictum of the West African Court of Appeal cited above would therefore be more correct, it is

---

79 *Onyeanwusi v Okpukpara* (1953) 14 WACA 311  
80 *R v Itule* (1961) 1 All NLR 462  
81 Of the repealed the Evidence Act, now section 3 of the Evidence Act, 2011  
82 Section 27, Evidence Act, 2011.  
83 See Chapter 10 for “Confessions and Admission”  
84 Archbold : Criminal Pleading, Evidence And Practice, (38th ed. of Evidence Act), Paragraph 1392  
85 *R v Agwuma* (1949) 12 WACA 456 at 458
submitted, if a phrase such as “for purpose of admissibility of evidence” is added at the end of it.  

3.2. **Application of the Evidence Act**

It is very clear without any form of contradiction that the provisions of the Evidence Act, 2011 itself, determines with utter finality the courts, where the Evidence Act applies. According to Section 256 of the Evidence Act, 2011, the Act shall apply to “all judicial proceedings in or before any court established in the Federal Republic of Nigeria but it shall not apply to -

(a) proceedings before an arbitrator;

(b) a field general court martial; or

(c) judicial proceedings in any civil cause or matter in or before any Sharia court of Appeal, Customary Court of Appeal, Area Court or Customary Court, unless any authority empowered to do so under the constitution, by order published in the Gazette, confers upon any or all Sharia courts of Appeal, Customary Courts of Appeal, Area Courts or Customary Courts in the Federal capital Territory, Abuja or a State, as the case may be, power to enforce any or all the provisions of this Act.” (Emphasis mine)

Section 256 of the Act provides thus:

(2) In judicial proceedings in any criminal cause or matter, in or before an Area Court, the court shall be guided by the provisions of this Act and in accordance with the provisions of the Criminal Procedure Code Law.

---


87 Section 1(2) of the repealed Evidence Act, cap E14, LFN 2004.
(3) Notwithstanding anything in this section an Area Court shall, in judicial proceedings in any criminal cause or matter, be bound by the provisions of Sections 134 to 140.

The Evidence Act in section 258(1) went further to define what constitute a court to clear any form of ambiguity as follows: - “court includes all Judges and Magistrates and, except Arbitrators, all persons legally authorized to take evidence”. What can be gleaned from the above definition in the Evidence Act seems that any person performing judicial or quasi judicial functions and empowered to take evidence pursuant to the enabling statute would fall within the ambit of the definition of a “court”.

This definition with all due respect does not seem to be the intention of the draftsmen as it has created more problems than solution. This appears to have caused the problem in *Dr. Denloye v. Medical & Dental Practitioners Disciplinary Committee.* The appellant’s counsel submitted that the respondent being a professional tribunal set up by law to look into cases of alleged misconduct of its members was a court within the meaning of section 2 of the Evidence Act and therefore bound by its provisions, and that it was never intended that the subsidiary role of the medical disciplinary committee would displace and/or override its provisions as to allow the taking of evidence beyond the scope allowed by the Evidence Act. The court, relying on the provisions of the Evidence Act, stated that the respondent being a professional tribunal was “a court”.

---

88 Of the Evidence Act, 2011  
89 *Denloye v. Medical & Dental Practitioners Disciplinary Committee* (1968) 1 All N.L.R. 306  
The Supreme Court of Nigeria came in to save the day, when the issue came before it on appeal as it stated thus:

…we are of the opinion that it would be wrong for any court to take this view. Any enquiry cannot be looked upon as proceedings in court and unless there is relaxation of the ordinary rules with which the courts are bound, it will be difficult in many cases to conduct an enquiry.

A resort to the provision of the Constitution\(^1\) has evidently settled the painstaking issue of determining what constitute court to rest. Section 6 of the Constitution, which is tagged “judicial powers” clearly identify courts in Nigeria. For clarity, relevant provisions are reproduced in extensio. It states as follows:

(1) The Judicial Powers of the Federation shall be vested in the courts in which this section relates, being Courts established for the Federation;

(5) This Section relates to:

(a) The Supreme Court of Nigeria;

(b) The Court of Appeal;

(c) The Federal High Court;

(d) The High Court of the Federal Capital Territory, Abuja,

(e) A High Court of a State;

(f) The Sharia Court of Appeal of the Federal Capital Territory, Abuja;

(g) A Sharia Court of Appeal of a State;

(h) The Customary Court of Appeal of the Federal Capital Territory, Abuja;

(i) A Customary Court of Appeal of a State;

---

(j) Such other Courts as may be authorized by law to exercise jurisdiction on matters with respect to which the National Assembly make laws; and

(k) Such other Court as may be authorized by law to exercise jurisdiction at first instance or on appeal on matter with respect of which a House of Assembly may make laws’

The Supreme Court of Nigeria in *Adeyemi Ogunnaike v. Taiwo Ojayemi*,\(^{92}\) held in line with the above provision of 256 of the Evidence Act, 2011 thus\(^{93}\):

Now in my view, the clear wordings or provisions of Section 1(4)(c) of the Evidence Act leaves no room for any doubt that the provisions of the Act do not apply to judicial proceedings before Native Courts … as there is no evidence to show that the Act was made applicable to the trial Customary Court when it gave its judgment. I am of the view that the Court of Appeal was right in their decision that the appellate High Court was in error to have applied the provisions of Sections 45 and 54 of the case.

Obaseki J.S.C. (as he then was), while concurring with the leading judgment of Kawu J.S.C. (as he then was) on the vexed issue of the applicability of the Evidence Act to Customary Court, laid the argument to rest thus:

> It is erroneous to argue that the provisions of the Evidence Act applies to Customary Court when the Evidence Act has expressly excepted the application of the Act from judicial proceedings before a Native Court.

Also, in *Kpiishi Kuusu v. Vanger Udo*,\(^{94}\) the Supreme Court per Nnamani JSC, held that because of section 1(2)(c) of the Evidence Law of the former Northern Region of

---

\(^{92}\) *Adeyemi Ogunnaike v. Taiwo Ojayemi* (1987) 1 N.W.L.R. (Pt. 53) 760

\(^{93}\) Per Kawu J.S.C.

Nigeria, which is *impari materia* with section 1(4)(c) of the Act, the Evidence Act does not apply to proceedings before Area and Customary Court. The non-observance of the provisions of the Act does not invalidate the proceedings of Area or Customary Courts. However, where due to non-observance of the provisions of the Act, substantial miscarriage of justice has been occasioned, the proceedings of such Area or Customary Courts will be nullified on appeal. In *Akiga v. The Tiv Native Authority*, the appellant represented himself to the complainant who was a tax collector as a census officer. The appellant persuaded the complainant who acting upon the appellant’s misrepresentation was induced to produce a box in which he kept tax money. The appellant put a red bag in the box which the complainant was to keep locked until the appellant returned. The appellant left, unknown to the complainant that in the course of the night, the box was tampered with. When the box was opened in the morning the money in the box had disappeared. The appellant was convicted of cheating by impersonation. It was held by the Provincial Court that the facts disclosed the offence of stealing not cheating in that there was no delivery by the complainant. It was held also that an appellate court cannot reverse the findings of a Native Court on account of irregularity in the proceeding during a trial unless a miscarriage of justice had been occasioned thereby, and that in the instant case there had been no miscarriage of justice by the wilful admission of the evidence of the appellant as there was besides ample evidence to sustain the conviction.

Conversely, where there is a failure of justice due to non-compliance with the provisions of the Act, the trial or proceedings will be reversed on appeal. In *Jos Native*

95 In the Northern States the Area Courts are bound by some sections in Part VII of the Act in criminal cases. See *Ikebdu v. Botmu Native Authority* (1966) N.N.L.R. 44.

96 *Akiga v. The Tiv Native Authority* (1965) 2 All N.L.R. 146

194
Authority v. Allah na Gani, the Jos Native Authority Police made a complaint in the Alkali’s court that the accused had raped a girl of 7 years. The accused was convicted. The inspector of Native Courts at Jos felt that there had been a miscarriage of justice and reported the case to the High Court under Section 52 of the Native Courts Law, it was held that sexual intercourse is an essential ingredient of rape and the evidence of the girl that the accused “pressed me (lied on me)” is not sufficient evidence of sexual intercourse. Evidence of blood on the girl’s clothing and of injury to her private parts provided no corroboration. While it was evident that the girl had been sexually assaulted, it was no evidence that it was the accused that did it. The evidence of a child of eight years could not amount to a corroboration of the evidence of a child of seven. A miscarriage of justice had certainly been occasioned by the failure of the court to be guided by Section 178(5) of the Evidence Act.

From the above analysis, it can be safely stated that the provisions of the Evidence Act are not inapplicable in all entirety to Area and Customary Courts. This is so as the Evidence Act, made an exception to the contrary. Put succinctly, it is only inapplicable in civil cause or matter before Customary Court in Nigeria, subject to the conferment of its applicability by the Governor or President as the case may be, by an order published in the Gazette.

---

98 Section 256 (1)(c) of the Evidence Act. 2011.
99 Ibid
The Supreme Court of Nigeria had no difficulty in restating this position of the law with certainty in *Chief Awara Osu v. Ibor Igiri & 3 Ors*.\textsuperscript{100} Belgore J.S.C. (as he then was) delivering the leading judgment held:

> The Governor of South-Eastern State as former Cross River State was not known and never conferred this power on district Court or Customary Court (which nomenclature Native Courts later came to be known). Had the Court of Appeal averted to this section, its decision might have been difficult. For Customary Courts are not bound by Evidence Act unless subsequently so conferred with the power to apply it…

The above decision clearly acknowledged the fact that the Evidence Act can be applicable to customary courts based on the said condition. Pursuant to the above legal enablement, the Governor of Edo state, for example, by a Legal Notice dated 25 October, 2001 conferred upon all District and Area Customary Courts in the State, as well as the Customary Court of Appeal, powers to enforce any of the powers of the Evidence Act Cap.112 LFN, 1990 (Now Evidence Act, 2011.).\textsuperscript{101}

It is also submitted that the clear provisions of the Evidence Act,\textsuperscript{102} invokes the entire provisions of the act to guide and guard judicial proceedings in criminal cause or matter before Area or Customary Courts. It is however pertinent to note that this does not make the provisions of the Act to apply in such matters, rather, it assist the court to a good path to criminal justice. The provisions of the Act that the Area or Customary

\textsuperscript{100} *Chief Awara Osu v. Ibor Igiri & 3 Ors* (1988) 1 N.W.L.R. (Pt. 69) 221.


\textsuperscript{102} Section 256(2)(3) of the Evidence Act, 2011.
Courts is bound to apply in criminal causes or matters are Sections 134 to 140 which deals with burden of proof.103

3.3. Admissibility of Forensic Evidence in Nigeria Evidence Act

3.3.1. Relevancy and Admissibility

Relevance is the test of admissibility and the connection between relevance and admissibility is the cornerstone of the law of evidence.104 “Relevance and admissibility are two closely related terms, but certain distinctions between them exist. The former is based on ordinary reasoning, whereas the latter depends on law. For evidence to be admissible, it must be relevant, but it could be relevant without being admissible.105 In R v. Killbourne,106 per Lord Simon, it was stated thus:

Your Lordships have been concerned with four concepts in the law of evidence: (i) relevance; (ii) admissibility; (iii) corroboration; (iv) weight. The first two terms are frequently, and in many circumstances legitimately, used interchangeably; but I think it makes for clarity if they are kept separate, since some relevant evidence is inadmissible and some admissible evidence is irrelevant…

Sagay,107 pointed out that the general principle governing the law of evidence is that with some specific exceptions, all evidence which is sufficiently relevant to an issue before the court is admissible and all evidence that is not relevant is inadmissible.

Where facts are stated by the Evidence Act to be relevant, then evidence in proof of those facts is admissible evidence. Where facts are stated to be irrelevant or not stated

104 Ochem C. E., Relevance and Admissibility of Electronically Generated Evidence, (2012) a thesis submitted to the college of law, Igbinedion University, in partial fulfillment of the requirements for the award of the degree of Doctor of Laws (Ph.D.) of the Igbinedion University, Okada, Edo State.
106 R v. Killbourne (1973) A.C. 729 at 756
to be relevant then evidence in proof of those facts is admissible evidence. Where facts are stated to be irrelevant or not stated to be relevant then evidence in proof of those facts is inadmissible evidence.\footnote{Ochem C. E., "Relevance and Admissibility of Electronically Generated Evidence" supra n. 104.} Judicial confirmation of connection between relevance and admissibility as a cardinal rule of our law of evidence can be found in several cases. In the often quoted dictum in \textit{Agunbiade v. Sasegbon},\footnote{\textit{Agunbiade v. Sasegbon} (1968) NSCC 147 at 150. See also, \textit{Sadau v. The State} (1968) ANLR 125 at 129, \textit{Torti v. Ukpabi} (1984) ANLR 185 at 195.} Coker JSC said, “Admissible evidence under the Evidence Act is evidence which is relevant and it should be borne in mind that what is not relevant is not admissible”.

\section{Exclusionary Rules}

The general rule governing admissibility is that relevance is the determinant of admissibility; for evidence to be admissible, it must be relevant, but it could be relevant without being admissible. The later constitute the exceptions to the general rule as evidence of relevant facts may still be inadmissible under any exclusionary rule of the Evidence Act. This can be found in the provision of Section 1 of the Act\footnote{Evidence Act, 2011.} which provides thus:

Evidence may be given in any suit or proceeding of the existence or non-existence of every fact in issue and of such other facts as are hereinafter declared to be relevant, and to no others.

Provided that –

(a). the court may exclude evidence of facts which though relevant or deemed to be relevant to the issue, appears to it to be too remote to be material in all the circumstances of the case; and
(b). this section shall not enable any person to give evidence of a fact which he is
disentitled to prove by any provision of the law for the time being in force.

Relevant evidence may be excluded because it is hearsay evidence of a document
without the production of the document itself. Also, where evidence of bad character is
admissible, the court may declare it inadmissible if it its prejudicial effect outweighs its
probative value. The wordings of the proviso (a) of section 6 above provides that the
court may exclude evidence of facts which though relevant or deemed to be relevant to
the issue, appears to it to be too remote to be material in all the circumstances of the
case are taken into consideration. The Act does not define remote. But Sagay’s view
came in handy at this point, as he defines remote to include lack of probative value,
insignificant probative value, or evidence that is highly prejudicial without satisfactory
probative value. It is settled that admissibility of evidence is governed primarily by the
Act. However, evidence excluded by the Act or any other legislation validly in force
in Nigeria, cannot be admitted under any rules. This is clearly provided for in the
Evidence Act, viz -

For the avoidance of doubt, all evidence given in accordance with section 1
shall, unless excluded in accordance with this or any other Act, or any other
legislation validly in force in Nigeria be admissible in judicial proceedings to
which this Act applies.

Provided that admissibility of such evidence shall be subject to all such
conditions as may be specified in each case by or under this Act.

\[113\] Section 1 of the Evidence Act, 2011.
\[114\] Ibid, Section 2
The second proviso, to section 6(b), clearly provides that evidence of any relevant fact is inadmissible if the witness is excluded or disentitled from giving evidence of such fact by any provision of the law for time being in force. The law for the time being in force includes all exclusionary rules of evidence such as the rule against hearsay evidence and the rule against opinion evidence. The proviso also refers to any witness who is excused from disclosing evidence of relevant facts by reason of privilege.\textsuperscript{115}

In line with the foregoing, the correct position of admissible evidence should be evidence of any fact in issue or relevant fact unless excluded by the Act or any other legislation validly in force in Nigeria.

B. Relevancy of Facts

Generally, facts which as a matter of ordinary logic or experience, tend to render the existence of other facts probable or improbable are relevant facts to those other facts.\textsuperscript{116}

Narrowing the meaning of relevant facts to the provisions of the evidence Act, it means facts of which evidence must be given as spelt out in the Evidence Act. Simply put, relevant facts are facts that are declared to be relevant under the Evidence Act.

In Nigerian Evidence Act, two forms of evidence are admissible;\textsuperscript{117}

(i) evidence of facts in issue; and

(ii) other facts relevant to the facts in issue, provided these are not excluded by the courts as being remote or by any force of law.\textsuperscript{118}

In \textit{Adebayo v. Adusei},\textsuperscript{119} the Court of Appeal held that, admissibility of evidence should

\begin{footnotes}{
\footnotesize
\footnotesuperscript{117} See section 1 of the Evidence Act, 2011.
\footnotesuperscript{118} Lawrence Atsegbeu, \textit{Law of Evidence} (Benin: Justice Jeco Printing and Publishing Global, 2012) p.21
\footnotesuperscript{119} \textit{Adebayo v. Adusei} (2004) 4 NWLR (pt. 862) 53
\end{footnotes}
be based on relevance and not proper custody. In *Chevron (Nig) Ltd. v. Aderibigbe*¹²⁰ it was held that, the test for admissibility is relevance, and that the source by which a document is obtained is immaterial. A document is admissible in evidence if it is relevant to the facts in issue and declared admissible in law. Relevance and admissibility occupy distinct compartments; if the document is relevant, the court admits it; the issue of weight only comes in after admission. Relevancy is the main prerequisite for admissibility of any evidence or document under the Act.¹²¹ The rules governing the relevancy of facts are spelt out in Sections (4)-(13) of the Act.¹²² Fact in issue has been defined by the interpretation section as “includes any fact from which either by itself or in connection with other facts the existence, non-existence, nature or extent of any right, liability or disability asserted or denied in any suit or proceeding necessarily follows”.¹²³ Every fact which is in issue is a relevant fact and evidence can be adduced on such. To illustrate this, in a murder charge wherein, ‘X’ happened to have seen ‘Y’ shooting ‘Z’, ‘X’ can give evidence of what he saw ‘Y’ doing to ‘Z’. This constitutes a clear case of fact in issue in that it relates to the issue of the death of ‘Z’. In *Olufosoye v. Olorunfemi*,¹²⁴ the Supreme Court held that, an admitted fact is not a fact in issue. It is only where facts are in dispute that they are said to be in issue. The court also said that, issues are decided by and in the pleadings and pleadings deal mainly with facts. Therefore, a fact in issue is that fact which forms the substratum of the dispute between the parties. In a murder case, the fact in issue is whether it was the accused that shot and killed the deceased. In an action for trespass to

¹²⁰ *Chevron (Nig) Ltd. v. Aderibigbe* (2012) 4 NWLR (pt. 1289) 1
¹²¹ *Suberu v. State* (2010) 1 NWLR (pt. 1176) 495
¹²² Evidence Act, 2011.
¹²³ Section 258(1) of the Act.
¹²⁴ *Olufosoye v. Olorunfemi* (1989) 1 NWLR (pt. 95) 26
land, the fact in issue is whether the defendant entered onto land in possession of the plaintiff. It is on the fact in issue that the court must pronounce a judgment on.

The *ratio decidendi* of a case is the decision of the court on the fact in issue. It may also include the decision of the court on other facts which are deemed to be relevant by the Act. In some cases, it may not be easy to identify clearly what the fact in issue is. The consequence of such misidentification is that the judge will then be deciding on the wrong fact in issue. A judgment founded on such misidentification may be a ground for an appeal. It is also possible to have more than one fact in issue in a particular case. This must also be identified by the judge and judgment given on each fact in issue.  

3.3.2. **Implication of Section 68 of the Nigerian Evidence Act**

**A. Opinion Evidence**

As a general rule, a witness is not allowed to give his opinion as to the existence or non-existence of a fact in issue or relevant fact irrespective of whether he is a party himself or a third person. A witness is only allowed to testify to facts known to him. Witnesses are called only to state facts as observed by them. They are not to draw inference from such facts. That function belongs to the court or jury as the case may be. Several reasonable observers of the same set of facts may render similar account of the fact. But the opinion of each often depends on a variety of factors, which make it highly subjective or personal. Therefore, evidence of opinion on matters not calling for experts is generally excluded because like evidence of non-experts on matters calling for experts, it does not help the court. At best it superfluous and it could cause confusion.  

---

125 Lawrence Atsegbua, *Law of Evidence* op. cit, pp. 21-23  
The operation of exclusionary rule with regards to opinion evidence was clearly illustrated in the English case of *R v Loake*. In this case the defence counsel sought the leave of court of criminal appeal to call fresh evidence in support of the accused plea of insanity. The witnesses he wished to call include a friend of the accused who saw him three days before the crime was committed and formed. The opinion that he was insane and a magistrate who had expressed a similar opinion about the accused state of mind after visiting him in the cell, the court had no difficulty in rejecting the request of the defence counsel. So far as these witnesses are concerned, by holding that the friends’ evidence was clearly inadmissible, and that the magistrate was not an expert.

The rationale for the exclusionary rule has also been explained in the case of *R v Kearley* where the accused was charged with possession of drugs with intent to supply. The appeal against conviction was based on an assertion that what personal callers and telephone callers to the accused’s house said to police officers at the house was inadmissible as being hearsay as witnesses obviously believed or are of the opinions that the accused was a supplier. The Court of Appeal decided that the evidence was admissible and provided cogent evidence, together with the quantity of drugs and other items found at the accused’s house, to establish that he was a drug dealer. The accused appealed to the House of Lords, and his appeal was successful in that the counts linked to the disputed evidence, that is possessing amphetamine with intent to supply and the two counts of possessing amphetamine, were quashed. Lord Oliver has this to say:

…if at the trial, the prosecution had sought to adduce evidence from a witness not that drugs had been supplied, but that it was his opinion or belief that drugs had been or would be supplied, that evidence would be inadmissible as amounting to no more than a statement of belief or opinion unsupported by facts upon which the belief was grounded.\textsuperscript{129}

According to the provision of section 67 of the Evidence Act,\textsuperscript{130} such evidence is regarded as irrelevant and therefore inadmissible. However, it is evident that a large chunk of the daily human life is made up of opinions, as such a rigid insistence that no statement of opinion should be admissible would be almost impossible if not impossible. Some exceptions were however created in the proviso of the same section 67 of the Evidence Act which had initially rendered opinion evidence inadmissible. The section states that “the opinion of any person as to the existence or non-existence of a fact in issue or relevant to the fact in issue is inadmissible except as provided in sections 68 to 76 of this Act” (Emphasis mine). The exceptions can broadly be classified into two heads, these are:

(a) Expert opinion and;

(b) Non-expert opinion.

For purposes of this thesis, only expert opinion is of interest here and only such will therefore be analyzed.

\textsuperscript{129} \textit{Ibid} per Lord Oliver at 370J – 371F

\textsuperscript{130} 2011
I. Opinions of Experts

Expert’s opinion evidence is admissible by virtue of section 67\textsuperscript{131} in that it made provision for the exceptions for opinion evidence. Section 68 which is one of the exceptions created by section 67 provides thus:

(1) When the court has to form an opinion upon a point of foreign law, customary law or custom, or of science or art, or as to identity of handwriting or finger impressions, the opinions upon that point of persons specially skilled in such foreign law, customary law or custom, or of science or art, or in questions as to identity of handwriting or finger impressions, are admissible.

(2) Persons so specially skilled as mentioned in subsection (1) of this section are called experts.

The expert opinion is particularly essential to the court where the phenomenon being inquired into by the said court is clearly beyond the knowledge of the concerned judges for reason that they are untrained in the discipline relating to the issue before court. There are instances where opinions are necessary to point out to laymen the inferences they cannot themselves draw before taking decision. These are cases where the issue calls for special skills which a judge does not possess without hearing the evidence of experts. In such cases, the judges will not be able to reach logical conclusions without the intervention of the desired experts who need to educate them by throwing light on the shady areas before them. An expert witness will therefore be allowed to express an opinion. Examples of such matters ranges from the evidence of medical men as to

\textsuperscript{131} Evidence Act, 2011
poisoning, age, sanity and insanity, cause of death, effect of injuries and the prospect of recovery of an injured person.

Experts’ opinions are relevant in relation to matters deemed to be outside the competence and experience of the court of fact; as such it would assist the court in the process of drawing appropriate inference. An expert opinion may be admissible to furnish the court with scientific information, which is likely to be outside the experience or the knowledge of the judge or jury. But where it is given, dressed up in scientific jargons, it may make judgment more difficult. The experts may be experts in foreign law, customary law, science or art, handwriting or finger impressions. An expert witness will however not be allowed to express an ultimate opinion. For example, in *R v. Manson* the defence to a charge of murder was that the victim had committed suicide and the issue was whether the doctor could be asked whether the injuries could have been self-inflicted. The Court of Appeal held the answer admissible and said that “in criminal proceedings, even experts are not permitted to give their opinion on the ultimate issue or on issues that are within the competence of the ordinary juror.” Also in *Folkes v. Chadd* the opinion of an engineer was admitted on the issue of whether an embankment had caused the silting up of a harbour. It was in the case that the rules relating to opinion evidence was laid by Lord Mansfield and was well laid. He noted:

> The opinion of scientific men upon facts may be given by man of science within their own science. An expert’s opinion is admissible to furnish the court with scientific information which is likely to be outside the experience and knowledge of a judge or jury. If on the proven facts a

---

132 Section 68 (1) Evidence Act, 2011.
134 *Folkes v. Chadd* (1782) 3 Doug K.B. 157, 158
judge or jury can form their own conclusion without help, then the opinion of an expert is unnecessary.

Also, the facts upon which a medical expert bases his opinion that the death of the deceased was self inflicted, or that a person is insane or was drunk at a relevant point in time must be given to the court. Indeed, the court may not attach much weight to the opinions of such if the factual bases of such opinions are not produced before it. And if, as in the case of *Bayo Banjo v. Alli Jamiu*, there are conflicting opinions of two experts, the court may prefer the opinion of the expert who shows the data upon which he has based his opinion. In that case, an expert in property evaluation with high academic qualification and of many years standing gave the value of certain property as €22,500, without giving the basis of his evaluation. Another expert with equally professional qualification and experience gave the value of the same property as over €9,000 and also gave the data as to how he arrived at such variation. The court rejected the opinion of the former and accepted that of the latter.

It is important to note that it is not possible to draw a closed list of the matters on when expert opinion evidence is admissible indeed, with the current advancement in science and technology, the list seems to be expanding. All the time, new fields of knowledge keep on emerging and the existing ones are always expanding. The subject an expert is however called to give opinion evidence on must be one in which the court is not in a position to reach a conclusion without the assistance of expert opinion if no special knowledge is needed to discover the facts and to appreciate their significance there is no need for expert opinion.

---

137 See *Shell Petroleum Co. Ltd. v Oloko* (1999) 6 NWLR (pt. 159) 693.
Although, the expert witness has not escaped critics, he is probably the best means, compatible with the adversary system of furnishing the judge and jury with information on matters calling for expertise. The utilitarian value of opinion evidence cannot be doubted. In most of the instances where opinion evidence is relevant and *ipso facto* admissible, better evidence is usually either difficult or impossible to obtain.

**II. Credentials of Expert Witness**

The expert witness must establish his or her credential on the topic requiring expertise.\(^{138}\) This may consist of practical experience or professional qualification. In the case of *Adun v. Obayuwana*,\(^ {139}\) the court of Appeal has this to say on conditions precedent for a witness to be accepted as an expert:

For a witness to be accepted as an expert, he must satisfy the following criteria:

(a) He must state his qualification;

(b) He must satisfy the court that he is an expert in the subject in which he is to give his opinion;

(c) He must state clearly the reasons for his opinion.

The criteria are conjunctive and where any expert fails to meet any of these, the court can refuse to accept the evidence. In the instant case, where the expert called by the respondents did not fulfil the above criteria, the trial court erred by accepting and relying on the evidence given by him.

The opposing party is entitled to inquiry into these. The question of whether a witness is an expert is a matter of fact for the judge. If there are some credentials, the evidence

---


\(^{139}\) *Adun v. Obayuwana* (2016) All FWLR (pt 819) at 1139
is likely to be admitted and the rest would be a matter of weight.\textsuperscript{140} But if the witness is not qualified the evidence will be excluded. Thus in \textit{R v Locke},\textsuperscript{141} the accused was not permitted to testify as to his sanity. Thus, an expert must state his qualifications and experience before he begins to give evidence at all. This in \textit{Shell Petroleum Development Co. v Isaiah},\textsuperscript{142} it was held that the evidence of an expert will amount to hearsay and therefore inadmissible where such expert gives his opinion on a report and is not called as a witness and cross examined. Also on who qualifies as an expert, the Supreme Court in \textit{Emmanuel v. Umana}\textsuperscript{143} has this to say:

An expert is a person who is specially skilled in the field he is giving evidence. Such person who is paraded as an expert, must furnish the court with the necessary scientific criteria for testing the accuracy of their conclusions so as to enable the court form its own independent judgment by the application of those criteria to the facts proved in evidence. Put differently, the opinion and conclusions, which such an expert proffered before the trial court, must be supported by scientific analysis, otherwise his evidence would be valueless or worthless. An expert’s opinion is admissible to furnish the court with scientific opinion which is likely to be outside the experience and knowledge of a jury. If on the proven facts, a court can form its own conclusions without help, then the opinion of an expert is unnecessary.

In \textit{Miller v. California},\textsuperscript{144} where the defendant mailed unsolicited materials containing explicit sexual drawings in violation of a California law, was found guilty by the court. At the outset, Chief Justice Warren Burger reiterated that obscene materials were unprotected by the constitution. The court suggested that local juries could base their judgment on local not national standards. On appeal, the judgment was upheld, all these

\textsuperscript{140} R. v Silverlock (1894) QB 766.
\textsuperscript{141} R v Locke (1991) 17 Cr. App. R 71
\textsuperscript{142} Shell Petroleum Development Co. v Isaiah (1997) NWLR (pt. 508) 236
\textsuperscript{143} Emmanuel v. Umana (2015) All FWLR (pt. 856) 226-227
\textsuperscript{144} Miller v. California, 413 U.S. 15, 93S.Ct. 2607. See also the case of First Galesburg National Bank & Trust Company v. Federal Reserve Bank, 52. N.E. 2d 337 (Ill. App.)
without opinion evidence on the basis of qualification. On further appeal to the U.S. Supreme court, the court held that a police officer qualified as an expert witness to “community standards” in an obscenity case, stating that:

The record simply does not support appellant’s contention, belatedly raised on appeal, that the State’s expert was unqualified to give evidence on California, “community standards.” The expert, a police officer with many years of specialization in obscenity offenses, had conducted an extensive statewide survey and had given expert evidence on 26 occasions in the year prior to this trial. Allowing such expert testimony was certainly not constitutional error.

In discussing the qualification necessary to be a handwriting expert, the court in the 1938 case of *First Galesburg National Bank & Trust Company v. Federal Reserve Bank* stated that:

There is no test by which it can be determined with mathematical certainty how much experience or knowledge of handwriting a witness must have in order to qualify as an expert for comparison…. In order that a witness be competent as an expert in respect to handwriting, it is not necessary that he should belong to any particular calling or profession; it is only necessary that the business opportunities and intelligence of the witness should be such as to enable him have reasonable skill in judging of handwriting.

It is the duty of court to make preliminary assessment of whether the reasoning or methodology underlying the expert’s testimony is scientifically valid and whether that reasoning or methodology can be applied to the facts in issue. Once the court determines admissibility, the jury then determines the weight to give to such evidence. It is the fact finder (jury or judge) who determines the weight and credibility to be given to the testimony of both expert and ordinary witnesses.

---

145 *First Galesburg National Bank & Trust Company v. Federal Reserve Bank, Ibid*
III. Opinion as To Science and Art

When the court has to form an opinion upon a point of science or art, the opinion of persons specially skilled in such field is relevant and admissible.\textsuperscript{146} The terms science and art are used to include not only the well established disciplines and branches of knowledge in respect of both headings but also “almost any matter which is the subject of special knowledge”.\textsuperscript{147} The duty of an expert giving opinion in such cases is to furnish the judge with the necessary scientific criteria for testing the accuracy of his conclusion. It enables the judge or jury form its own independent judgment by applying the basis of the scientific analysis of the expert to the fact proved in the case.\textsuperscript{148} The importance of expert opinion on science and art was expressed in the old case of \textit{Buckley v. Rice-Thomas}\textsuperscript{149} where Sanders J. said thus:

\begin{quote}
If matters arise in our law which concern other sciences or faculties we commonly apply for the aid of that science or faculty which it concerns. This is a commendable thing in our law. For thereby it appears that we do not dismiss all other sciences but our own, but we approve of them and encourage them as things worthy of commendation.
\end{quote}

The determination of the cause of death or the distance from which a fatal missile was launched will come within the special competence of the medical doctor.\textsuperscript{150} Someone who is put forward as expert in science or art must show evidence or special skill in the particular branch of science or art in which he is called to give opinion. In the case of \textit{Yau Tittidabale v. Sokoto Native Authority},\textsuperscript{151} the court held that a chemist dispenser’s

\begin{itemize}
\item \textsuperscript{146} Section 68 (1) Evidence Act.
\item \textsuperscript{147} Fidelis Nwadialo, \textit{Modern Nigerian Law of Evidence, Op. cit.} p. 213
\item \textsuperscript{148} \textit{Iduha v Esseh} (1996) 5 NWLR part 451 at 218.
\item \textsuperscript{149} \textit{Buckley v. Rice-Thomas} (1554) 1 Plowd 118 at 124
\item \textsuperscript{151} \textit{Yau Tittidabale v. Sokoto Native Authority} (unreported) but noted at (1964) 1 Nigerian Law Journal 123. Also reported in Aguda, \textit{The Law of Evidence in Nigeria, Op. cit.} p.104
\end{itemize}
testimony as to cause of death was inadmissible as he has not shown himself to be specially skilled in determining the cause of death in a homicide case.

IV. **Opinion as To Foreign Law**

The section rendering opinion as to foreign law admissible is section 69 of the Evidence Act which provides thus:

> Where there is a question as to foreign law, the opinion of experts who in their profession are acquainted with such law are admissible evidence of it, though such expert may produce to the court books which they declare to be works of authority upon the foreign law in question, which books the court, having received all necessary explanations from the expert, may construe for itself.

Where the court is to form an opinion as to foreign law, the opinions of experts who is acquainted with the particular foreign law in question is relevant and admissible. Such expert in foreign law does not however need to be one who is qualified to practice law in the courts of the foreign country. If the expert is one who is qualified to practice law in the courts of the foreign country, more weight is likely to be ascribed to the evidence.  

Many cases have considered the qualification of witnesses called to testify on a point of foreign law which needs establishing as a matter of fact. Thus in **Bumper Development v. Metropolitan Police Commissioner**, “the court that the judge has no organs to know and to deal with the text of the foreign law, and therefore requires the assistance of a lawyer who knows how to interpret it.” Thus, an English court should

---

not conduct its own research into foreign law,\(^{154}\) and if expert witness agrees as to the interpretation of the foreign law, the judge is not entitled to reject that evidence.\(^{155}\) However, if the expert witnesses conflict as to the effect of foreign sources, the court is entitled to look at those sources to resolve the conflict.\(^{156}\) To be an expert in foreign law does not necessarily amount to being a legal practitioner. This was the position in *Ajani v. Comptroller of Customs*,\(^{157}\) where the appellant was apprehended while he was attempting to leave the country. He had in his possession a large quantity of French colonial franc currency notes. To prove that this currency was legal tender in French West Africa, the prosecution called a witness who testified that he is the manager of Barclays Bank, Kano, with 32 years of banking experience, 24 of it had been in Nigeria. He further stated that the currency notes were legal tender in French West Africa.

The court held that the knowledge which entitles a person to be deemed, specially skilled” on some points of foreign law may be gained in appropriate circumstances by a person whose profession is not that of law. Based on the fact that the Bank Manager spoke with a sense of responsibility from adequate personal experience, his evidence was admissible in evidence. Also in *Melwani v. Chanlira Corp*,\(^{158}\) the question was whether there was proof that the plaintiff/respondent, a foreign company with registered office in Panama, was duly incorporated under the laws of that country. It was held, that where an expert is summoned to testify in relation to a particular field such expert must give his qualification to show his special skill in the relevant field.

\(^{154}\) *Duchess B. Sora v. Phillipa* (1863) 10 tt. Cas. 64 at 640.

\(^{155}\) *Bumper Development v. Metropolitan Police Commissioner*, Supra n.153.

\(^{156}\) *Early Nelson v. Lord Birdport* (1843) 8 Beau 52 at 537.

\(^{157}\) *Ajani v. Comptroller of Customs* (1952)14 WACA 34 at 36, (1954) 1 WLR.1405

However, where such an experts is regarded as a professional businessman acquitted with the law or field in issue, his evidence may be admissible. In the instant case, the respondents witness who testified on the validity of certificate of the respondents incorporated did not state his qualification neither did he adduce evidence to the effect that he is skilled in the law of Panama where the certificate was issued. His testimony therefore goes to no issue. Furthermore, an expert in foreign law is empowered to produce to the court, books which he declared to be the works of authority upon the foreign law in question\(^{159}\).

As with the popular saying, “he who assert, let him prove”, same way the onus of proving foreign law is on the party who asserts that the foreign is different from Nigerian law. Hence in *Ogunro v. Ogedengbe*,\(^{160}\) it was argued on behalf of one of the parties that the court had no jurisdiction to deal with property in Ghana. However, evidence was not adduced on the position of Ghanaian law relating to succession. It was held that, the trial court was right in assuming that Ghanaian law was the same as Nigerian Law. An expert in foreign law need not be a legal practitioner it will suffice that he has the requisite experience, knowledge and skill with the particular branch of the foreign law.

### V. Opinion as To Native Law and Customs

In deciding questions of customary law and custom, the opinions of traditional rulers, chiefs or other persons having special knowledge of customary law and custom and any book or manuscript recognized as legal authority by people indigenous to the locality in

\(^{159}\) Section 69 Evidence Act.

which such law or custom applies are admissible.\textsuperscript{161} The special knowledge referred to here, need not be acquired by means of formal education. The section also provides that any book or manuscripts recognized as legal authority by people indigenous to the locality in which such law or custom applies are admissible. This was spelt out in the case of \textit{Usiobaifo v. Usiobaifo},\textsuperscript{162} the 1\textsuperscript{st} appellant was the first son of the deceased who died intestate in 1954. The respondents are of the same father with the 1\textsuperscript{st} appellant. The 1\textsuperscript{st} appellant sold the igiogbe to the 2\textsuperscript{nd} appellant in 1992. The respondents contend that the 1\textsuperscript{st} appellant had no right to sell the family property without the consent of the principle members of the family. The 1\textsuperscript{st} appellant argued that the property was given to him as his own. He said that as the first son having performed all the burial rites, he was entitled to inherit the property. His counsel cited pages 69, 119 and 120 of Dr. C. D. Okojie’s book entitled \textit{Ishan Native Law and Custom}. In deciding the matter the trial court relied on page 133 of the book and held that the 1\textsuperscript{st} appellant had no right to sell the property. The sale was declared null and void.

On appeal to the Supreme Court, it was held that, by virtue of section 59 of the Evidence Act (now section 70 of the Act), the court could refer to any book or manuscript recognized by natives as legal authority. The court further held that, the trial judge is free to use any book cited by a party or \textit{suo moto} make reference to any book which is relevant to the issue or issues before it. A party cannot gag the court to rely only on the portions of the book cited by the parties. Where the court hearing the matter

\textsuperscript{161} Section 70 Evidence Act.

\textsuperscript{162} \textit{Usiobaifo v. Usiobaifo} (2005) 3 NWLR (pt. 913) 665.
is a Customary Court, Area Courts or Sharia Court, the custom need not be proved as the courts are presided by persons indigenous to the area of the court’s jurisdiction.\textsuperscript{163}

It is a well established principle of law that custom is a matter of evidence to be decided on the facts presented before the court in each case, unless it is of such notoriety and has been so frequently followed by the courts that judicial notice would be taken of it without evidence required in proof.\textsuperscript{164} However, before a court will be justified in relying on opinion expressed in books and manuscripts on a particular customary law, firstly, a book or manuscript must be shown to be one recognized by the natives as a legal authority and secondly, the book must form part of the evidence in the case as decided in \textit{Bello Adedibu v. Gbadamosi Adedoyin and another},\textsuperscript{165} in other words, the book must be tendered in evidence, otherwise the opinion expressed in it will not be relevant or admissible\textsuperscript{166}. Where the custom relied upon in judicial proceeding is contrary to public policy, natural justice, equity and good conscience, such custom shall not be enforced as law, in-stead, it will be declared as repugnant.\textsuperscript{167}

\textbf{VI. Opinion as To Handwriting and Finger Impression}

The opinion of expert may also be admitted in evidence in order to prove handwriting or finger impression. According to the Evidence Act,\textsuperscript{168} the opinion of a person specially skilled as to identity of handwriting or finger impressions is relevant. To give expert opinion evidence as to handwriting a renowned specialist as to one who has

\textsuperscript{163} See \textit{Ababio II v. Nsemfooo} (1947) 12 WACA 127
\textsuperscript{164} See sections 16 and 17 of the Evidence Act. See also the case of \textit{Giwa v Erunmilokun} (1961) All N.L.R. 294 at 294 per Taylor F.J.
\textsuperscript{165} \textit{Bello Adedibu v. Gbadamosi Adedoyin and another} (1951) 13 WACA 191
\textsuperscript{166} See \textit{Idundun and others v Daniel Okumagba} (1976) 9 105C 227.
\textsuperscript{167} See the case of \textit{Omaye v. Omagu} (2008) 7 NWLR (pt. 1087), 482.
\textsuperscript{168} Section 68(1) Evidence Act, 2011.
given a considerable attention in the study of the subject may be permitted to testify as an expert. Such a person does not have to be one who has acquired such skill by way of special training. In *R v Silverlock*, a solicitor who had given a considerable attention for some years to the study of handwriting and had on several occasions compared handwriting for purposes of evidence was held competent to testify as an expert. Handwriting can also be proved by the opinion of an ordinary witness or non-expert who is acquainted to the handwriting in issue. The Evidence Act provides that when the court has to form an opinion as to the person by whom any document was written or signed, the opinion of any person acquainted with the handwriting of the person by whom it is supposed to be written or signed that it was or was not written or signed by that person, is admissible in evidence. A person is said to be acquainted with the handwriting of another person when he has seen that person write, or when he has received documents purporting to be written by that person in answer to documents written by himself or under his authority and addressed to that person, or when in the ordinary course of business, documents purporting to be written by that person have been habitually submitted to him.

This formed the basis of the decisions in *Aloba Pharmaceutical Chemist Limited v Balogun*, where it was held that the genuineness of a party’s handwriting or mark may be proved by the opinion not only of experts but of non-expert. And that the admissibility of expert opinion is one of the exceptions to the hearsay rule. This is because when a handwriting analyst gives expert opinion on a disputed handwriting or

---

169 See *R. v. Orisinmi* (1946) 12 WACA 58.
170 *R v Silverlock* Supra n. 140
171 Section 72 Evidence Act, 2011.
signature, there is an underlying application of scientific skill to the formation of judgment or opinion. The handwriting analyst cannot base his opinion on comparison done by someone else of specimen writing and a disputed writing where he applies his own scientific skill in making comparison and comes to a judgment or express an opinion thereon, his evidence of opinion of expert cannot be excluded on the basis of the hearsay rule. In *Asuquo v. Asuquo*\(^{173}\) the court held that, where a plaintiff witness adduces uncontradicted evidence that she and other persons witnessed the execution of Exhibits 1 and 2 by the appellant, the trial court was right when it relied on the evidence of the plaintiff witness in its finding that the appellant executed Exhibit 1. Consequently, neither a handwriting expert nor the ordering of specimen signatures was needed. In *Salami Lawal v. Commissioner of Police*\(^{174}\) the court upheld the decision of a Magistrate who admitted the evidence of opinion of a witness who was not an expert but who testified that he was acquainted with the appellant’s signature.

3.3.3. **Corroboration of Expert Evidence**

The word corroboration is derived from the latin word *robur* and the English word “robust” meaning “strengthen”.\(^{175}\) Corroboration has been defined by Blacks Law dictionary\(^{176}\) as confirmation or support by additional evidence or authority. It went further to define corroborating evidence also termed corroborative evidence as evidence that differs from but strengthens or confirms what other evidence shows (especially that which needs support).\(^{177}\) Corroborative evidence has also been defined as the evidence supplementary to that already given, and tending to strengthen or confirm it. It is

\(^{174}\) *Salami Lawal v. Commissioner of Police* (2009) 16 NWLR (pt. 1167) 225
\(^{177}\) *Ibid*, 636.
additional evidence of a different character but to the same point.\textsuperscript{178} It is evidence that adds weight or credibility to a case.\textsuperscript{179} In rape cases for example, corroborative evidence is important to reinforce the testimony of the victim. In the case of \textit{State v Gwangwan},\textsuperscript{180} the court on meaning of corroboration and what constitutes corroborative evidence held thus:

Corroboration means the acts of supporting or strengthening a statement of a witness by fresh evidence of another witness. The evidence that is regarded as corroboration is clearly not a repetition of the evidence sought to be corroborated otherwise, there will be no need for the original evidence. For a piece of evidence to be corroborative, it must be an independent testimony which affects the accused by connecting him or tending to connect him with the crime. In the instant case, where the evidence of the co-accused relied on by the Court of Appeal as serving as corroboration of respondents’ confessional statement did not qualify as corroborative evidence, the conviction of respondent based on was rightly set aside by the lower court.

Scientific or forensic evidence such as DNA and fingerprinting are generally circumstantial evidence. In many criminal investigations, direct evidence is unavailable, mainly due to suspects’ ability to control direct evidence. To therefore establish a case and secure conviction with ease with such circumstantial evidence, will amount to corroboration of the said evidence. Corroboration of expert evidence or forensic evidence, (which are circumstantial evidence) from the above definitions can be done by any other form of evidence; oral, documentary or real evidence. While corroboration is necessary to secure conviction, it is not impossible to secure conviction

without corroboration. There are instances, where conviction is very difficult, not impossible though, without corroboration. In *Iliyasu v. State*,\(^{181}\) on what constitute circumstantial evidence, propriety of basing conviction on where no direct eyewitness account exists and conditions precedent to, the court held that:

Circumstantial evidence, which is often than not the best evidence, is the evidence of surrounding circumstances which by undersigned coincidence, is capable of proving a proposition with the accuracy of mathematics. This is so far, in their aggregate content, such circumstances lead cogently, strongly and unequivocally to the conclusion that the act, conduct or omission of the accused person caused the death of the deceased person. It means that there are circumstances which are accepted so as to make a complete and unbroken chain of evidence where such circumstances are established to the satisfaction of the court, they may be properly acted upon. Thus, where there is no eye-witness or direct evidence of the commission of an offence, a conviction may be based on circumstantial evidence. However, such circumstantial evidence must point to only one conclusion namely, that the offence had been committed and that it was the accused person who committed it. For the purpose of drawing an inference of an accused person’s guilt from circumstantial evidence, there must not be other co-existing circumstances which would weaken or destroy the inference. Thus, all other factors and surrounding circumstances must be carefully considered for they may be enough to adversely affect the inference of guilt.

Also in *Zubairu v. State*,\(^{182}\) on when circumstantial evidence may ground a conviction the court held that:

For a conviction of be based on circumstantial evidence, such evidence must point to only one rational conclusion namely; that the offence had been committed and that it was committed by the accused. In other words, the circumstantial evidence must point unequivocally and irresistibly to the fact that the offence was committed by the accused person. In order to draw the inference of the accused’s guilt based on circumstantial evidence, there must not be any other co-

existing circumstances which would weaken or destroy the inference. In the instant case, where the evidence on which the appellant’s conviction was based did not qualify as circumstantial evidence, the Supreme Court set same aside.

From the above, it can be seen that conviction is possible without corroboration, more so that circumstantial evidence has been described as the best evidence. In Legi-Mohammed v. State,\(^{183}\) the court held that circumstantial evidence is very often the best. It is evidence of surrounding circumstances, which by undersigned coincidence, is capable of proving a proposition with the accuracy of mathematics. It is no derogation of evidence to say that it is circumstantial.

This is the case except where the Act specifically states otherwise. The instances where the act requires corroboration are the testimony of children (unsworn), evidence of an accomplice,\(^ {184}\) evidence of co-accused,\(^ {185}\) treason and treasonable offences,\(^ {186}\) the offence of perjury,\(^ {187}\) exceeding speed limit,\(^ {188}\) Sedition\(^ {189}\) and sexual offences\(^ {190}\). The Evidence Act\(^ {191}\) requires that, before a person can be convicted, the testimony (the unsworn evidence of a child) admitted by virtue of section (209)(1) must be corroborated “by some other material evidence in support of such testimony implicating the defendant”. In Obri v. State,\(^ {192}\) the appellant was charged with the offence of murder. He pleaded not guilty to the charge. The only eye witness to the crime was a

\(^{184}\) Section 198 (1) of the Evidence Act 2011
\(^{185}\) Ibid, Section 199
\(^{186}\) Ibid, Section 201
\(^{187}\) Ibid, Section 202
\(^{188}\) Ibid, Section 203 (1)
\(^{189}\) Ibid, Section 204
\(^{190}\) Sections 218, 221, 223 and 224 of the Criminal Code, which are Defilement of girls under thirteen, defilement of girls under sixteen and above thirteen, and of idiots, Procuration and Procuring defilement of woman respectively.
\(^{191}\) Section 209 (3) of the Evidence Act 2011
child of about six years when the crime was committed, but seven years when he gave evidence in court. He was the brother of the deceased. However, his extra-judicial statement to the police immediately after, the commission of the crime materially contradicted his evidence at the trial. The Supreme Court admitted the extra-judicial statement. The appellant denied killing the deceased and alleged that someone else did. The trial court found corroboration of the evidence of the child from other evidence and convicted the appellant for the offence of murder and sentenced him to death. The Supreme Court said that, “the court must not convict on the unsworn evidence of a child unless his evidence is corroborated by some other material evidence in support thereof implicating the accused.”

Put succinctly, corroboration is necessary to secure conviction generally, but a court can convict without corroboration, but would have to warn itself. There are however some cases that are specifically spelt out by the statute that requires corroboration before a court can convict.
4.1. Statutes on Forensic Evidence

In the application of forensic evidence as with every other law related matter, before any step is taken, the applicable laws in the concerned legal system must be put into consideration. These laws/rules eventually act as the guiding principles when dealing with such matters. Every jurisdiction practicing the use of forensics has its laws/rules governing how it is managed. A very close look shall be taken into the enabling statutes lending support to the use of forensic evidence in United States, United Kingdom and Nigeria. This shall also form basis for the comparative analysis.

These are the enabling laws provided in statutes in a given legal system lending support to the use of forensic evidence. Every jurisdiction is guided by these provisions.

4.1.1. Statutes on Forensic Evidence in the United States

United States of America is one of the leading countries as far as the use of forensic evidence in fighting criminality is concerned. Its Federal Rules of Evidence, 2014 (as amended) contains elaborate provisions on the use of forensic evidence. These can be found in Article VII, tagged “Opinions and Expert Testimony”\(^1\). Rule 702 clearly lends support to the use of forensic evidence in the United States. It is headed ‘Testimony by Expert Witnesses’ and it provides thus:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

\(^{1}\) Federal Rules of Evidence, 2017 (as amended).
(a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;

(b) the testimony is based on sufficient facts or data;

(c) the testimony is the product of reliable principles and methods; and

(d) the expert has reliably applied the principles and methods to the facts of the case.

The bases of an expert’s opinion testimony were also provided in the Federal Rules of Evidence. It states that an expert may base an opinion on facts or data in the case that the expert has been made aware of or personally observed. If experts in the particular field would reasonably rely on those kinds of facts or data in forming an opinion on the subject, they need not be admissible for the opinion to be admitted. But if the facts or data would otherwise be inadmissible, the proponent of the opinion may disclose them to the jury only if their probative value in helping the jury evaluate the opinion substantially outweighs their prejudicial effect.

The use of forensic evidence has reached an advanced stage in the United States to the extent that a court can on a party’s motion or on its own, order the parties to show cause why expert witnesses should not be appointed and may ask the parties to submit nominations. The court may appoint any expert that the parties agree on and any of its own choosing. But the court may only appoint someone who consents to act. The court must inform the expert of the expert’s duties. The court may do so in writing and have a copy filed with the clerk or may do so orally at a conference in which the parties have an opportunity to participate. The expert must advise the parties of any findings the

---

2 *Ibid,* Rule 703
expert makes. The expert is however entitled to a reasonable compensation, as set by the court.\(^3\)

Also of relevance to the use of forensic evidence is the DNA Fingerprint Act of 2005 which allows State and Federal law enforcement to catch rapists, murderers, and other violent criminals whom it otherwise would be impossible to identify and arrest. The Act makes it easier to include and keep the DNA profiles of criminal arrestees in the National DNA Index System (NDIS), where that profile can be compared to crime-scene evidence – and be used to catch serial rapists and murderers before they commit more crimes.\(^4\) There is also the DNA Arrestee Act and Laws which allows the taking of samples from arrestees upon arrest for any Federal offence. There are also DNA Arrestee Laws enacted by States in line with the Act. Nevada is the most recent state to pass such a law that requires the collection of DNA samples from arrestees.\(^5\) The law was enacted on May 29, 2013, and requires all felony arrestees to submit a sample either during booking or as a condition of their bail. Currently, 29 States have laws for the collection of DNA from individuals arrested or charged with certain crimes. At least three other states, Michigan, New Jersey and Texas are considering expansions of their DNA arrestee laws.\(^6\)

Other provisions in the Federal Rules of Evidence relating to the use of Forensic Evidence are provided for in Article IX, tagged “Authentication and Identification.” To be able to fulfil the requirement of authenticating or identifying an item of evidence, the

---

\(^3\) Ibid, Rule 706

\(^4\) The DNA Fingerprint Act, 2005 available at  
www.appliedbiosystems.com/cms/groups/mcb_marketing/documents/  accessed on 21/4/17 at 2.15pm

\(^5\) Senate Bill 243

\(^6\) DNA Arrestee Laws, Legislative News, Studies and Analysis, available at  
proponent must produce evidence sufficient to support a finding that the item is what the proponent claims it is. An example is the testimony of a witness with knowledge which is that the testimony must be that item it is claimed to be. For an opinion identifying a person’s voice; whether heard firsthand or through mechanical or electronic transmission or recording must be based on hearing the voice at any time under circumstances that connect it with the alleged speaker. And for evidence about a telephone conversation, evidence that a call was made to the number assigned at the time to a particular person, if circumstances, including self identification, show that the person answering was the one called; or a particular business, if the call was made to a business and the call related to business reasonably transacted over the telephone.

There are however some evidences that does not require satisfying the requirement of authentication before they can be admitted, in that they are self authenticating.

4.1.2. Statutes on Forensic Evidence in United Kingdom

United Kingdom is the world’s leading country as far as the use of forensic evidence in fighting criminality is concerned. Since its establishment of DNA in 1995, the National DNA Database has received consistent legislative expansion and financial support from the UK Government. Through a series of Parliamentary Acts from 1993 through till date, police have seen their ability to reap the benefits of DNA technology steadily enhanced. It has a lot of statutes that contains elaborate provisions on the use of forensic evidence. These include the Police and Criminal Evidence Act, 1984, Criminal Justice and Public Order Act, 1994, Criminal Evidence (amendment) Act, 1997,
Criminal Justice Act, 2003 and Serious Organized Crime and Police Act, 2005. They all work jointly to ensure that forensic evidence yield the desired result. On the admissibility of expert evidence, Section 30 of the Criminal Justice Act 1988 makes it very clear that expert evidence is admissible. It states that an expert's report is admissible as evidence of fact and opinion, whether or not the expert attends court to give oral evidence, but if it is not proposed to call the expert witness, the leave of court must be obtained prior to introducing it.

Other statutes make provision for the collection of samples from which the experts can make their opinions. Lending support to this is the provision of the Police and Criminal Evidence Act\textsuperscript{12} that makes provision for the taking of fingerprints of suspects. It provides that “except as provided by this section no person’s fingerprints may be taken without the appropriate consent. Consent to the taking of a person’s fingerprints must be in writing if it is given at a time when he is at a police station”. Criminal Justice Act made exceptions to the use of consent.\textsuperscript{13} It states that the fingerprints of a person detained at a police station may be taken without the appropriate consent if he is detained in consequence of his arrest for a recordable/qualifying offence and he has not had his fingerprints taken in the course of the investigation of the offence by the police. It went further to state that the fingerprints of a person detained at a police station may be taken without the appropriate consent if he has been charged with a recordable offence or informed that he will be reported for such an offence and he has not had his

\textsuperscript{12} Section 61, Police and Criminal Evidence (amendment) Act, 2017. See also section 56 of the Criminal Justice and Public Order Act, 2017 (as amended) and section 117 of the Serious Organized Crime and Police Act 2005

\textsuperscript{13} Police and Criminal Evidence (amendment) Act, 2017. See also sections 1-3 of the Criminal Evidence (Amendment) Act 2003
fingerprints taken in the course of the investigation of the offence by the police. Also the fingerprints of a person who has answered to bail at a court or police station may be taken without the appropriate consent at the court or station if the court, or an officer of at least the rank of inspector, authorizes them to be taken. Fingerprints in relation to any person, means a record (in any form and produced by any method) of the skin pattern and other physical characteristics or features of any of that person’s fingers; or either of his palms.

The Police and Criminal Evidence Act went on to provide for the taking of impressions of footwear from suspects with consent and without consent depending on the circumstance of the case. It states thus:

(1) Except as provided by this section, no impression of a person's footwear may be taken without the appropriate consent.

(2) Consent to the taking of an impression of a person's footwear must be in writing if it is given at a time when he is at a police station.

(3) Where a person is detained at a police station, an impression of his footwear may be taken without the appropriate consent if-

   (a) he is detained in consequence of his arrest for a recordable offence, or has been charged with a recordable offence, or informed that he will be reported for a recordable offence; and

   (b) he has not had an impression taken of his footwear in the course of the investigation of the offence by the police.

---

14 Section 9, Criminal Justice Act 2003
15 Section 61(4)(a), Police and Criminal Evidence (amendment) Act, 2017
(4) Where a person mentioned in paragraph (a) of subsection (3) above has already had an impression taken of his footwear in the course of the investigation of the offence by the police, that fact shall be disregarded for the purposes of that subsection if the impression of his footwear taken previously is-

(a) incomplete; or

(b) is not of sufficient quality to allow satisfactory analysis, comparison or matching (whether in the case in question or generally).

(5) If an impression of a person's footwear is taken at a police station, whether with or without the appropriate consent-

(a) before it is taken, an officer shall inform him that it may be the subject of a speculative search; and

(b) the fact that the person has been informed of this possibility shall be recorded as soon as is practicable after the impression has been taken, and if he is detained at a police station, the record shall be made on his custody record.

(6) In a case where, by virtue of subsection (3) above, an impression of a person's footwear is taken without the appropriate consent:

(a) he shall be told the reason before it is taken; and

(b) the reason shall be recorded on his custody record as soon as is practicable after the impression is taken.
(7) The power to take an impression of the footwear of a person detained at a police station without the appropriate consent shall be exercisable by any constable.

(8) Nothing in this section applies to any person -

(a) arrested or detained under the terrorism provisions;

(b) arrested under an extradition arrest power.\textsuperscript{16}

The same Act gave powers for suspects’ intimate samples to be taken, with the suspects’ consents. It clearly states thus:

(1) Subject to section 63B below, an intimate sample may be taken from a person in police detention only -

(a) if a police officer of at least the rank of inspector authorizes it to be taken;

and

(b) if the appropriate consent is given.

(1A) An intimate sample may be taken from a person who is not in police detention but from whom, in the course of the investigation of an offence, two or more non-intimate samples suitable for the same means of analysis have been taken which have proved insufficient -

(a) if a police officer of at least the rank of inspector authorises it to be taken;

and

(b) if the appropriate consent is given.

\textsuperscript{16} Section 61A, Police and Criminal Evidence (amendment) Act, 2017. See also the provision of section 118 of the Serious Organized Crime and Police Act 2005
(2) An officer may only give an authorization under subsection (1) or (1A) above if he has reasonable grounds -

(a) for suspecting the involvement of the person from whom the sample is to be taken in a recordable offence; and

(b) for believing that the sample will tend to confirm or disprove his involvement.

(2A) An intimate sample may be taken from a person where-

(a) two or more non-intimate samples suitable for the same means of analysis have been taken from the person under section 63(3E) below (persons convicted of offences outside England and Wales etc) but have proved insufficient;

(b) a police officer of at least the rank of inspector authorizes it to be taken; and

(c) the appropriate consent is given.

(2B) An officer may only give an authorization under subsection (2A) above if the officer is satisfied that taking the sample is necessary to assist in the prevention or detection of crime.

(3) An officer may give an authorization under subsection (1) or (1A) or (2A) above orally or in writing but, if he gives it orally, he shall confirm it in writing as soon as is practicable.

(4) The appropriate consent must be given in writing.

(5) Before an intimate sample is taken from a person, an officer shall inform him of the following-
(a) the reason for taking the sample;
(b) the fact that authorization has been given and the provision of this section under which it has been given; and

(a) if the sample was taken at a police station, the fact that the sample may be the subject of a speculative search.

(6) The reason referred to in subsection (5)(a) above must include, except in a case where the sample is taken under subsection (2A) above, a statement of the nature of the offence in which it is suspected that the person has been involved.

(7) After an intimate sample has been taken from a person, the following shall be recorded as soon as practicable-

(a) the matters referred to in subsection (5)(a) and (b) above;
(b) if the sample was taken at a police station, the fact that the person has been informed as specified in subsection (5)(c) above; and
(c) the fact that the appropriate consent was given.

(8) If an intimate sample is taken from a person detained at a police station, the matters required to be recorded by subsection (7) above shall be recorded in his custody record.

(9) In the case of an intimate sample which is a dental impression, the sample may be taken from a person only by a registered dentist.

(9A) In the case of any other form of intimate sample, except in the case of a sample of urine, the sample may be taken from a person only by-

(a) a registered medical practitioner; or
(b) a registered health care professional.\textsuperscript{17}

The Criminal Justice and Public Order Act\textsuperscript{18} also provides for the taking of intimate samples from suspects. It is tagged ‘Powers of police to take intimate body samples’ and states that an intimate sample may be taken from a person who is not in police detention but from whom, in the course of the investigation of an offence, two or more non-intimate samples suitable for the same means of analysis have been taken which have proved insufficient if a police officer of at least the rank of superintendent authorizes it to be taken and if the appropriate consent is given.\textsuperscript{19}

Furthermore, a non-intimate sample may be taken from a person with the appropriate consent. Consent to the taking of a non-intimate sample must be given in writing. A non-intimate sample may be taken from a person without the appropriate consent if two conditions are satisfied. The first is that the person is in police detention in consequence of his arrest for a recordable offence while the second is that he has not had a non-intimate sample of the same type and from the same part of the body taken in the course of the investigation of the offence by the police, or he has had such a sample taken but it proved insufficient.\textsuperscript{20} A non-intimate sample may also be taken from a person without the appropriate consent if he is being held in custody by the police on the authority of a court; and an officer of at least the rank of inspector authorizes it to be taken without the appropriate consent. Again, non-intimate sample may be taken from a person without the appropriate consent if (before or after the coming into force of this

\textsuperscript{17} Section 62, Police And Criminal Evidence (amendment) Act, 2017. See also the provision of section 119 of the Serious Organized Crime And Police Act, 2005
\textsuperscript{18} Criminal Justice and Public Order Act 1994 amended and came into force 01 April, 2017.
\textsuperscript{19} Section 54 and 58 Criminal Justice And Public Order (amendment) Act, 2017
\textsuperscript{20} Section 10, Criminal Justice Act 2003. See also section 55 and 58 of the Criminal Justice and Public Order Act, 2017 (as amended)
subsection 21 he has been arrested for a recordable offence and released and in the case of a person who is on bail, he has not had a non-intimate sample of the same type and from the same part of the body taken from him in the course of the investigation of the offence by the police; or in any case, he has had a non-intimate sample taken from him in the course of that investigation which was unfortunately not suitable for the same means of analysis, or it proved insufficient.

The taking of non-intimate samples without consent also extends to a person (whether or not he is in police detention or held in custody by the police on the authority of a court) if he has been charged with a recordable offence or informed that he will be reported for such an offence and he has not had a non-intimate sample taken from him in the course of the investigation of the offence by the police; or he has had a non-intimate sample taken from him in the course of that investigation which proved not suitable or insufficient for the purpose. Where an investigation was discontinued but subsequently resumed, and before the resumption of the investigation any DNA profile derived from the sample was destroyed, and he has had a non-intimate sample taken from him in the course of that investigation and it is disputed, in relation to any proceedings relating to the offence, whether a DNA profile relevant to the proceedings is derived from the sample, such non-intimate sample shall be taken without the required appropriate consent.

A non-intimate sample may be taken from a person without the appropriate consent if (before or after the coming into force of this subsection) he has been convicted of a recordable offence, or he has been given a caution in respect of a recordable offence.

---

21 Section 63(ZA), Police and Criminal Evidence (amendment) Act, 2017
which, at the time of the caution and he has admitted same. A non-intimate sample may only be taken as specified in subsection with the authorization of an officer of at least the rank of inspector. An officer may only give an authorization under subsection if the officer is satisfied that taking the sample is necessary to assist in the prevention or detection of crime. A non-intimate sample may also be taken from a person without the appropriate consent if he is a person to whom section 2 of the Criminal Evidence (Amendment) Act 1997 applies (persons detained following acquittal on grounds of insanity or finding of unfitness to plead. This also applies to persons across boarder if under the law in force in a country or territory outside England and Wales the person has been convicted of an offence under that law (whether before or after the coming into force of this subsection\(^ {22} \) and whether or not he has been punished for it), such act constituting the offence would constitute a qualifying offence if done in England and Wales (whether or not it constituted such an offence when the person was convicted). A qualifying offence include murder, manslaughter, false imprisonment and kidnapping.

\(^ {22} \) Section 63(3E) Police and Criminal Evidence (amendment) Act, 2017
Supplementary provisions are entrenched in Police and Criminal Evidence in respect of fingerprints and samples, lending powers to the police to check by way of matching sample collected from an arrested person on suspicion of being involved in a recordable offence or has been charged with such an offence or has been informed that he will be reported for such an offence with other samples already retained. This is obviously with a view to fishing out the wrongdoer or exonerating the suspect, as the case may be. For clarity, the provision is provided hereunder:

(1) Where a person has been arrested on suspicion of being involved in a recordable offence or has been charged with such an offence or has been informed that he will be reported for such an offence, fingerprints, impressions of footwear or samples or the information derived from samples taken under any power conferred by this Part of this Act from the person may be checked against-

(a) other fingerprints, impressions of footwear or samples to which the person seeking to check has access and which are held by or on behalf of any one or more relevant law-enforcement authorities or which are held in connection with or as a result of an investigation of an offence;

(b) information derived from other samples if the information is contained in records to which the person seeking to check has access and which are held as mentioned in paragraph (a) above.

(1ZA) Fingerprints taken by virtue of section 61(6A) above may be checked against other fingerprints to which the person seeking to check has access and which are held by or on behalf of any one or more relevant law-enforcement authorities.
authorities or which are held in connection with or as a result of an investigation of an offence.

(1A) In subsection (1) and (1ZA) above “relevant law-enforcement authority” means

(a) a police force;

(b) the National Crime Agency

(d) a public authority (not falling within paragraphs (a) to (c)) with functions in any part of the British Islands which consist of or include the investigation of crimes or the charging of offenders;

(e) any person with functions in any country or territory outside the United Kingdom which-

(i) correspond to those of a police force; or

(ii) otherwise consist of or include the investigation of conduct contrary to the law of that country or territory, or the apprehension of persons guilty of such conduct;

(f) any person with functions under any international agreement which consist of or include the investigation of conduct which is

(i) unlawful under the law of one or more places,

(ii) prohibited by such an agreement, or

(iii) contrary to international law,

or the apprehension of persons guilty of such conduct.

---

24 Section 63A Police and Criminal Evidence (amendment) Act, 2017
(1B) The reference in subsection (1A) above to a police force is a reference to any of the following—

(a) any police force maintained under section 2 of the Police Act 1996 (c. 16) (police forces in England and Wales outside London);

(b) the metropolitan police force;

(c) the City of London police force;

(d) the Police Service of Scotland;

(e) the Police Service of Northern Ireland;

(f) the Police Service of Northern Ireland Reserve;

(g) the Ministry of Defence Police;

(h) the Royal Navy Police;

(i) the Royal Military Police;

(j) the Royal Air Force Police;

(l) the British Transport Police;

(m) the States of Jersey Police Force;

(n) the salaried police force of the Island of Guernsey;

(o) the Isle of Man Constabulary.

(1C) Where\textsuperscript{25}—

(a) fingerprints, impressions of footwear or samples have been taken from any person in connection with the investigation of an offence but otherwise than in circumstances to which subsection (1) above applies, and

\footnotesize\textsuperscript{25}Ibid
(b) that person has given his consent in writing to the use in a speculative search of the fingerprints of the impressions of footwear or of the samples and of information derived from them, the fingerprints or impressions of footwear or, as the case may be, those samples and that information may be checked against any of the fingerprints, impressions of footwear, samples or information mentioned in paragraph (a) or (b) of that subsection.

(1D) A consent given for the purposes of subsection (1C) above shall not be capable of being withdrawn.

(1E) Where fingerprints or samples have been taken from any person under section 61(6) or 63(3B) above (persons convicted etc.), the fingerprints or samples, or information derived from the samples, may be checked against any of the fingerprints, samples or information mentioned in subsection (1)(a) or (b) above.

(1F) Where fingerprints or samples have been taken from any person under section 61(6D), 62(2A) or 63(3E) above (offences outside England and Wales etc.), the fingerprints or samples, or information derived from the samples, may be checked against any of the fingerprints, samples or information mentioned in subsection (1)(a) or (b) above.26

(2) Where a sample of hair other than pubic hair is to be taken the sample may be taken either by cutting hairs or by plucking hairs with their roots so long as no more are plucked than the person taking the sample reasonably considers to be necessary for a sufficient sample.

26 Ibid
(3) Where any power to take a sample is exercisable in relation to a person the sample may be taken in a prison or other institution to which the Prison Act 1952 applies.

(3A) Where-

(a) the power to take a non-intimate sample under section 63(3B) above is exercisable in relation to any person who is detained under Part III of the Mental Health Act 1983 in pursuance of-

(i) a hospital order or interim hospital order made following his conviction for the recordable offence in question, or

(ii) a transfer direction given at a time when he was detained in pursuance of any sentence or order imposed following that conviction, or

(b) the power to take a non-intimate sample under section 63(3C) above is exercisable in relation to any person, the sample may be taken in the hospital in which he is detained under that Part of that Act.

Expressions used in this subsection and in the Mental Health Act 1983 have the same meaning as in that Act.\(^{27}\)

(3B) Where the power to take a non-intimate sample under section 63(3B) above is exercisable in relation to a person detained in pursuance of directions of the Secretary of State under section 92 of the Powers of Criminal Courts (Sentencing) Act 2000 the sample may be taken at the place where he is so detained.

\(^{27}\) *Ibid*
(4) Schedule 2A (fingerprinting and samples: power to require attendance at police station) shall have effect.\textsuperscript{28}

A person who is detained at a police station may be photographed with the appropriate consent; or if the appropriate consent is withheld or it is not practicable to obtain it, without it. Such a person may be photographed elsewhere than at a police station with the appropriate consent or if the appropriate consent is withheld or it is not practicable to obtain it, then it may be done without such consent. Consent was defined in the Act to mean in relation to a person who has attained the age of 17 years, the consent of that person; in relation to a person who has not attained that age but has attained the age of 14 years, the consent of that person and his parent or guardian; and in relation to a person who has not attained the age of 14 years, the consent of his parent or guardian.\textsuperscript{29}

A person proposing to take a photograph of any person under this section may, for the purpose of doing so, require the removal of any item or substance worn on or over the whole or any part of the head or face of the person to be photographed and if the requirement is not complied with, may remove the item or substance himself. The only persons entitled to take the photograph are constables. Such photographs taken under this section may be used by, or disclosed to, any person for any purpose related to the prevention or detection of crime, the investigation of an offence or the conduct of a prosecution or to the enforcement of a sentence. Such photographs, after being so used or disclosed, may be retained but may not be used or disclosed except for a purpose so related. References to taking a photograph include references to using any process by means of which a visual image may be produced and references to photographing a

\textsuperscript{28} \textit{Ibid.}, Section 63A

\textsuperscript{29} \textit{Ibid.}, Section 65
person shall be construed accordingly. A “photograph” includes a moving image, and corresponding expressions shall be construed accordingly.\textsuperscript{30}

The United Kingdom statutes took steps to ensure that these samples are kept for matching purposes by creating a database from which possible suspects are matched. The first Government DNA database was established in the United Kingdom in April 1995, known as the National DNA Database (NDNAD). As of 2011, there were over 5.5 million profiles of individuals in the system. The Police and Criminal Evidence Act made provision for the compulsory inclusion/recording of DNA profiles derived from a DNA sample which is retained under any power conferred by any of sections 63 on the National DNA Database.\textsuperscript{31} Sample materials (intimate and non-intimate samples) can also be taken from persons convicted of an offence outside England and Wales and retained. This may also be done without consent\textsuperscript{32} Sample materials can be retained pending the conclusion of the investigation or proceedings.\textsuperscript{33}

These retained materials in the Database must not be used for purposes other than that specified by the Act.\textsuperscript{34} These include the interests of national security, for the purposes of a terrorist investigation, for purposes related to the prevention or detection of crime, the investigation of an offence or the conduct of a prosecution, or for purposes related to the identification of a deceased person or of the person to whom the material relates.\textsuperscript{35}

\begin{flushright}
\textsuperscript{30} \textit{Ibid}, Section 64A. See also the provision of section 116 of the Serious Organized Crime and Police Act, 2005
\textsuperscript{31} Section 63AA, L-P, Police and Criminal Evidence (amendment) Act, 2017
\textsuperscript{32} \textit{Ibid}, Section 63J
\textsuperscript{33} \textit{Ibid}, Section 63E
\textsuperscript{34} Police and Criminal Evidence (amendment) Act, 2017
\textsuperscript{35} \textit{Ibid}, Section 63T, 64ZK and 64ZN
\end{flushright}
The United Kingdom statutory provisions has advanced to the extent that it can charge a person for refusal to give consent for samples to be taken where there is no reasonable cause for such refusal. It provides that where the appropriate consent to the taking of an intimate sample from person was refused without good cause, such issues are handed over to the judicial arm for offence by way of proceeding in court to determine whether there is a case to answer; and the court or jury determines whether that person is guilty of the offence charged.36 This will of course determine whether the required intimate sample will eventually be taken from the accused. Intimate sample” means a sample of blood, semen or any other tissue fluid, urine or pubic hair; a dental impression; a swab taken from any part of a person's genitals (including pubic hair) or from a person's body orifice other than the mouth.37

However, where it is realized that the taking of such samples (fingerprints and DNA profiles) is unlawful such as unlawful arrest or based on mistaken identity, such DNA profile must be destroyed. Material which is required to be destroyed must not at any time after it is required to be destroyed be used in evidence against the person to whom the material relates, or for the purposes of the investigation of any offence.38 This was elaborately provided for by the Police and Criminal Evidence Act. On the destruction of fingerprints and DNA profile, it provides thus:

(1) This section applies to-

(a) fingerprints-

(i) taken from a person under any power conferred by this Part of this Act,

36 Ibid, Section 62(10)
37 Ibid, Section 65
38 Ibid, Section 63D, Q-S and 64
or

(ii) taken by the police, with the consent of the person from whom they were taken, in connection with the investigation of an offence by the police, and

(b) a DNA profile derived from a DNA sample taken as mentioned in paragraph

(a) (i) or (ii).

(2) Fingerprints and DNA profiles to which this section applies ("section 63D material") must be destroyed if it appears to the responsible chief officer of police that-

(a) the taking of the fingerprint or, in the case of a DNA profile, the taking
(b) of the sample from which the DNA profile was derived, was unlawful,

or

(c) the fingerprint was taken, or, in the case of a DNA profile, was derived from a sample taken, from a person in connection with that person's arrest and the arrest was unlawful or based on mistaken identity.

(3) In any other case, section 63D material must be destroyed unless it is retained under any power conferred by sections 63E to 63O (including those sections as applied by section 63P).

(4) Section 63D material which ceases to be retained under a power mentioned in subsection (3) may continue to be retained under any other such power which applies to it.
(5) Nothing in this section prevents a speculative search, in relation to section 63D material, from being carried out within such time as may reasonably be required for the search if the responsible chief officer of police considers the search to be desirable.\textsuperscript{39}

It went further to provide for the destruction of copies of material (fingerprints and DNA profile) collected and retained by the police in the above provision of section 63D, except where such is in the form that cannot make the person identifiable. This is stated viz:

(1) If fingerprints are required by section 63D to be destroyed, any copies of the fingerprints held by the police must also be destroyed.

(2) If a DNA profile is required by that section to be destroyed, no copy may be retained by the police except in a form which does not include information which identifies the person to whom the DNA profile relates.\textsuperscript{40}

Stretching it further, provision is also made for the destruction of samples where it is realized that the taking of such samples is unlawful such as unlawful arrest or based on mistaken identity and the procedure for getting rid of such sample including the time specified for destruction to be done. It provided for this copiously viz:

(1) This section applies to samples-

(a) taken from a person under any power conferred by this Part of this Act,
(b) taken by the police, with the consent of the person from whom they were taken, in connection with the investigation of an offence by the police.

(2) Samples to which this section applies must be destroyed if it appears to the responsible chief officer of police that-

(a) the taking of the samples was unlawful, or
(b) the samples were taken from a person in connection with that person's arrest and the arrest was unlawful or based on mistaken identity.

(3) Subject to this, the rule in subsection (4) or (as the case may be) (5) applies.

(4) A DNA sample to which this section applies must be destroyed-

(a) as soon as a DNA profile has been derived from the sample, or
(b) if sooner, before the end of the period of 6 months beginning with the date on which the sample was taken.

(5) Any other sample to which this section applies must be destroyed before the end of the period of 6 months beginning with the date on which it was taken.

(6) The responsible chief officer of police may apply to a District Judge (Magistrates' Courts) for an order to retain a sample to which this section applies beyond the date on which the sample would otherwise be required to be destroyed by virtue of subsection (4) or (5) if-

(a) the sample was taken from a person in connection with the investigation of a qualifying offence, and
(d) the responsible chief officer of police considers that the condition in
subsection (7) is met.

(7) The condition is that, having regard to the nature and complexity of other material that is evidence in relation to the offence, the sample is likely to be needed in any proceedings for the offence for the purposes of\(^4\) -

(a) disclosure to, or use by, a defendant, or
(b) responding to any challenge by a defendant in respect of the admissibility of material that is evidence on which the prosecution proposes to rely.

(8) An application under subsection (6) must be made before the date on which the sample would otherwise be required to be destroyed by virtue of subsection (4) or (5).

(9) If, on an application made by the responsible chief officer of police under subsection (6), the District Judge (Magistrates' Courts) is satisfied that the condition in subsection (7) is met, the District Judge may make an order under this subsection which-

(a) allows the sample to be retained for a period of 12 months beginning with the date on which the sample would otherwise be required to be destroyed by virtue of subsection (4) or (5), and

(b) may be renewed (on one or more occasions) for a further period of not more than 12 months from the end of the period when the order would otherwise cease to have effect.

(10) An application for an order under subsection (9) (other than an application for renewal) -

\(^4\) *Ibid*, Section 63R
(a) may be made without notice of the application having been given to the person from whom the sample was taken, and
(b) may be heard and determined in private in the absence of that person.

(11) A sample retained by virtue of an order under subsection (9) must not be used other than for the purposes of any proceedings for the offence in connection with which the sample was taken.

(12) A sample that ceases to be retained by virtue of an order under subsection (9) must be destroyed.

(13) Nothing in this section prevents a speculative search, in relation to samples to which this section applies, from being carried out within such time as may reasonably be required for the search if the responsible chief officer of police considers the search to be desirable.  

Finally, destruction of samples the destruction of impressions of footwear collected by the police in the course of the investigation of an offence. This must be destroyed except for purposes related to the prevention or detection of crime, the investigation of an offence or the conduct of a prosecution. It state as follows:

(1) This section applies to impressions of footwear-
(a) taken from a person under any power conferred by this Part of this Act, or
(b) taken by the police, with the consent of the person from whom they were taken, in connection with the investigation of an offence by the police.

(2) Impressions of footwear to which this section applies must be destroyed

---

42 Ibid, section 63R
unless they are retained under subsection (3).

(3) Impressions of footwear may be retained for as long as is necessary for purposes related to the prevention or detection of crime, the investigation of an offence or the conduct of a prosecution.\textsuperscript{43}

As earlier stated, DNA databases are not only used to make direct matches between the DNA fingerprints of one person, but to also conduct familial searching, which involves the search for genetic near-matches between a victim/suspect and a member of their family whose DNA profile is stored. This is a technique founded on the principle that related individuals are likely to express similarities in their DNA profiles.

Databases creation has allowed for the faster apprehension of suspects through comparing new crime scene samples to those already stored in the database, providing links between criminals and other crimes. It has also been widely used in cold cases, in some instances proving the guilt of individual decades after they committed the crime. Conversely, wrongly imprisoned individuals have been exonerated through the advent of new DNA analysis techniques and databases. There is also the potential benefit of identifying bodies that have been too badly damaged or decomposed to identify, provided the individual’s DNA profile is stored.

\textbf{4.1.3. Statutes on Forensic Evidence in Nigeria}

Sequel to the enactment of the Evidence Act 2011 which repealed the old Evidence Act, the old Evidence Act, Cap E14, Laws of Federation of Nigeria 2004 made provisions for the admissibility of forensic evidence through forensic science.\textsuperscript{44} The current Evidence Act that repealed the 2004 Evidence Act also took advantage of it by

\begin{thebibliography}{99}
\footnotesize

\bibitem{63S} Ibid, section 63S
\bibitem{57} Section 57 Evidence Act, Cap E14, Laws of Federation of Nigeria 2004
\end{thebibliography}
also making provision for the admissibility of forensic evidence as can be found in part IV in the 2011 Evidence Act. The Act provides thus:

67. The opinion of any person as to the existence or non-existence of a fact in issue or relevant to the fact in issue is inadmissible except as provided in sections 68 to 76 of this Act.\textsuperscript{45}

68. When the court has to form an opinion upon a point of foreign law, customary law or custom, or of science or art, or as to identity of handwriting or finger impressions, the opinions upon that point of persons specially skilled in such foreign law, customary law or custom, or science or art, or in questions as to identity of handwriting or finger impressions, are admissible.\textsuperscript{46} (Underlining mine)

(2) Persons so specially skilled as mentioned in subsection (1) of this section are called experts.\textsuperscript{47}

The above statutory provisions are clearly geared towards the use of forensic evidence in our legal system. These were particularly spelt out in section 68 of the evidence Act above tagged “opinion of experts, when admissible”

The Police Act in lending support to the provisions of the Evidence Act under “police powers to detain and search suspected persons” made provisions for the taking of fingerprints, when to be retained and when to be destroyed. It is tagged ‘Power to take fingerprints’ and provides thus:

\textsuperscript{45} Section 67, Evidence Act, 2011
\textsuperscript{46} Section 68(1), Evidence Act, 2011
\textsuperscript{47} Section 68(2), Evidence Act, 2011
(1) It shall be lawful for any police officer to take and record for the purposes of identification the measurements, photographs and fingerprint impressions of all persons who may from time to time be in lawful custody:

Provided that if such measurements, photographs and fingerprint impressions are taken of a person who has not previously been convicted of any criminal offence, and such person is discharged or acquitted by a court, all records relating to such measurements, photographs and fingerprint impressions shall be forthwith destroyed or handed over to such person.

(2) Any person who shall refuse to submit to the taking and recording of his measurements, photographs or fingerprint impressions shall be taken before a magistrate who, on being satisfied that such person is in lawful custody, shall make such order as he thinks fit authorizing a police officer to take the measurements, photographs and fingerprint impressions of such person.48

4.2. Comparative Analysis and the Application of Forensic Evidence

From the above, it can clearly be said that United States of America, United Kingdom and Nigeria have statutory provisions in support of the use of forensic evidence in their various legal systems. Granted that there are a lot of differences by way of the extent of the provisions in the various statutes of the various countries. That of the United Kingdom is very elaborate and detailed compared to that of United States and Nigeria, while that of Nigeria is the least as it is very brief. The essence of having elaborate statutory provisions on the use of forensic evidence is to properly guide the law enforcement officers by way of the extent to which they can go in trying to get justice. This is so as it empowers them legally in every step they take in pursuit of justice given

48 Section 30 of the Police Act, 1943, Cap P19 Laws of Federation of Nigeria, 2004
its ability to exonerate the innocent as much as its ability to convict the guilty. Judges, lawyers and other key players in ensuring proper justice administration are not left out. It is however necessary for the statutes in this regard to be very detailed and elaborate. This is what makes crime solving in United Kingdom and United States easier, compared to that of Nigeria, thereby developing their criminal justice systems.

Apart from the extent of the statutory provisions on forensic evidence in the various statutes, another vital issue is in the area of application of the statutes. United States have, in no small measure, used their applicable statutes in respect of forensic evidence in their criminal justice systems. During the twentieth century, as science advanced, the legal system “attempted to develop coherent tests for the admissibility of scientific evidence.” The first notable development occurred in 1923 on the admissibility of expert testimony with the issuance of the landmark decision in \textit{Frye v. United States}.\footnote{\textit{Frye v. United States}, 54 App. D.C. 46, 293 F. 1013 (1923)}

The Frye case involved a murder trial in which the defendant sought to demonstrate his innocence through the admission of a lie detector test that measured systolic blood pressure. The court rejected the evidence, stating that; Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs. The Frye decision held that the lie detector test was unreliable because it had not gained “general acceptance” in the relevant scientific community. The meaning of the Frye test is elusive. Indeed, “the
merits of the Frye test have been a subject of debate, and scholarship on its proper scope and application is legion.” For many years, the Frye test was cited in both civil and criminal cases, but it was applied most frequently in criminal cases. “In the 90 years since its formulation in the Frye case, the ‘general acceptance’ test was the dominant standard for determining the admissibility of novel scientific evidence at trial.” In 1975, more than a half-century after Frye was decided, the Federal Rules of Evidence were promulgated to guide criminal and civil litigation in federal courts. The first version of Federal Rule of Evidence 702 provided that:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.\(^{50}\)

In place of Frye’s requirement of general scientific acceptance, mere “assistance” to the trier of fact appeared to be “the touchstone of admissibility under Rule 702.” The Federal Rules of Evidence, in Rule 702, instituted in 1975, superseded Frye at the federal level, but many States that had adopted the Frye standard in the wake of the Court’s decision continued to apply the Frye test in determining admissibility standards for the introduction of expert testimony in state courts.

In 1993, the United States Supreme Court issued another landmark ruling in *Daubert v. Merrel Dow Pharmaceuticals*.\(^{51}\) In that case, the court ruled that “general acceptance”\(^{52}\) is not sufficient as a precondition for the admissibility of scientific evidence under the Federal Rules of Evidence. Rather, the Court explained, “the Rules assign the trial judge with the task of ensuring that expert testimony “rests on reliable foundation and

\(^{50}\) Rule 702, Federal Rules of Evidence, effective January 2, 1975.


\(^{52}\) As endorsed in *Frye’s case*
is relevant to the task at hand.” The Federal Rules of Evidence, in turn, were modified to clarify the Supreme Court’s decision in *Daubert*:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

When compared with the Frye standard, *Daubert* made admissibility easier for relatively new, well grounded science which might not yet have achieved wide acceptance.

*Kumho Tire Co. v. Carmichael* is another important U.S. Supreme Court case where the ruled on the issue of expert testimony. The court made it clear that *Daubert* applies to all kinds of expert testimony, not only scientific testimony:

It would prove difficult, if not impossible, for judges to administer evidentiary rules under which a “gatekeeping” obligation depended upon a distinction between “scientific” knowledge and “technical” or “other specialized” knowledge. There is no clear line that divides the one from the others…We conclude that Daubert’s general principles apply to the expert matters described in Rule 702.

The United States in their preparedness for the use of forensic evidence to fight criminality has a well established database from which matching is done. The FBI in the United States formed their own DNA database, the Combined DNA Index System (CODIS), in 1994, though it was not implemented in all states until 1998. The United

---

55 *Ibid* at 149.
States CODIS (Combined DNA Index System) Program consists of the development, enhancement, and support of software that enables forensic DNA laboratories to store, maintain, and search DNA profiles from crime scenes, offenders, and missing persons. Support of the CODIS software includes training for DNA analysts and help-desk services, as well as a yearly national meeting for all CODIS administrators. The unit also provides CODIS software to international law enforcement laboratories to assist them in establishing a DNA database program. Forty law enforcement laboratories in 25 countries now have the CODIS software. CODIS consists of a three-tiered hierarchy of databases: the NDIS (National DNA Index System), the State DNA Index System, and the Local DNA Index System. The highest level in the CODIS hierarchy is NDIS, which contains the DNA profiles contributed by participating federal, state, and local forensic DNA laboratories. There are more than 170 NDIS participating sites across the United States, including the FBI Laboratory, the U.S. Army Criminal Investigation Laboratory, and a laboratory in Puerto Rico. The NDIS currently contains 6.2 million offender profiles and 233,454 forensic profiles. Its operation requires determining the eligibility of samples for the National Index in accordance with applicable federal law, developing procedures for laboratories participating in the Index, and monitoring the participating laboratories’ compliance with federal law. The CODIS Unit also provides administrative management and support for the NDIS Procedures Board and other DNA working groups. As of August 2008, CODIS has produced more than 74,500 hits, assisting in more than 74,700 investigations.56

---

The National Automotive Paint File contains entries dating as far back as the 1930s. The Paints and Polymers Sub-unit also serves as the U.S. repository for the Paint Data Query database, which is a Canadian database. State and local law enforcement agencies investigating hit-and-run homicides rely on both the National Automotive Paint File and the Paint Data Query database. The FBI Explosives Reference File contains several thousand standards that help examiners identify the components and manufacturers of explosive and incendiary devices. The Explosives Reference Tools database (EXPeRT) combines the text of FBI Laboratory reports with evidentiary photographs from bombing cases and permits the rapid retrieval of information on any aspect of the forensic examination. The database also contains manufacturer data and open-source literature on the construction and use of explosives and explosive devices. An examiner can search EXPeRT, find similar devices, and identify similarities in the components used in the construction of an improvised explosive device. The Reference Firearms Collection contains more than 5,500 handguns and shoulder firearms; and the Standard Ammunition File, a collection of more than 15,000 military and commercial ammunition specimens from both domestic and international manufacturers.  

In the United States, the National DNA Indexing System (NDIS) is based on a system in which convicted offender profiles can be entered and searched against crime scene profiles. The US has one of the most sophisticated and robust databases on planet earth. This can be evidenced from the CODIS (Combined DNA Index System) managed by the US FBI. According to the FBI’s Quality Assurance Standard for Forensic DNA Testing laboratories, CODIS links DNA evidence obtained from crime scenes, thereby

---

57 FBI Databases and Reference Libraries *Ibid*
identifying serial criminals. CODIS also compares crime scene evidence to DNA profiles from offenders, thereby providing investigators with the identity of the putative perpetrator. CODIS also contains profiles from missing persons, unidentified human remains and relatives of missing persons. The Federal Government and 28 States have enacted arrestee DNA collection laws, which authorize collection of DNA following arrest or charging.\(^{58}\) Louisiana passed the first State Arrestee DNA Collection Law in 1997. Four other States followed suit before Congress passed the DNA Fingerprint Act of 2005. The Act required that, beginning January 1, 2009, any adult arrested for a federal crime must provide a DNA sample. Since 2005, an additional 23 States have enacted arrestee DNA collection laws. Of the 28 State laws authorizing arrestee DNA collection, 13 collect samples from anyone arrested for a felony; the rest limit collection to violent crimes, including sexual assaults. Seven States also collect samples in certain misdemeanour cases. Most States authorize DNA collection at arrest. Only 11 states require an arraignment or judicial determination of probable cause before a sample can be collected or analyzed. All 50 States and the Federal Government have laws that require certain convicted offenders to provide a DNA sample for inclusion in CODIS (the Federal Combined DNA Index System Database) and State Databases.\(^{59}\)

The Supreme Court through the case of *Maryland v. Alonzo Jay King*\(^{60}\) further enriched the US Database to ease forensic identification and consequently solve cases. In 2003 a man concealing his face and armed with a gun broke into a woman’s home in

\(^{58}\) Not all states that enacted arrestee DNA laws still collect arrestee DNA. In some states, arrestee DNA collection laws have faced Fourth Amendment challenges in court, with mixed results. The Supreme Court of Virginia upheld the state’s law in 2007; the Minnesota Court of Appeals, a California appellate court and the Maryland Supreme Court found the law unconstitutional.

\(^{59}\) Holder, E. H., DNA Sample Collection from Arreestees available at https://www.nij.gov/topics/forensic/evidence/dna accessed on 12/4/17 at 2.27pm

\(^{60}\) *Maryland v. Alonzo Jay King*, 569 U. S. 2013
Salisbury, Maryland. He raped her. The police were unable to identify or apprehend the assailant based on any detailed description or other evidence they then had, but they did obtain from the victim a sample of the perpetrator’s DNA. When King was arrested on April 10, 2009, for menacing a group of people with a shotgun and charged in State court with both first- and second-degree assault, he was processed for detention in custody at the Wicomico County Central Booking facility. Booking personnel as part of a routine booking procedure for serious offences used a cheek swab or filter paper, known as a buccal swab to take the DNA sample from him pursuant to provisions of the Maryland DNA Collection Act.

On July 13, 2009, King’s DNA record was uploaded to the Maryland DNA database, and three weeks later, on August 4, 2009, his DNA profile was matched to the DNA sample collected in the unsolved 2003 rape case. Once the DNA was matched to King, detectives presented the forensic evidence to a grand jury, which indicted him for the rape. Detectives obtained a search warrant and took a second sample of DNA from King, which again matched the evidence from the rape. He moved to suppress the DNA match on the grounds that Maryland’s DNA collection law violated the Fourth Amendment. The Circuit Court Judge upheld the statute as constitutional. King pleaded not guilty to the rape charges but was convicted and sentenced to life imprisonment without the possibility of parole.

In a divided opinion, the Maryland Court of Appeals struck down the portions of the Act authorizing collection of DNA from felony arrestees as unconstitutional. The majority concluded that a DNA swab was an unreasonable search in violation of the Fourth Amendment because King’s “expectation of privacy is greater than the State’s
purported interest in using King’s DNA to identify him.” It set the rape conviction aside. The Court granted certiorari and now reversed the judgment of the Maryland court. In reaching that conclusion the Maryland Court relied on the decisions of various other courts that have concluded that DNA identification of arrestees is impermissible.\(^61\) Maryland appealed the ruling to the Supreme Court. The Court found that taking a buccal (throat) swab sample for DNA is not a significant additional intrusion into an arrestee’s privacy beyond fingerprinting, a common practice at booking where detainees have a reduced expectation of privacy. The importance of a valid arrest supported by probable cause prior to testing DNA was emphasized in the ruling. The Supreme Court in reversing the judgment of the Court of Appeals of Maryland stated thus:

> In light of the context of a valid arrest supported by probable cause respondent’s expectations of privacy were not offended by the minor intrusion of a brief swab of his cheeks. By contrast, that same context of arrest gives rise to significant State interests in identifying respondent not only so that the proper name can be attached to his charges but also so that the criminal justice system can make informed decisions concerning pre-trial custody. Upon these considerations the Court concludes that DNA identification of arrestees is a reasonable search that can be considered part of a routine booking procedure. When officers make an arrest supported by probable cause to hold for a serious offense and they bring the suspect to the station to be detained in custody, taking and analyzing a cheek swab of the arrestee’s DNA is, like fingerprinting and photographing, a legitimate police booking procedure that is reasonable under the Fourth Amendment. The judgment of the Court of Appeals of Maryland is reversed.

It is pertinent to note that many of the courts that addressed DNA collection in 2014 followed the Supreme Court’s reasoning in King’s case and held that DNA profiling

upon arrest is a means of “identification” because it might help law enforcement to learn about a person’s past criminal behaviour. For example, in *Haskell v. Harris,*\(^6^2\) the Ninth Circuit Court of Appeals reviewed a challenge to California’s DNA collection law, which requires DNA collection from all individuals arrested for a felony, and upheld the statute’s constitutionality in line with *King’s case.* And in *State v. Raynor,*\(^6^3\) the Maryland High Court went one step further than both *King* and *Haskell’s cases* to uphold warrantless DNA collection from someone who hadn’t even been arrested for a crime. Glenn Raynor voluntarily came to the station to answer questions in a rape case, and after he refused to provide a DNA sample, the cops extracted DNA without his consent from tissue he left behind on a chair.

United States has maintained its use of forensic evidence in solving criminal cases. Many recent cases solved via the application of the statutory provisions abound in United States. DNA databases are not only used to make direct matches between the DNA fingerprints of one person, but to also conduct familial searching. This involves the search for genetic near-matches between a victim/suspect and a member of their family whose DNA profile is stored. This technique is based on the principle that related individuals are likely to express similarities in their DNA profiles. The first prominent use of familial searching was in the case of British serial killer Joseph Kappen, who was seized after his son’s DNA profile was obtained and then linked to him.

In the United Kingdom, there are three factors which are also part of the common law in England and Wales, relevant to determining the admissibility of expert opinion

---

\(^6^2\) *Haskell v. Harris* 754 F. 3d 1269 (9th Cir. 2014)  
\(^6^3\) *State v. Raynor* 191 L. Ed. 2d 433 (2015)
evidence which were conveniently summarized by King CJ\textsuperscript{64} in the Australian case of \textit{Bonython}.\textsuperscript{65} These factors are:

(1) “whether the subject matter of the opinion is such that a person without instruction or experience in the area of knowledge or human experience would be able to form a sound judgment on the matter without the assistance of a witness possessing special knowledge or experience in the area”\textsuperscript{66}

(2) “whether the subject matter of the opinion forms part of a body of knowledge or experience which is sufficiently organized or recognized to be accepted as a reliable body of knowledge or experience, a special acquaintance with which by the witness would render his opinion of assistance to the court”\textsuperscript{67} and

(3) “whether the witness has acquired by study or experience sufficient knowledge of the subject to render his opinion of value in resolving the issues before the court”.\textsuperscript{68}

A fourth requirement is that the expert must be capable of providing an impartial opinion, in recognition of the fact that an expert’s overriding duty is to the court and not the party calling him or her to testify.\textsuperscript{69}

\textsuperscript{64} Etherton J., \textit{Admissibility of Expert Evidence in Criminal Proceeding in England and Wales}, available at \url{www.lawcommission.justice.gov.uk/.../cp} accessed 25/2/2017 at 2.17pm


\textsuperscript{66} This accord with the leading English case of Turner (1975) QB 834, 841: “An expert’s opinion is admissible to furnish the court with … information which is likely to be outside the experience and knowledge of a judge or jury. If on the proven facts a judge or jury can form their own conclusions without help, then the opinion of an expert is unnecessary.”

\textsuperscript{67} In broad terms this factor requires that the “subject matter of the “expert witness’s opinion” should be sufficiently reliable to justify the admission before the jury of an expert opinion founded on it.

\textsuperscript{68} Field v Leeds City Council (2001) 2 CPLR 129

\textsuperscript{69} For criminal proceedings the expert’s overriding duty to provide an “objective, unbiased opinion” is now explicitly set out in rule 33.2 of the Criminal Procedure Rules 2005. There has been concern for some time, however, that some experts may be tempted to provide an opinion which favours his or her paymaster. See, e.g., the view of Professor Graham Zellick, when Chairman of the Criminal Cases Review Commission, that high fees tempt experts to give unequivocal opinions just to secure their next case (The Times, 30 November 2004).
These factors are very clear and are used in determining admissibility in the United Kingdom.

United Kingdom is widely recognized as having the most effective and efficient approach to the use of forensic evidence in fighting criminality in the world. Its National DNA Database is driven by the use of suspect profiles. This is made easy through its elaborate and detailed legislative provisions lending support to the use of forensic evidence and efficient DNA technology. Since the establishment of the National DNA Database (NDNAD) on April 10, 1995, England has become a world leader in discovering innovative ways to use DNA to identify suspects, protect the innocent, and to convict the guilty. DNA technology and DNA data basing has become central to the process of criminal investigation.

The decision to integrate DNA technology so thoroughly and the subsequent success of the National DNA Database can be attributed to three major factors: the political will of the Home Office, the technical capability of the Forensic Science Service and the operational desire of the Police. The foundation of DNA driven investigations in England and Wales is its expansive DNA database. Many factors however, contribute to the success of the UK’s approach to forensic DNA applications.

England has a population of approximately 52 million. It has 43 municipal police forces with total police personnel of over 123,000. Also, 90 percent of the forensic DNA analysis performed in the England is performed by one, quasi-governmental agency, the Forensic Science Service (FSS). Further, not only does the Forensic Science Service retain the vast majority of the country’s forensic DNA analysis, it is also the official custodian of the DNA database, an authority granted by the Association.

\[70\] As can be seen from the above statutory provisions
of Chief Police Officers (ACPO). The efficiency of the use of forensic evidence in United Kingdom can be seen in the cases where forensic evidence was employed.

The Nigeria Police and other security agencies rely heavily on eye witness testimonies (a major source of our police investigation), circumstantial evidence in the absence of eye witness testimonies and finally, confessions (which most times is forced) where others fail. A combination of two or all of them is a fantastic investigation done as far as they are concerned. Whereas, the most important source of evidence; forensic evidence which is more reliable, authentic, concrete and productive are swept under the carpet because they lack training in that area. It is not in doubt that where several persons are eye witnesses to an offence, their testimonies do differ. This leads to the creation of doubt which is ultimately resolved in favour of the accused because the Nigerian criminal law is based on proof beyond reasonable doubt. Many cases abound without eye witnesses in Nigeria which end up as cold cases that may never be re-opened.

Crimes especially heinous crimes are committed on a daily basis in Nigeria, with majority of the perpetrators walking away scot free; thinking of their next crime with confidence of never to be caught. It is most disturbing to know that the perpetrators left clues at the crime scenes to enable the investigators trace them, yet they get away with their crimes. Crime scenes are not protected by the Nigeria Police to preserve clues left behind by the perpetrators for forensic analysis which will eventually bring the perpetrators to book. It is disheartening to see how crime scenes are managed by the police. They first troop to the supposed crime scenes without any attempt to secure them, as if there is nothing to it, and end up destroying and eroding all clues left behind
by the perpetrators. One then wonders, how has the Nigeria Police and other security agencies been functioning without proper forensic science for decades.

In *The Queen v Akpan*⁷¹, the appellant was accused of burglary and stealing contrary to sections 411(1) and 390(4)(b) of the Criminal Code respectively. The accused denied the allegations stating that at the time of the alleged offence, he was far away from the scene of the crime. He stated further that none of the alleged stolen properties was found in his possession and finally stated that the 2nd prosecution witness, Inspector Fayemi, who conducted the investigations, had a grudge against the appellant and trumped up this case against him. On one of the louvers removed by the police from the house of the 1st prosecution witness which has been broken into, there was a fingerprint impression and a person of experience and training compared it with the accused finger-prints. He gave evidence with sixteen similarities, and testified that he excluded the possibility of the impression on the louver being that of any other person. The trial judge also made a visual examination of the exhibit put in by the witness and satisfied himself that the two finger-prints impressions were identical and found him guilty.

On appeal, the appellant advanced same arguments earlier put forward at the trial court. In delivering the judgement, Taylor F. J. of the Federal Supreme Court held that the method by which entry had been gained into the premises was in fact through the window by removing some 8 or 10 of these louvers from their fastenings. That the trial Judge found him guilty because the evidence showed that the accepted finger-prints of the appellant were similar to the finger-prints discovered on the louver. The court held that there was no substance in the appeal and that the conviction based as it was on the

---

⁷¹ *The Queen v. Akpan* (1961) 1 All NLR 3
similarity of the finger-prints under the circumstances of this appeal is sound and therefore upheld the conviction.

Notwithstanding the above, there have been concerted efforts in recent times by Nigeria to improve on the use of forensics. These include the establishment of the First Digital and Techno-Law Forensics Company Limited (otherwise known as First Digital Forensics), as the name implies, is the first indigenous digital, mobile and computer forensics company in Nigeria. The company started out as Rockshire Computer Technologies, which was registered on 29th January 1996 to provide high quality consulting services in information communication technology, capacity building, public financial management, electronic accounting and electronic auditing; and the acquisition and implementation of ICT systems for public sector budget, treasury and financial management, accounting and human resource management. Since then, it commenced the training of auditors, accountants and others in electronic accounting, electronic auditing, forensic accounting and computer forensics.\(^{72}\)

Another step is the Economic and Financial Crimes Commission (EFCC) in the establishment of its Forensic Laboratory. They were visited by Forensic experts from the United Kingdom and United States of America in Abuja providing mentoring and training assistance to the forensic unit of the (EFCC) being the first of its kind in Nigeria. The Head of the EFCC forensics unit, Mr. Muazu Abdullahi, in a briefing\(^ {73}\) to the EFCC media unit on the activities of the forensic unit identified the various sections


\(^{73}\) On April 12, 2010
of the unit as; fingerprint forensics, forensic photography, computer forensics, document forensics and mobile phone forensics analysis.\textsuperscript{74}

The Nigeria Police Force also acquired a forensic laboratory, a digital resource centre and drones that could aid it in solving complex criminal cases in the country, including kidnapping, bank robbery, identity theft and others. The facility, which has a wide variety of applications for positive identification of crime suspects through their fingerprints, iris and facial recognition functions, can also collect, store, merge and display the identity of targeted criminal elements even at the scene of crime. The Inspector-General of Police, Solomon Arase,\textsuperscript{75} who inaugurated the equipment June 15\textsuperscript{th}, 2016 at the Force headquarters, Abuja, stated that the facility is a traditional scientific investigation tool of police departments all over the world. He emphasized that modern policing is driven by the application of technology, forensic science, intelligence and citizens’ consent.

The equipment, the IG said, is a personal identity management systems that the police ought to have had long before now, stressing that its acquisition was meant to bridge the capacity gap in the Force in relation to forensic assets. Arase explained that the facility was set up to complement the existing forensic laboratory in Lagos, adding that the digital resource centre was designed to serve as an information processing centre, where outcomes of analysed pieces of forensic evidence or other specialised policing


\textsuperscript{75} The then Inspector General of Police, now retired.
materials or criminal information are disseminated in the most secure fashion to other police formations.\textsuperscript{76}

Recently is the commissioning of a First State-owned DNA and Forensic Centre in West Africa, Lagos Island on Wednesday September 27\textsuperscript{th}, 2017 by Mr. Akinwunmi Ambode, the Governor of Lagos State. He said the move would go a long way in resolving all forms of crimes, paternity issues and other issues through technology which is the modern trend across the world. He went further to say that the project was a significant milestone and a symbolic manifestation of his administration’s policies in reforming the justice sector and in line with his vision to make the state safe for residents and investors. Finally, he said based on his administration’s realization from inception that security was key to good governance and sustainability of investment to make life better for the people, the State Government, with the completion of the centre, is joining other advanced countries of the world which had embraced technology to make life easier for people in all spheres of existence.\textsuperscript{77}

The above will presuppose that forensic analysis has taken reasonable root in Nigeria, shockingly, that was not the case as revealed in \textit{Shonubi v People of Lagos State}.\textsuperscript{78} In that case, the PW6, the Nigerian Forensic expert gave evidence that he carried out preliminary test in Nigeria for some parts while he sent the second group to London, including the appellant’s shirt, CCTV and DNA of the deceased, finger nail clippings, because the equipments for the analysis were not here in Nigeria. Although forensic

\textsuperscript{76} Adelani Adepegba, \textit{Police Acquire Forensic Lab, Drones To Track Kidnappers, Robbers}, available at \url{www.nairaland.com/3168543/police-acquire-forensic-lab-drones} accessed 3/4/17 at 1.10pm
\textsuperscript{77} Lagos Opens First State-Owned DNA Forensic Centre In West Africa published in \textit{Premium Times Nigeria} Newspaper of Wednesday, 27\textsuperscript{th} September, 2017.
\textsuperscript{78} \textit{Shonubi v. People of Lagos State} (2015) All FWLR (pt. 801) 1429
evidence was the key factor that was used to resolve the case, but it explains Nigeria’s level of preparedness to apply its statutory provisions on forensics to cases.

In Nigeria, the application of forensic science or forensic evidence is still at infancy stage wherein mundane forensic evidence is still being used to solve cases. Nigeria does not have a national DNA Database from which possible suspects are matched. Without national DNA Database, there is clearly no need to pretend to be using forensic evidence as it forms the bedrock of forensics. Hence cases resolved via forensic evidence are mostly old as there was better effort to develop it in the past, while the new ones are scanty and far between due to lack of interest to develop it. There is no country in the world that is successful in fighting crime that has no dynamic, reliable and effective DNA database system. The well established national DNA Databases makes countries like the US and UK successfully achieve multiple convictions in criminal and terrorism related cases. Criminals are caught by comparing the DNA sample recovered from the crime scene against a DNA database. And if there is a match, the individual whose DNA profile in the database matched that of the recovered sample becomes a prime suspect liable for conviction. One thing is evident, DNA does not lie, only human error to identify and process properly. This is only possible when a country gives priority to forensic science by ensuring they are captured by their statutory provisions and invests in forensics related applications.\(^7^9\) The need for Nigeria to become forensics compliant can never be over emphasized. Developing a DNA Data bank will be a step in the right direction through the support of enabling statutory

provisions. This therefore calls for the expansion of the enabling provisions of forensic evidence.

4.3. The Administration of Criminal Justice in Nigeria

The channel through which justice is dispensed/administered in Nigeria is vital in the fight against crime. To understand the process of administration of justice in Nigeria, recourse must be had to historical forces that have shaped the emergence of Nigeria’s criminal justice system. Two epochs define Nigeria’s justice system, namely; the era before colonialism and the era after colonialism. Each of these periods are historically significant, and provide explanation for some of the peculiarities of the system today.

4.3.1. The Justice System in Pre-colonial Nigeria

Before the advent of colonialism, the entity now identified as Nigeria, was made up of a loose network of tribal states to the North, South, East and West all connected by trade, marriage and war with their unique system of traditional administration. The Northern part of pre-colonial Nigeria was dominated by the Hausa/Fulani ethnic groups. This did not mean that they were the only groups in the region; smaller tribes such as the Kaje, Kanuri, Bassa etc were conquered and brought under the imperial prominence of the Hausa/Fulani after the successful Jihad of Uthman Dan Fodio of 1804. The South which is the area currently identified as the oil-producing Niger Delta region of Nigeria, was made of a cornucopia of small ethnicities. The most prominent of this category were the Ijaws (who lived mainly on water), Urhobos, Itsekiris etc. Many of them were however linked by trade, marriages and war. The Eastern part of pre-colonial Nigeria was dominated by the Ibo ethnic groups. Unlike the communities to the North, South and West of pre-colonial Nigeria, the Ibo community was largely
republican and did not have a central figure playing the role of King. The hierarchy of authority devolved from the titled men in the community down to the family unity with its head. The Western part of pre-colonial Nigeria was dominated by the Yoruba speaking people. The Yoruba had something of the organized administrative structure of the North as seen in the prominence of the Oyo Empire, the spiritual Kingdom of Ife under the Ooni of Ife and smaller kingdoms loyal to the big empires. There was an organized structure of leadership from the Oba down to Ward heads.

In the communities now located in the South and East of Nigeria, this period witnessed the prominence of the family unit with its head, the age grade system, local guilds, elders, the titled class, traditional rulers and the ancestors; in the communities now located in the West of Nigeria, it was a period of the ancestors, the Oba and his council of chiefs, titled men, the age grade system and the family unit with its head; in the communities to the North of Nigeria, a cornucopia of small ethnic groups were to be found in the North-Central region, headed by a chief. However, the leadership structures of these communities faced constant threats of annexation by the imperially minded and highly organized emirate system of the North-East and North-West under the superintendence of the Sokoto Caliphate; in the North-East and North-West, ‘an emirate system was installed as the outcome of a Jihad (Muslim holy war) launched successfully by Uthman Dan Fodio and his largely Fulani ethnic supporters in 1804.

80 In areas such as the current Plateau State, over 300 hundred ethnic groups can be found within the state; a testament to the extent of diversity of the ethnicities in this area.
They overthrew the *Habe* dynasties of Hausa land, whom they accused of maladministration, oppression, and lax adherence to Islamic principles.⁸¹ With specific reference to the administration of justice, it is necessary to examine each of these major tribal groups closely. The focus here is to establish whether the communities in pre-colonial Nigeria had established structures for the administration of justice, and to that extent, whether those structures served them well.

A. **Ibo Land (Pre-colonial Eastern Nigeria)**

In the republican communities of Ibo land located in East, justice administrative was diffused amongst the family unit, the age grade system, the local guilds, the council of elders and the ancestral oracles speaking through their earthly representative (the chief priest). Local customs and usages formed the basis for the mediation of disputes in civil cases and the basis for the punishment of offenders in criminal cases. It was a highly efficient system that promoted harmony in the community amongst its members and between members of the community and their dead ancestors.⁸² The following institutional structures featured prominently in the process of justice administration:⁸³

I. Family Assemblies;

II. Okpara (the eldest man in the family regarded as occupying the ancestral stool for justice and holding ancestral spears for its dispensation);

---


III. Umunna (the Clan);

IV. Umuada or Umuokpu (females born in a kindred or village);

V. Amala (the council of elders);

VI. Nzuko Obodo (the village/town assembly);

VII. Oha-na-Eze (the meeting of the King and the people);

VIII. Ndi-isì Obodo (the village heads);

IX. Ndimmanwu (the Masquerade system);

X. Out Ogbo (the age grades);

XI. Ndi ści (titled men e.g. Ozo title holders) and

XII. Agbara (Oracles/deities)

The administration of justice in Iboland was dispensed through three main channels: arbitration, oath taking and trial by ordeal.\textsuperscript{84} Arbitration was most frequently used for the resolution of civil disputes, under its practice, parties had to agree to submit their disputes to the titled chiefs and elders of the community for the purpose of adjudication. Parties were then bound by the decision of the arbitrators. Oath taking was resorted to in serious criminal cases such as murder, witchcraft or in land disputes.\textsuperscript{85}

B. The Delta Areas

In the South, justice administration was similarly dispensed through the family unit, the age grade system, elders, titled men and the King/Chief assisted by his council of chiefs. In this category one is reminded of prominent historical figures like King Jaja of Opobo who suffered the fate of exile under the British Colonialists because he was felt


\textsuperscript{85} \textit{Ibid}
to be a threat to the colonial agenda.\textsuperscript{86} The communities in this area have less of the republican features of those in the East and more of the organized administrative structures of those in the West and North of the Country.

C. \textbf{Yorubaland}

In the West where the Yoruba people dominate, the Oba and his council of chiefs dispensed justice. The basis for doing so was the local custom and usages of the land.\textsuperscript{87} Also prominent was the role of the Oracle relaying the wishes of the gods to the people.\textsuperscript{88} It is pertinent to note that during this era, a highly developed judicial system evolved with the Oba as the judicial head of the realm assisted by his council of chiefs. There were two types of chiefs: the palace chiefs and the town chiefs (Igbimo).\textsuperscript{89}

The Igbimo had specific names in different Yoruba Kingdoms: it was known as Oyo-mesi in old Oyo; Ilamuren in Ijebu Ode.; Ogboni in Egba; Awujo Oloye in Lagos; and Iwarefa in Ife and some other Kingdoms.\textsuperscript{90} Each town chief was a representative of a ward in the town. The King-in-council was the Supreme Court in the Kingdom and his judgment was final. The King and his council could hear and determine all kinds of cases ranging from civil to criminal cases and also imposed sanctions accordingly. It was the only court that could impose capital punishment to deserving criminals.

\textsuperscript{86} For further reading see Ebiegbeki J. A., \textit{Jaja of Opobo: the Slave who Became a King}, (Longman, 1970)

\textsuperscript{87} See The Restatement of Customary Law of Nigeria, \textit{op. Cit.} Ch. 1; see also Epiphany Azinge and Adejoke Adediran (eds), \textit{Op. cit.}

\textsuperscript{88} Ola Rotimi’s prominent play, \textit{The gods are not to blame}, demonstrates how the gods intervened and directed the affairs of the local communities in pre-colonial Yoruba land through their Chief Priest ‘Baba Fakunle’.

\textsuperscript{89} See Tunde Onadeko, \textit{Yoruba Traditional Adjudicatory System}, (March 2008) 29(1) African Study Monographs, p. 17

\textsuperscript{90} See Sanni Habeeb Abiodun, \textit{Continuity and Change: Local Government Administration Since Pre-colonial Era}, (The Local Government Service Commission Workshop, Elephant House, Alausa, Ikeja, 14\textsuperscript{th} December 2010), p. 3
Although the usual practice was to hear cases publicly, some cases (such as those involving important dignitaries) were not tried openly.\(^9^1\)

Next in order of hierarchy in the judicial system were the *Baales* who were the heads of communities appointed by the King to be his eyes and ears in those communities.\(^9^2\) They performed adjudicatory functions in their communities over minor cases. Serious cases which could not be handled by them were reported to the King and his council. The community head could sanction offenders and even impose strict punishments such as banishing the offender from the community.\(^9^3\)

Next to the *Baales* were the family heads. Known as *Olori ebi*. They were the heads of each extended family in the community. The *Olori ebi* was appointed by the extended family on the basis of being the oldest in the Clan. The *Olori ebi* presided over the settlement of quarrels among his kinsmen; only civil cases were dealt with in this court. Serious matters which could not be handled by the *Olori ebi* were transferred to the community head.

The last in the hierarchy of the judicial system in pre-colonial Yoruba land was the head of the nuclear family known as *Baba*. The *Baba* resolved disputes within his nuclear family and handed over cases he could not settle to the family head.\(^9^4\)

D. North of pre-colonial Nigeria and the Hausa/Fulani Empire

In the North, the position of the communities in the North-Central areas differed slightly from those of the North-East and North-West (were the Hausa/Fulani people dominated). In the North-Central area where a diverse array of ethnic groups occupied

\(^9^2\) *Ibid*
\(^9^3\) *Ibid*
\(^9^4\) *Ibid*
tiny territories, the local customs of each community featured prominently in the process of administration of justice. The social structures in place were organized in a system of hierarchy dominated by chiefs.  

In the North-East and North-West, the political structure was altered by the successful Jihad waged by *Uthman Dan Fodio* in 1804. Under the emirate system that was established, ‘the emirate was headed by an Emir (or Sarki). Each emirate was divided into districts headed by a district head (*Hakimai*). Each district had several villages under it. Each village is headed by a village head (*Digachi*), who oversees his villages through appointed ward heads (*Mai Ungwa*). In pre-colonial times, the emirates functioned in this hierarchical division of administrative and judicial authority to ensure the collection of revenue, the enforcement of law and order, the dispensation of justice, and the effective supervision of religious rituals and institutions. Each emirate was semi-autonomous but was required to send tribute (*gaisuwa*) to the Sultan in Sokoto. The basic code for justice administration in the emirates was based on Islamic principles. 

From the foregoing analysis, it can easily be seen that the tribal entities in pre-colonial Nigeria had well established structures for the administration of justice and these structures engendered social harmony in those societies.

4.3.2. **The Justice System in Post-colonial Nigeria**

Nigeria gained her independence from British colonial rule on the 1st of October 1960. The colonial enterprise which commenced with the annexation of Lagos colony in 1862, and witnessed the amalgamation of the Northern and Southern Protectorates to

---

95 See The Restatement of Customary Law of Nigeria, *op. Cit.* Ch.1  
constitute the entity called Nigeria (in 1914) came to an end at independence in 1960. As colonial rule came to an end, the British imperialist left behind an indelible legacy in the form of the English Legal system. This was by virtue of the applicability of English Common Law Rules, the Doctrines of Equity and Statutes of General Application (collectively called “Received English Law”) which were in force in England as at 1st of January 1900.  

At independence in 1960, an Independence Constitution came into force. This was quickly replaced by the Republican Constitution of 1963 which severed the last colonial ties between Nigeria and Britain. Nigeria’s constitutional development was however interrupted in 1966 by a military coup which began a period of military rule. In 1979, the democratic process was restored and a new Constitution, the 1979 Constitution, came into force (this period, in Nigeria’s legal history, is known as the second republic; the first republic was marked by the Republican Constitution of 1963). In 1983, the military took over power again and held sway, suspending the 1979 Constitution and all democratic structures in the country. In 1989 another Constitution was promulgated as a precursor to the resumption of the democratic process. This process was however abandoned by the military. In Nigeria’s legal history, this botched attempt at return to democratic rule is known as the third republic. The fourth republic (which is what the current democratic dispensation in Nigeria is called) commenced on

---

97 This was first made possible by Ordinance No. 3 of 1863; at independence, the 1960 Independence Constitution retained this position. Subsequent constitutions in the country had preserved this position. For instance under the current 1999 Constitution, section 315 thereof preserves existing laws and makes to continue to have effect subject to their conformity with the Constitution; similarly, section 45(1) of the Interpretation Act (Cap 123 Law of the Federation of Nigeria 2004) makes it abundantly clear that English common law, doctrine of equity and statute of general application as incorporated into Nigerian law, continue to have full effect.
the 29th of May 1999 Constitution98 was promulgated to serve as the grund norm of the country, under its provisions, the extant system for the administration of justice has been provided for.

From the foregoing, it can be seen that many historical forces combined to shape the extant system for the administration of justice in Nigeria. Some of these historical forces include: the customary law of ethnic nationalities of pre-colonial Nigeria; Islamic law; received English law; constitutional law; military decrees; and legislations.

4.3.3. The Organization of Nigeria’s Justice System

Nigeria currently operates a federal system of government where power is shared between the Federal, States and Local Governments. The 1999 Constitution (as amended) provides the framework for the exercise of legislative, executive and judicial functions in the country. Essentially, the legal framework for the administration of justice in Nigeria is as follows:99

1. The 1999 Constitution;
2. Legislations;
3. Received English Law;
4. Customary Law;
5. Islamic Law; and
6. Judicial Precedent

The 1999 Constitution is the grundnorm of Nigeria’s legal system. All other laws derive their validity from it and any law that is inconsistent with its provisions is void

---

to the extent of such inconsistency. The system for the administration of justice in Nigeria is a complex network of institutions and personnel established either under the 1999 Constitution (as amended), Acts of the National Assembly, laws passed by State Houses of Assembly, Sharia law or by customary law. At the summit of this network sits the court system, organized in a hierarchy of importance by virtue of their jurisdictional competence.

4.3.4. **The Nigerian Court System**

Fighting criminality requires the use of officers with prosecutorial powers through which suspects are brought to court. Criminal proceedings are instituted in courts vested with criminal jurisdiction by persons or authorities competent to so do. The courts are therefore the channel through which justice can be administered. It is therefore pertinent to look at the courts system briefly for better understanding of the entire research work.

The Constitution of the Federal Republic of Nigeria vests judicial powers of the Federation and of the States on the following courts:

A. **The Supreme Court of Nigeria**

B. **The Court of Appeal**

C. **The Federal High Court**

D. **The High Court of the Federal Capital Territory, Abuja.**

E. **The State’s High Court**

---

100 Section 1(1) & (3) of the 1999 Constitution (as amended) which provide for the supremacy of the 1999 Constitution.

101 This is the Federal Legislative body of Nigeria. It is comprised of two Houses: The Senate and the Federal House of Representatives.

102 This is the Legislative body at the State level: A unicameral legislative system is practiced at the state and local government level in Nigeria.

103 Section 6(1) and (2) 1999 Constitution.

104 *Ibid*, Section 6(5)
F. The Sharia Court of Appeal of the Federal Capital Territory, Abuja.

G. The Sharia Courts of Appeal of the States.


I. The Customary Court of Appeal of the States.

J. Such other courts as may be authorized by law to exercise jurisdiction on matters with respect to which the National Assembly may make laws and

K. Such other courts as may be authorized by law to exercise jurisdiction at first instance or on appeal on matters with respect to which the House of Assembly of a State may make laws.

Courts in Nigeria may be classified in various ways. Classification into superior courts and inferior courts, and classification into courts of record and courts other than courts of record are the most important forms of classification.

Generally speaking, superior courts refer to courts with unlimited jurisdiction. The courts are referred to as superior courts because the limits to their jurisdictions are minimal. The minimal limits to their jurisdiction are in respect of the type of subject-matter and not with respect to the mere value of the subject-matter of a case as this is unlimited. The State High Courts are examples of a superior court. The inferior courts on the other hand are courts with limited jurisdiction. The limits to their jurisdiction are both in respect to the type and value of subject-matter examples are the Magistrates’ Courts.

Courts of records, as the name implies is a court which keeps records of its proceedings, while others are those courts which do not keep record of proceedings. By necessary implication, all the courts in Nigeria are courts of records. A court of record
may be a superior court or an inferior court. That is, we have inferior courts of record\textsuperscript{105} and superior courts of record. Superior courts of record\textsuperscript{106} are courts which have power to punish a person summarily for contempt, whether the offence is committed in the face of the court or out of court. Inferior courts of record on the other hand are courts which have power to punish a person summarily for contempt, only where the offence is committed in the face of court.\textsuperscript{107}

Other courts existing in Nigeria other than those expressly mentioned in the Constitution exist by virtue of section 6(5) (j) and (k) of the Constitution. They are courts established or deemed established by an Act of the National Assembly or a Law of a State House of Assembly. Some of these courts shall be discussed.

A. The Supreme Court of Nigeria

The Supreme Court is deemed established by section 230(1) of the 1999 Constitution of the Federal Republic of Nigeria. The Court replaced the judicial Committee of the Privy Council.\textsuperscript{108} It is the highest/apex court in Nigerian courts system. The Supreme Court is composed of the Chief Justice of Nigeria and such member of Justices of the Supreme Court not exceeding twenty-one, as may be prescribed by an Act of the National Assembly.\textsuperscript{109} The Justices are appointed by the President of Nigeria at the recommendation of the National Judicial Council subject to the confirmation of the appointment by the Senate of the National Assembly. The Chief Justice of Nigeria is appointed in same manner.\textsuperscript{110}

\textsuperscript{105} Magistrates’ and Customary Courts are inferior courts of record.

\textsuperscript{106} High Courts and other higher courts are superior courts of record.

\textsuperscript{107} See Omoijohe v. Umoru (1999) 69 LRCN 1344

\textsuperscript{108} Established by section 120 of the 1963 Constitution.

\textsuperscript{109} Section 230 (2) of the 1999 Constitution.

\textsuperscript{110} Ibid, Section 231 (2)
The Supreme Court has both original and appellate jurisdiction. Its original jurisdiction is on any disputes between the Federation and State or between states if and in so far as that dispute involves any question (whether of law or fact) on which the existence or extent of a legal right depends.\textsuperscript{111} In addition to this, the Supreme Court shall have such original jurisdiction as may be conferred upon it by any Act of the National Assembly, except on criminal matters.\textsuperscript{112} The Supreme Court shall have exclusive appellate jurisdiction over appeals from the Court of Appeal.\textsuperscript{113} An appeal shall lie from the decisions of the Court of Appeal to the Supreme Court of right in the following cases.\textsuperscript{114}

\begin{enumerate}
\item where the ground of appeal involves questions of law alone, decisions in any civil or criminal proceedings before the Court of Appeal;
\item decisions in any civil or criminal proceedings on questions as to the interpretation of application of the Constitution;
\item decisions in any civil or criminal proceedings on questions as to whether any of the provisions of Chapter IV (Fundamental Rights) of the Constitution has been, is being or is likely to be contravened in relation to any person.
\item decisions in any criminal proceeding in which any person has been sentenced to death by the Court of Appeal or in which the Court of Appeal has affirmed a sentence of death imposed by any other court;
\item decisions on any question
\end{enumerate}

\textsuperscript{111} Ibid, Section 232 (1)
\textsuperscript{112} Ibid, Section 232 (2)
\textsuperscript{113} Ibid, Section 233 (1)
\textsuperscript{114} Ibid, Section233 (2)
whether any person has been validly elected to the office of president or vice-

 whether the term of office of president or vice-president has ceased;

 whether the office of president or vice-president has become vacant; and

 such other cases as may be prescribed by an Act of the National Assembly.

 Appeal lie from the decisions of the Court of Appeal to the Supreme Court with leave

 of court\textsuperscript{115} in every other case. The Supreme Court is constituted when it has at least

 five justices, but when sitting in exercise of its original jurisdiction, it may be

 constituted with at least seven justices.\textsuperscript{116}

 \textbf{B. The Court of Appeal}

 The Court of Appeal is established by section 237 (1) of the 1999 Constitution of the

 Federal Republic of Nigeria. It consists of not less than forty-nine Justices of which not

 less than three must be learned in Islamic personal law and not less than three must be

 learned in customary law, as may be prescribed by an Act of the National Assembly.

 The Court of Appeal is next in hierarchy to the Supreme Court. The Court of Appeal

 justices are appointed by the president of Nigeria on the recommendation of the National

 Judicial Council subject to the confirmation of the appointment by the Senate of the

 National Assembly. The appointment of the President of the Court of Appeal is done in

 same manner.\textsuperscript{117} The Court of Appeal has both original and appellate jurisdiction. The

 court has original jurisdiction to hear and determine any question as to whether\textsuperscript{118}.

\textsuperscript{115} \textit{Ibid,} Section 233 (3)
\textsuperscript{116} \textit{Ibid,} Section 234
\textsuperscript{117} \textit{Ibid,} Section 238 (1)
\textsuperscript{118} \textit{Ibid,} Section 239 (1)
a any person has been validly elected to the office of the President or Vice-President;

b the term of office of the President or Vice-president has ceased;

c the office of the President or Vice-President has become vacant.

The Court of Appeal has exclusive appellate jurisdiction to hear and determine appeals from the Federal High Court, the High Court of the Federal Capital Territory, Abuja and of the States. It also has appellate jurisdiction over the decisions of a Court Martial or other tribunals as may be prescribed by an Act of the National Assembly. The appeals from these courts or tribunals lie either as of right or with leave. An appeal lies as of right in the following cases-120

a final decisions in any civil or criminal proceedings before the Federal High Court or a High Court sitting at first instance;

b decisions in any civil criminal proceedings where the ground of appeal involves questions of law alone;

c decisions in any civil or criminal proceedings on questions as to the interpretation or application of the Constitution;

d decisions in any civil or criminal proceedings on questions as to whether any of the provisions of Chapter IV (Fundamental Rights) of the Constitution has been, is being or is likely to be contravened in relation to any person;

e decisions in any civil or criminal proceedings in which the Federal High Court or a High Court has imposed a sentence of death.

f decisions of the Federal or State High Courts concerning the following

119 Ibid, Section 240
120 Ibid, Section 241 (1)
where the liberty of a person or the custody of an infant is concerned;

where an injunction or the appointment of a receiver is granted or refused;

where the case of a creditor or the liability of a contributory or other officer is determined under any enactment relating to companies;

in the case of a *decree nisi* in a matrimonial cause or a decision in an admiralty action determining liability;

in such other cases as may be prescribed by any law in force in Nigeria.

Appeals also lie as of right to the Court of Appeal from decisions of the Code of Conduct Tribunal, the National Assembly Election Tribunals and Governorship and legislative Houses Election Tribunal. There is no right of appeal from the decisions of the Court of Appeal in respect of appeals arising from decisions of the Election Petition Tribunals referred to above. There is also no right of appeal to the court of Appeal from the Federal and States High Court in the following cases -

a where a decision grants a party unconditional leave to defend an action;

b where an order absolute for the dissolution or nullity of marriage is given, having had time and opportunity between *decree nisi* and absolute to appeal.

In all other cases, appeals lie from the decisions of the Federal High Court and the High Court with leave. Appeals lie from the decisions of the Sharia Court of Appeal and Customary Court of Appeal to the Court of Appeal in the following cases.

---

121 *Ibid, Section 246 (1)*
122 *Ibid, Section 246 (3)*
123 *Ibid, Section 241(2)*
a in the case of the Sharia Court of Appeal, with respect to any question of Islamic personal law which the Sharia Court of Appeal is competent to decide.\textsuperscript{124}

b in the case of Customary Court of Appeal with respect to question of Customary Law.\textsuperscript{125}

The National Assembly may confer jurisdiction upon the Court of Appeal in respect of appeals from any decision of any other court of law or tribunal established by the National Assembly.\textsuperscript{126} The court of Appeal is duly constituted by at least three justices of the Court of Appeal in the hearing and determination of an election petition as to whether any person has been validly elected to the office of the president, term has ceased or office has become vacant.\textsuperscript{127}

C. The Federal High Court

The Federal High Court is deemed established by section 249(1) of the 1999 Constitution. It was however first established as the Federal Revenue Court by the Federal Revenue Court Act\textsuperscript{128} of 1973. It was renamed as Federal High Court by section 230(2) of the 1979 Constitution. The court is next to the Court of Appeal in order of hierarchy.

The Federal High Court justices are appointed by the President of Nigeria on the recommendation of the National Judicial Council subject to the confirmation of the

\textsuperscript{124} Ibid, Section 244(1)
\textsuperscript{125} Ibid, Section 245(1)
\textsuperscript{126} Ibid, Section 246(2)
\textsuperscript{127} Ibid, Section 239(9)
\textsuperscript{128}Formerly known as the Federal Revenue Court Decree
appointment by the senate of the National Assembly. The appointment of the Chief Judge of the Federal High Court is done in same manner.¹²⁹

The Federal High Court has exclusive jurisdiction in civil matters concerning the following¹³⁰:

(a) Federal Revenue
(b) Federal and Company Taxation
(c) Customs and Excise
(d) Banking, Banks and Other Financial Institutions,
(e) Matters arising from the companies and Allied Matters Act,
(f) Federal Enactment on Copyright, Patent, designs and Trade Marks,
(g) Admiralty matters
(h) Diplomatic and Consular Relations
(i) Citizenship
(j) Bankruptcy and Insolvency
(k) Aviation and Safety of Aircraft
(l) Arms, Ammunition and Explosives
(m) Drugs and poisons
(n) Mines and minerals
(o) Weights and measures
(p) The administration or the management and control of the federal government or any of its agencies,

(q) Operation and interpretation of the Constitution in so far as it affects the Federal

¹²⁹ Section 250(1) and (2) of the 1999 Constitution.
¹³⁰ Ibid, Section 251
Government or any of its agencies,

(r) Any action challenging the validity of any executive or administrative action or decision by the Federal Government or any of its agencies,

(s) Such other jurisdiction as may be conferred upon it by an Act of the National Assembly.

The court has jurisdiction in respect of treason, treasonable felony and allied offences.\(^{131}\) It also has jurisdiction in respect of criminal matters in respect of which jurisdiction is conferred on it.\(^{132}\) There arose legal controversies as to the exact scope of the purported exclusive jurisdiction conferred on the Federal High Court as this interfered with the unlimited jurisdiction of the State High Courts. This was however sorted out in *Savannah Bank Limited v. Pan Atlantic Shipping and Transport Agency Limited*,\(^{133}\) *Jammal Steel Structures Limited v. ACB*\(^{134}\) and *Bronik Motors Limited v. Wema Bank*\(^{135}\), where the Supreme Court held that section 7 and 8 of the Federal High Court Act of 1973 which confer exclusive jurisdiction on the Federal High Court were void in as far as it was inconsistent with section 236 of the 1979 Constitution which conferred unlimited jurisdiction on States High Court. This decision have however been taken over by event as the 1999 Constitution has set the record straight by expressly setting out the areas of jurisdiction of both courts.

The Federal High Court consists of the Chief Judge and such number of judges of the Federal High Court as may be prescribed by an Act of the National Assembly.\(^{136}\) The

\(^{131}\) *Ibid*, section 251(2)

\(^{132}\) *Ibid*, Section 251(3)

\(^{133}\) *Savannah Bank Limited v. Pan Atlantic Shipping and Transport Agency Limited* (1987) 1 SCNJ 88 (Pt. 49)

\(^{134}\) *Jammal Steel Structures Limited v. ACB* (1973) 1 All NLR 208

\(^{135}\) *Bronik Motors Limited v. Wema Bank* (1983) 1 AC 110

\(^{136}\) Section 245 (2) of 1999 Constitution
Federal High Court is however duly constituted if it consists of at least one judge of the court.\textsuperscript{137}

\textbf{D. The Sharia Court Of Appeal}

In view of the religious diversity of Nigeria, the Nigeria Constitution made provision for the establishment of specialized courts. This paved way for the establishment of Sharia Court of Appeal. Section 2759(1) of the 1999 Constitution provides that any state that requires Shaira Court of Appeal shall establish. The Sharia Court of Appeal shall consist of a Grand Khadi of the Sharia Court of Appeal and such number of Khadis of the Sharia Court of Appeal as may be prescribed by the House of Assembly of the State.\textsuperscript{138}

The appointment of a Grand Khadi shall be made by the Governor of the state on the recommendation of the National Judicial Council subject to the confirmation of the appointment by the House of Assembly of the State.\textsuperscript{139}

The appointment of the Khadis of the Sharia Court of Appeal is in the same manner as that of a Grand Khadi except for the fact that it does not require confirmation.\textsuperscript{140} The jurisdictions of the Sharia Court of Appeal are as follows:\textsuperscript{141}

\begin{enumerate}
  \item any question of Islamic personal law regarding a marriage concluded according with that law, including a question relating to the validity or dissolution of such a marriage or a question that depends on such a guardianship of an infant.
  \item where all the parties to the proceedings are Muslims, any question of Islamic personal law regarding a marriage, including the validity or dissolution of that
\end{enumerate}

\textsuperscript{137} \textit{Ibid}, Section 253
\textsuperscript{138} \textit{Ibid}, Section 275(2)
\textsuperscript{139} \textit{Ibid}, Section 276(1)
\textsuperscript{140} \textit{Ibid}, Section 276(2)
\textsuperscript{141} \textit{Ibid}, Section 277
marriage, or regarding family relationship, a founding or the guardianship of an infant.

c any question of Islamic personal law regarding a wakf, gift, will or succession where the endower, donor, testator or deceased person is a Muslim;

d any question of Islamic personal law regarding an infant, prodigal or person of unsound mind who is a Muslim or the maintenance or the guardianship of a Muslim who is physically or mentally infirm; or

e any other question relating to Islamic personal law where all the parties to the proceedings, being Muslims, have requested the court that hears the case in the first instance to determine that case in accordance with Islamic personal law.

The Sharia Court of Appeal is duly constituted if it consists of at least three Khadis of the court.

E. The Customary Court Of Appeal

Section 280(1) of the 1999 Constitution provides thus “There shall be for any state that requires it a Customary Court of Appeal for that State”. This led to the establishment of the Customary Court of Appeal. The Customary Court of Appeal shall consist of a president of the Customary Court of Appeal of a State and such number of judges of the Customary Court of Appeal as may be prescribed by the House of Assembly of a State. The appointment of the president of the Customary Court of Appeal shall be made by the Governor of the State on the recommendation of the National Judicial Council, subject to the confirmation of such appointment by the House of Assembly of the State. Appointment of a judge of a Customary Court of Appeal is same as that of a

\[142\] *Ibid*, Section 280(2)
President of the Customary Court of Appeal except that there is no need for confirmation.\textsuperscript{143}

The jurisdiction of the Customary Court of Appeal is both supervisory and appellate in civil proceedings involving question of customary law.\textsuperscript{144} The House of Assembly of the state for which it is established may prescribed the extent of jurisdiction of the Customary Court of Appeal.\textsuperscript{145}

The Customary Court of Appeal is duly constituted if it has at least three judges of the court.\textsuperscript{146}

F. The State High Court

The 1999 Constitution provides for High Courts for all the states and the Federal Capital Territory. The High Court of the Federal Capital Territory is provided for under section 255(1) while that of the State High Courts are provided for in section 270(1). The State High Courts shall consist of a Chief Judge of a State and such number of judges as may be prescribed by a law of the House of Assembly of the State.\textsuperscript{147} In the case of the Federal Capital Territory’s High Court, it is the Act of the National Assembly that prescribes the number of judges.\textsuperscript{148}

The appointment of a Chief Judge is by the Governor of the State on the recommendation of National Judicial Council subject to the confirmation of the House of Assembly. That of the judges of the State is the same except that the confirmation is not necessary.\textsuperscript{149} In the case of the Federal Capital Territory’s High Court, it is the

\textsuperscript{143} Ibid, Section 281(1) and (2)
\textsuperscript{144} Ibid, Section 282(1)
\textsuperscript{145} Ibid, Section 282(2)
\textsuperscript{146} Ibid, Section 283
\textsuperscript{147} Ibid, Section 270(2)
\textsuperscript{148} Ibid, Section 255(2)
\textsuperscript{149} Ibid, Section 271(1) and (2)
President that appoints the judges while confirmation is by the National Assembly for only the Chief Judge.\textsuperscript{150}

The jurisdiction of the State High Courts is both original and appellate or supervisory. Its appellate jurisdiction is exercised over magistrate courts and Area Customary Courts in Criminal and Rent Matters. The State High Courts have jurisdiction, subject to that conferred on the Federal High Court by section 252 of the Constitution to hear and determine any civil proceedings in which the existence or extent of a legal right, power, duty, liability, privilege, interest, obligation or claim is in issue. The courts also have jurisdiction to hear and determine any criminal matter involving any forfeiture, penalty, punishment or other liability in respect of an offence committed by any person.\textsuperscript{151} The State High Courts are duly constituted if it consists of at least one judge of that Court.\textsuperscript{152}

G. \textbf{The Election Tribunals}

Section 285(1) of the Constitution provides that there shall be established for the federation one or more election tribunals to be known as the National Assembly Election Tribunals. The National Assembly Election Tribunals shall to the exclusion of any court or tribunal, have original jurisdiction to hear and determine petitions as to whether-

\begin{enumerate}
\item any person has been validly elected as a member of the National Assembly,
\item the term of office of any person under the Constitution has ceased,
\item the seat of a member of the senate or a member of the House of Representatives has become vacant, and
\end{enumerate}

\begin{footnotesize}
\textsuperscript{150} \textit{Ibid}, Section 256(1) and (2)
\textsuperscript{151} \textit{Ibid}, Section 257(1) and (2) and \textit{Ibid}, Section 272(1) and (2)
\textsuperscript{152} \textit{Ibid}, Section 259 and 273
\end{footnotesize}
d. a question or petition brought before the election tribunal has been properly or improperly brought.

Section 285(2) also made provision for each State of the Federation to establish one or more election tribunal to be known as the Governorship and Legislative Houses Election Tribunals. The Governorship and Legislative Houses Election tribunals shall to the exclusion of any court or tribunal have original jurisdiction to hear and determine petitions as to whether any person has been validly elected to the office of Governor or Deputy Governor or as a member of any legislative house.

The composition of both the National Assembly Election Tribunals and Legislative Houses Election Tribunals is a chairman and four other members. The Chairman shall be a judge of a High Court and the four other members shall be appointed from among judges of High Courts, Khadi’s of Sharia Court of Appeal, judges of Customary Court of Appeal or other members of judiciary not below the rank of a Chief Magistrate. A quorum is formed by the chairman and two other members of the tribunal. The Chairman and other members of the tribunal shall be appointed by the president of the Court of Appeal in consultation with the chief judge of the State, the Grand Khadi of the Sharia Court of Appeal of the State or the president of the Customary Court of Appeal of the State, as the case may be.

H. The Magistrates’ Court

Magistrates’ Courts are established and regulated by different magistrates’ courts law of the various States. Magistrates’ courts are therefore no creation of the Constitution. Magistrates’ courts exist in every State in Nigeria. Magistrates are divided into a

---

153 Sixth Schedule.
154 Section 285(4) of 1999 Constitution
155 Supra, n. 153
number of classes basically defining the jurisdiction and powers of each magistrate. The civil and criminal jurisdiction of the various grades of magistrates’ are set out in the magistrates’ courts laws of Edo State. The jurisdiction conferred on magistrates’ court to hear rent matters under section 19(1)(b) has been restricted by the Rent Control and Recovery of Residential Premises Law 1977 and the Customary Courts (Amendment) Edict of 1985. Jurisdiction on rent matters in respect of residential accommodation is now vested on Area Customary Court thereby restricting the Magistrates’ Courts to commercial buildings.

Although, all grades of magistrates have similar jurisdiction with respect to matters which they can hear but the jurisdiction of a magistrate to hear such matters depends on the amount being claimed. This can be seen in the above table. This is however subject to amendment by the executive council of the State. Magistrates do not have exclusive jurisdiction in the matter within their competence, the executive council may however direct that magistrates’ courts may exercise original jurisdiction in certain named matters in Edo State for example, the Governor increased the jurisdiction of magistrates’ courts in civil and criminal matters in reliance on section 24(1) of the Magistrates’ Court Law. A magistrate court is duly constituted if it consists of at least one magistrate of the court. Appeals lie to the High Court from the judgments, decisions and orders of magistrates’ courts.

---

156 See “Increased jurisdiction of Magistrates in civil and criminal matters order, 2011” see also section 28 and 29 of the Magistrate Courts Law of Lagos State, 2009
157 Section 19, 21 and 22
158 Section 20 A(1) and (2)
159 Supra, n. 156
I. The Customary Court

The principal purpose for which the customary courts were set up is to bring justice closer and cheaper to the people. The orthodox courts were unsuitable for this purpose in view of inaccessibility and the high cost of justice. Customary courts are therefore enjoined to do everything possible to ensure that justice reach the common man. In *V.I. Amadasun and Ors v. Chief Isosonwin Ohenso and Ors*, Idigbe C.J (as he then was) said customary courts provide for quick, simple and inexpensive form of determining matters before them. Customary courts were established by the customary courts of various states of the Federation. In Edo and Delta States (defunct Bendel State), the customary courts law of 1984 is the governing law. Two grades of customary courts were established, namely Area and District customary courts. Every customary court is a superior court of record. The Area and District Customary Courts consists, of a president and two members each. The president and members of Area and District customary courts shall be made by the judicial service commission.

The jurisdiction of both Area and District customary courts are as stated in the first and second schedule of the Customary Court Edict 1984, while the first schedule deals with civil matters, the second schedule deals with criminal matters. The customary court (amendment) Edict of 1985 transferred the jurisdiction and powers formally conferred on Rent Tribunal in Edo State to the Area customary court. Under section

---

160 High Courts and Magistrate Courts
161 *V.I. Amadasun and Ors v. Chief Isosonwin Ohenso and Ors* (1960) NMLR 197 at 180
162 Section 3(1) Customary Courts Law, 1984
163 Ibid, section 3(2)
164 Supra, n. 162
165 Supra n. 162, Sections 20(1) and 21(1)
166 Section 2, Customary Court (amendment) Edict, 1985
2(2) of this Edict, the Area court shall in any proceeding before, it observe the provisions of the Rent Control and Recovery of Residential Premises Law of 1977. By virtue of the provisions of section 41 of the Land Use Act, 1978, Customary Courts in Edo State have jurisdiction in respect of proceedings of a customary right of occupancy granted by a local government. From the decision in Adisa v. Oyinwola which made it apparent that both Area and district Customary Courts have concurrent jurisdiction with the State High Court in respect of proceedings concerning land subject to customary right of occupancy.

Area Customary Courts presidents are divided into different grades basically defining the jurisdiction and powers of each president. A Customary Court whether Area or District is duly constituted if it has at least a president and two members of the court. Civil appeals lie from both the Area and District customary courts to the Customary Court of Appeal while the criminal appeals lie to the State High Court.

J. Other Courts

Other courts include Juvenile Courts established for the trial of young offenders and for the welfare of the young, Area Courts, basically northern courts, for customary law administration, while coroners’ inquests is empowered to look into the cause of death which appears violent or unnatural or as specified by the appropriate Coroners’ Law. National Industrial Court established for the purpose of dealing with trade disputes and collective agreements and the Court Martial established to try persons subject to military law for both civil and criminal matters, but cannot try persons on murder.

---

167 Cap 202, Laws of Federation of Nigeria, 1990
169 See Jurisdiction and power of Area Customary Courts Presidents in Edo State as increased by “The Increased jurisdiction of Area Customary Courts Order, 2012”
treasonable felony or rape. Court martial is divided into the General Court martial and the special court martial. There is also the District Courts which are basically northern courts. They are equivalent to the magistrates’ court in the southern states. They are courts of civil jurisdiction.\textsuperscript{170}

Finally, is the Arbitration which is a means of dispute resolution without adjudication or litigation. In arbitration, an arbitrator, that is, a person who has the consent of both parties to resolve their differences, decides the dispute. Mobile Courts, to try sanitation matters and Revenue Courts for revenue matters.

4.3.5. \textbf{Institutions Lending Support To The Courts System}

Supporting the activities of the courts is a host of institutions such as Agencies conferred with prosecutorial powers, the Nigerian prison service, the legal profession and traditional institutions.

However efficient the Courts system may seem, it no doubt has a lot of drawbacks preventing it from effectively carrying out its designated functions.

A. \textbf{Agencies Conferred With Prosecutorial Powers In Nigeria}

Forensic evidence on its own cannot fight criminality, but requires the use of officers with prosecutorial powers through which suspects are brought to court. The officers search for the forensic evidence which they use in fighting criminality through the instrumentality of available statutes. This will either lead to the conviction of the suspect or the exoneration of the suspect. Criminal proceedings are instituted in courts vested with criminal jurisdiction by persons or authorities competent to so do.\textsuperscript{171} They include the Attorney-General, the Police, private persons, special prosecutions,

\textsuperscript{170} Section 7, District Court Law.
\textsuperscript{171} Agencies Conferred With Prosecutorial Powers
Economic and Financial Crimes Commission (EFCC), Independent Corrupt Practices and Related Offences Commission (ICPC), National Agency on Food and Drugs Administration (NAFDAC), National Security and Civil Defence Corps (NSCDC), and a host of others.

From the available data gathered from courts and the office of the Attorney-General of the federation and states, it was seen that the prosecution of crimes are mainly conducted by (i) the police. It showed that at least 90% of all summary trials in Magistrates and Area Customary Courts nationwide are conducted by the police, (ii) Law officers that is, staff of the various Ministries of Justice who have the fiat of their respective Attorney-General to prosecute offences within jurisdiction, (iii) legal officers who are staff of Agencies such as Economic and Financial Crimes Commission (EFCC) and Independent Corrupt Practices and related Offences Commission (ICPC) who have the fiat of the appropriate Attorney-General and private legal practitioners instructed by these agencies. Legal officers in other federal and state anti-crime or security agencies who have the fiat of the appropriate Attorney-General to prosecute within designated jurisdiction or offences (iv) private legal practitioners who have the fiat of the appropriate Attorney-General to prosecute clearly specified persons in terms of the said fiat and (v) Police officers, who are legal practitioners.172

Some of the agencies conferred with prosecutorial powers are:

I. The Police

The history of the Nigerian Police Force (NPF) dates back to 1861. It began with a thirty-member consular guard formed in Lagos colony in 1861. In 1870, a 1,200 member armed paramilitary Hausa constabulary was formed. In 1896, the Lagos Police was established. A similar force; the Niger Coast constabulary, was formed in Calabar in 1894 under the newly proclaimed Niger Coast protectorate. In 1888, the Royal Niger Company constabulary in the North with headquarters at Lokoja. When the protectorates of northern and southern Nigeria were proclaimed in the early 19000, part of the Royal Nigeria Company Constabulary became the Northern Nigeria Police, and part of the Niger Coast Constabulary became the Southern Nigeria Police. Both the Northern and Southern Nigeria were later amalgamated in 1914, but their police forces were not merged until 1930. It is this metamorphosed constabulary that is now known as the Nigerian Police Force.  

In the 1960 when Nigeria gained independence, it inherited this single police which was in existence as at then. This was then made part of the Independence Constitution, and has since remained part of the Constitution of the Federal Republic of Nigeria. 

Section 4 provides for the general duties of the police thus:

The police shall be employed for the prevention and detection of crime, the apprehension of offenders, the preservation of law and order, the protection of life and property and the due enforcement of all laws and regulations with which they are directly charged, and shall perform such military duties within or outside Nigeria as may be required of them by, or under the authority of this or any other Act.

---


174 Since 1960 to 1999.
Section 23 provides for the conduct of prosecutions by the Police. It provides that:

“Subject to the provisions of sections 174 and 211 of the Federal Republic of Nigeria 1999 (which relate to the power of the Attorney-General of the Federation and of a State to institute and undertake, takeover and continue or discontinue criminal proceedings against any person before any court of law in Nigeria), any police officer may conduct in person all prosecutions before any court, whether or not the information or complaint is laid in his name”.

The above provisions encapsulate the area of the duties of the Police Force which is by law under the operational control of the Inspector General of Police, subject to the overall control of the President of Nigeria with respect to the maintenance of public order and safety. The powers of the police include the prosecution of criminal offences in court and the power to arrest without warrant. A police officer is empowered to serve summons when such has been issued by the law court. He may inquire into the case of someone who is under arrest and grant him/her bail where necessary. A superior police officer may authorize a policeman to search a given premises and seize or secure any property perceived to have been stolen. The duties of the police can therefore be summarized as follows: The prevention and detection of crime, the apprehension of offenders; the preservation of law and order, the protection of life and property and the due enforcement of laws and regulations with which they are directly charged.

It is apparent from the above provisions that the police have no business in interfering with any civil relations between the members of the society. This was well explained in

---

175 Section 9 of the Police Act, 1943.
176 Ibid section 23
177 Ibid
178 Ibid
Ken McLaren & 2 Ors. v James Loyd Jennings,\textsuperscript{179} the Court of Appeal held, per Salami JCA, that: I have scrutinized the provisions of the section and am unable to see a provision providing for or empowering police to enforce contract or collect common debts. The appellants and the policemen they pressed to duty were not in Kano to prevent or detect a crime nor was the respondent an offender. It is equally not the case of the appellant that there was a breakdown of law and order, the preservation of which took them to Kano. In short, the appellants and the policemen they took to Kano were there to collect debt which is not one of the several duties assigned to the police under the provisions of the Police Act to which the court was directed and the court has not been able to find another provision of the Act empowering or constituting the Nigerian Police Force to one of debt or rent collector. It follows that the policemen who accompanied the appellants to Kano and assisted them in the arrest of the respondent were on frolics of their own. The arrest was not authorized by the Act and was consequently unlawful, wrongful and illegal and cannot afford the appellants a shield.

The police power was described in the case of Fawehinmi v Inspector General of Police\textsuperscript{180} as follows:

\begin{quote}
Police power is the exercise of the sovereign right of the government to promote order, safety, health, morals and general welfare within constitutional limits and it is an essential attribution of government. Indeed, the police are outward civil authority of the power and might of a civilized country. The generality of the public is potentially affected one way or another in their action or inaction.
\end{quote}


The above analysis on the schedule and duties of police, it is clear that their duties are essentially crime related. Put differently, the focal point of interest of the police is criminal cases. Where a case is found during investigation to be civil in nature, the officers and men of the force ought not to get involved in it as they do not fall within the purview of their authority.

The power to conduct prosecution was clearly imposed on the police by the Police Act.\textsuperscript{181} It imposes on the police the duty to conduct public prosecutions before any court, whether or not the information or complaint is laid in his name. This power is however subject to the exercise of the power of the Attorney-General of the Federation and a State to institute and undertake, takeover and continue or discontinue criminal proceedings against any person before any court of law in Nigeria as provided in sections 174 and 211 of the 1999 Constitution of the Federal Republic of Nigeria (\textit{supra}). More light was thrown into this provision in \textit{Attah v. Commissioner of Police}\textsuperscript{182}, where the court on the ambit of the power of police officer to conduct prosecution held that, by virtue of section 23 of the Police Act, any police officer may conduct in person all prosecutions before any court of law whether or not the information is laid in his name. This was also the position taken in an earlier case of \textit{Olusemo v. Commissioner of Police}\textsuperscript{183}

The police like the Courts system no doubt has a lot of drawbacks preventing it from effectively carrying out its designated functions.

\textsuperscript{181} Section 23 of the Police Act, 1943
\textsuperscript{183} \textit{Olusemo v. Commissioner of Police} (1988) 1 NWLR (Pt. 575) 557
II. Economic and Financial Crimes Commission (EFCC)

The preponderance of Economic and Financial Crimes like Advance Fee Fraud (419), Money Laundering, etc has had severe negative consequences on Nigeria, including decreased Foreign Direct Investments in the country and tainting of Nigeria’s national image. The menace of these crimes and the recognition of the magnitude and gravity of the situation led to the establishment of Economic and Financial Crimes Commission (EFCC).  

The Economic and Financial Crimes Commission (Establishment) Act 2004, enacted by the National Assembly of the Federal Republic of Nigeria established the Economic and Financial Crimes Commission. Section 1 provides thus:

(1) There is established a body to be known as the Economic and Financial Crimes Commission (in this Act referred to as “the Commission”) which shall be constituted in accordance with and shall have such functions as are conferred on it by this Act.

(2) The Commission –

a. Shall be a body with perpetual succession and a common seal

b. May sue or be sued in its corporate name and may, for the purpose of its function commission, acquire, hold or dispose of property (whether movable or immovable).

c. Is the designated Financial Intelligence Unit (FIU) in Nigeria, which is charged with the responsibility of coordinating the various institutions

---

d. involved in the fight against money laundering and enforcement of all laws dealing with economic and financial crimes in Nigeria.

Section 6 of the Act provides for the functions of the Commission. These functions are enormous. The Commission is responsible for the enforcement and the administration of the provisions of the Act. It has a duty to investigate Advance Fee Fraud cases (commonly called 419). That is, obtaining by false pretence through different fraudulent schemes such as contract scam, audit card scam, inheritance scam, job scam, lottery scam, money washing scam, marriage scam, immigration scam, religions scam, counterfeiting. It also investigates cases of cyber crime. The Commission investigates cases involving banks and other financial institutions in offences such as the issuance of Dud cheque, fraudulent encashment of negotiable instruments, foreign exchange malpractices and other financial malpractices in banks and other financial institutions. It also investigates cases ranging from abuse of office, official corruption, bribery of government officials, diversion of public funds through fraudulent award of contracts, corruption in land allocation. The investigation of Tax fraud, capital market fraud, money laundering, oil bunker, terrorism, etc are not left out.185

Section 7 spells out the special powers given the Commission. It empowers the Commission to prevent, investigate, prosecute and penalize economic and financial crimes and is charged with the responsibility of enforcing the provisions of other laws and regulations relating to economic and financial crimes which includes:


3. The Money Laundering (Prohibition) Act 2004

185 Ibid.
4. The Advance Fee Fraud and Other Related Offences Act 1995
6. The Banks and Other Financial Institutions Act 1991
7. Miscellaneous Offences Act, and
8. Any other law or regulations relating to economic and financial crimes including the Criminal Code or Penal Code\textsuperscript{186}

To enable the Commission carry out its herculean tasks effectively, the enabling Act in section 12(1) empowered the Commission to establish some units or departments, of interest here being the legal and prosecution unit. Section 13 of the Act spells out the duties of the various units. Section 13(2) of the enabling Act particularly provides for the duties of the legal and prosecution unit. It provides that the legal and prosecution unit shall be charged with the responsibility for –

a. Prosecuting offenders under this Act,

b. Supporting the general and assets investigation unit by providing the unit with legal advice and assistance whenever it is required,

c. Conducting such proceedings as may be necessary towards the recovery of any assets or property forfeited under this Act.

d. Performing such other legal duties as the Commission may refer to it from time to time.

From the above exposition, there is no iota of doubt that the Commission enjoys prosecutorial powers to prosecute offenders under the Act. This prosecutorial power they have employed to secure several convictions and recovered several proceeds of

\textsuperscript{186} Section 7, Economic and Financial Crimes Commission Establishment Act, 2004.
crime from the convicted persons. The case of *The Federal Republic of Nigeria v. Osahon*\(^\text{187}\) is an authority in this proposition of being empowered to prosecute offenders, in deciding that the Attorney-General does not have the monopoly of prosecution.

Section 43 of the enabling Act provides that the Attorney-General of the Federation may make rules or regulations with respect to the exercise of any of the duties, functions or powers of the Commission under this Act. This provision shows that the Attorney-General is the boss who can through regulations or rules determine the workings/powers of the Commission. When this is married with the provision of section 174(1) of the Constitution, it will seem like the prosecutorial powers of the commission derived from the Act is a delegated power which is exercised on behalf of the Attorney-General for speedy disposal of cases. Therefore, making the Commission power subject to the overriding intervention of the Attorney-General either to take over and continue or discontinue any proceedings instituted by the Commission. This was however the position of the court in *Mike Amadi v. Federal Republic of Nigeria*\(^\text{188}\), in holding that the Commission’s prosecutorial powers are subject to the overriding power of the Attorney-General.

Some of the cases duly prosecuted by the Commission indicative of its undoubted prosecutorial powers includes, *Federal Republic of Nigeria v. Tafa Balogun*\(^\text{189}\), in that case, the accused was investigated and prosecuted under the Money Laundering (Prohibition) Act, 2004 for laundering various sums of money running into billions of

---

\(^{187}\) *The Federal Republic of Nigeria v. Osahon, Supra n. 180*


naira, property of the Nigerian Police Force. The Federal High Court convicted the accused for money laundering and ordered the forfeiture of his assets. In *Federal Republic of Nigeria v. Chief D.S.P. Alamieyeseigha*¹⁹⁰, the former chief executive of Bayelsa State was charged alongside seven companies belonging to him for *inter alia* money laundering contrary to the provisions of the Money Laundering (Prohibition) Act, 2004. He was alleged to have laundered money running into millions of pounds. Chief Alamieyeseigha was thereafter charged to court. Upon conviction, he was made to forfeit his choice properties in Cape Town, South Africa and Abuja. He also forfeited the sum of N105m, GBP160,000.00 and N1billion in shares. The others (Companies of Alamieyeseigha) were ordered to wound up, forfeit choice properties in London, Lagos and Abuja, and various sums of money running into millions of dollars.

Also in *Federal Republic of Nigeria v. Joshua Mc’Iver*¹⁹¹, the accused and his cohorts after several efforts to compel the AGIP oil company to enter into an understanding to provide social and recreational facilities for the youths of their community in Delta State, decided to attack and possibly blow up the Tabidada oil flow station. Unfortunately for them, the Nigerian Navy had prior information of their plan and laid ambush for them. On the arranged day, the accused and his cohorts numbering six, came through the sea, armed with guns and dressed in any camouflage. The Navy opened fire on them as they were attempting to mount the platform, killing four of them while two escape including the accused who was eventually arrested and handed over to the Commission for prosecution. He was subsequently prosecuted under section 15(2) of the Act, secured conviction and sentenced to 10 years imprisonment.

Finally, in the widespread case of *Federal Republic of Nigeria v. James Onanefe Ibori*\(^{192}\) where the accused was charged for money laundering allegedly committed while he was the Executive Governor of Delta State. The accused caused objected to the Kaduna Federal High Court jurisdiction, on ground that the alleged offence was committed in Delta State. This was dismissed at the Court of Appeal level. He later raised another objection without taking plea that the proof of evidence did not disclose any prima facie case against him. The accused was discharged. Ironically, the same accused (Ibori) pleaded guilty to the offence of money laundering in the United Kingdom and has served his sentence of 13 years.

The above cases clearly show the prosecutorial powers of the Commission in its support for criminal justice administration.

### III. Code of Conduct Bureau and Tribunal

Code of Conduct Bureau and Tribunal are institution of monitoring and checking the behaviours of public office holders is not a recent creation or an institution peculiar to Nigeria alone. It has in fact been in existence as far back as when the idea of government was introduced to mankind. It can be found in practically all the countries of the world though may be called by different names of choice, have different structures and different scope.\(^{193}\)

The establishment of Code of Conduct Bureau in Nigeria is traceable to the 1979 Constitution of Nigeria which ushered in the second Republic after about thirteen years of military rule. It is worthy of note at this point that the long period of military involvement in governance had not only led to the decay of our democratic norms and


institutions, but also the erosion of our well cherished values of probity, transparency and accountability in the conduct of government business. As a result, corruption, greed and materialism have become so deep rooted in our society. More often than not, public officers tend to see public office not as responsibility to develop our country for the common good of all, but as an opportunity to enrich oneself and the immediate members of one’s family. It is this general attitude to public office that hindered the emergence of transparent leadership in our polity and led to the weakening of our moral values in the country.\textsuperscript{194}

It is against this background that the founding fathers of the first post-military Constitution in Nigeria, the 1979 Constitution, provided a Code of Conduct Bureau for Public Officers in Part 1 of the Fifth Schedule to the new Constitution. In consonance to the said provision, the military administration of Murtala/Obasanjo inaugurated 14-member Board headed by Alhaji Isa Kaita, before handing over power to the Civilian regime in July 1979. The Bureau could not however make any impact because the National Assembly of the second Republic refused to pass the enabling law, the Code of Conduct (Procedure) Bill which would have given the Bureau power to function effectively.\textsuperscript{195}

It took the Bureau a decade thereafter to get the much needed legal mandate. That is, it was in 1989 that the military Administration of General Ibrahim Babangida promulgated a decree; The Code of Conduct Bureau and Tribunal Decree No.1 of 1989 which later metamorphosed into Cap.56 Laws of the Federation of Nigeria. This promulgation of the decree established the Code of Conduct Bureau and the Code of

\textsuperscript{194} Ibid
\textsuperscript{195} Ibid
Conduct Tribunal as agencies to enforce the Code of Conduct for public officers as contained in the fifth schedule of the 1979 Constitution. This provision has since then maintained a permanence of some sort in the fifth schedule of all the constitutions. Section 153(1)(a)\textsuperscript{196} provides for the establishment of the bureau, it is an extra-ministerial department which function under the presidency.

Section 1 and 20 of the Code of Conduct Bureau and Tribunal (Establishment) Act provides for the establishment of the Code of Conduct Bureau and Code of Conduct Tribunal respectively. Section 23 of the enabling Act confers power on the Tribunal to impose punishment on a public officer guilty of contravening any provisions of the Act. And section 24 provides \textit{inter alia} that:

\begin{enumerate}
\item[(2)] Prosecution for all offences referred to in this Act shall be instituted in the name of the Federal Republic of Nigeria by the Attorney-General of the Federation or such officers in the Federal Ministry of Justice as the Attorney-General of the Federation may authorize so to do.
\item[(3)] For the purpose of subsection (2) of this section, the Attorney-General of the Federation may
\begin{enumerate}
\item[(a)] after Constitution with the Attorney-General of any State in the Federation, authorize any officer of the Ministry of Justice of the State concerned to undertake any such prosecutions directly or assist therein; or
\item[(b)] If the Tribunal so requests, or if contingencies so dictate, authorize another legal practitioner in Nigeria to undertake any such prosecution or assist therein:
\end{enumerate}
\end{enumerate}

\textsuperscript{196} 1999 Constitution
Provided that the question whether an authority has been given in pursuance of this subsection shall not be inquired into by any person.

The above clearly shows that the Tribunal is conferred with prosecutorial powers to institute proceedings, though done in the name of authority of the Attorney General.\textsuperscript{197}

\textbf{IV. National Drug Law Enforcement Agency (NDLEA)}

The problem of drugs is as old as mankind, leaving no country out. The problem of drugs is so bad that many analysts are of the view that apart from the genocide of Second World War, no other phenomenon has had more debilitating consequences on mankind like the pandemic drug scourge. This is hinged on the fact that drugs adduce social vices, civil upheavals and other forms of criminalities which can be a principal cause of the much dreaded HIV/AIDS which has defied known cure.\textsuperscript{198}

In Nigeria, the problem of drugs began to assume very worrisome dimensions at the end of the Second World War following the return of some Nigerian soldiers from mainly, Burma, and India, and where they had fought. Some of them returned with some seeds of cannabis sativa also known as Indian hemp, which they in turn experimented and discovered that the illicit plant could do well in some parts of the country. This led to the trafficking and abuse of the cannabis plant. Drugs barons later discovered that Nigeria hold so much attraction for a thriving drug business. Experiment ‘A’ drugs such as cocaine, heroin and other psychotropic substances. It became so bad that Nigeria was made a drug trafficking/transit point.\textsuperscript{199}

\textsuperscript{198} National Drug Law Enforcement Agency available at \url{www.ndlea.gov.ng/testsite/?q=content/history} accessed 14/11/16 at 12.56am
\textsuperscript{199} Ibid.
In order to tackle this very disturbing problem, Nigeria remained proactive. Record has it that, Nigeria flagged off its narcotic control efforts in 1935, when the Dangerous Drugs Ordinance was enacted to control drug trafficking and abuse. Other subsequent government made concerted efforts to stay on top of the problem. In 1984, Nigeria recorded another landmark effort when the federal military government promulgated the Special Tribunal (Miscellaneous Offences) Decree No.20 of 1984 to frontally confront drug trafficking within the Nigerian shores. Section 3(2)(1)\textsuperscript{200} provides that any person who, without lawful authority deals in, sell, smoke or inhale the drug known as cocaine or other similar drugs shall be guilty under section 6(3) (k)\textsuperscript{201} of an offence and liable on conviction to suffer death sentence by firing squad. This penalty soon caught up with three drug traffickers who were executed in accordance with the provision of the Decree.\textsuperscript{202}

With the emergence of new thinking with regard to the way the twin scourges of drug abuse and trafficking could be controlled, the need to amend the 1984 Decree was necessitated. It was argued that when the stake or the risk is high as the case of capital punishment, it would succeed in raising prices of the illicit substances, thus making the trade more dangerously lucrative and attractive. The succeeding government in 1989 saw with this and decided to amend the Decree by expunging the death penalty clause and substituting it with imprisonment terms ranging from two years to life. This could not still solve the problem having been put to test.

\textsuperscript{200} Of the Special Tribunal (Miscellaneous Offences) Decree No.20 of 1984.
\textsuperscript{201} Ibid.
\textsuperscript{202} Asagwara K. C. Buhari Executed 3-teens in 1984, for Alleged Drug Trafficking..., available at www.republicreporters.com accessed 20/11/2017 at 10.18pm
Following the continuous rise in the drug menace, Decree No.48 of 1989, now an Act of parliament CAP No.30, Laws of the Federation of Nigeria, 2004, established a new body, independent of other existing law enforcement agencies in the country called the National Drug Law Enforcement Agency (NDLEA). The Agency’s establishment was obviously Nigeria’s deliberate effort at evolving an institutional framework for the suppression of the drug cankerworm. The establishment of the Agency is also geared towards the fulfilment of the country’s international obligation, as a signatory to the 1988 United Nations Convention which recommended separate bodies to lead the onslaught against the ravaging drug menace in many parts of the world.

It must not however escape mention that until the advent of the NDLEA, the Board of Customs and Excise (now Nigeria Customs Service) and the Nigeria Police were the major drug interdiction organs of government, while the federal welfare department was charged with the counselling, treatment and rehabilitation of drug dependent persons. NDLEA has since its establishment remained the leading agency against drug cultivation, trafficking and abuses.\footnote{\textit{Op. cit.}}

Section 1 of the enabling Act provides for the establishment of the Agency. Section 3 of the Act provides for the functions of the Agency. It provides \textit{inter alia} that the agency shall be responsible for the due enforcement of the provisions of the Act. Also for the coordination of all drug laws and enforcement functions, conferred on any person or authority, including ministers in the Government of the Federation, by any such law. Section 7 of the enabling Act provides for the establishment of special units, and subsection 1 paragraph (a) provides for the establishment of the Agency’s
prosecution unit. Section 8(2) of the Act further makes provisions for the duties of the prosecution unit. It provides that:

(2) the prosecution unit shall be charged with responsibility for:

(a) prosecuting offenders under this Act

(b) supporting the general assets investigating unit by providing the unit

with legal advice and assistance whenever it is required.

(c) conducting such proceedings as may be necessary towards the

recovery of any asset or property forfeited under this Act.

(d) performing such other legal duties as the Agency may refer to it from

time to time

The above provision is clearly indicative of the vesting of prosecutorial powers on the Agency. In an interview with Shola Adekunle, the Director General of the anti-narcotic agency, NDLEA accounts for 85 percent of cases at the Federal High Court.204

V. Nigeria Security and Civil Defence Corps (NSCDC)

The Nigeria Security and Civil Defence Corps (NSCDC) is a Para-military agency of the government of the Federal Republic of Nigeria that is commissioned to provide measures against threat and any form of attack against the nation and its citizenry. It was first introduced in May 1967 during the Nigeria civil war within the then Federal Capital Territory of Lagos for the purpose of sensitization and protection of the civil populace. It was then known as the Lagos Civil Defence Committee.205

204 On Tuesday, 9th of March, 2010 Tribune Newspaper. The Federal Republic of Nigeria v. Osahon, Supra n.180 also shows that the agency can exercise prosecutorial powers.

This was what later metamorphosed into the agency name of Nigeria Security and Civil Defence Corps in the year 1970. As at then, the corps had the objective of carrying out some educational enlightenment campaigns in and around the Federal Capital of Lagos to sensitive members of the civil populace on every attacks and how to save themselves from danger as most Nigerians living in and around Lagos territory then had little or no knowledge about war and its implications. Members of the committee deemed it imperative to educate through electronic and print media on how to guide themselves during air raids, bomb attacks, identify bombs and how to dive into trenches during bomb blast.\(^{206}\)

In 1984, the corps was transformed into a National Security outfit and in 1988, there was a major re-structuring of the corps that led to the establishment of commands throughout the federation, including Abuja, and the addition of special functions by the Federal Government. On 28\(^{th}\) June 2003, an Act to give statutory backing to the corps passed by the National Assembly was signed into law by Chief Olusegun Obasanjo, GCFS, former President and Commander in Chief of the Armed Forces, Federal Republic of Nigeria. It thus became a statutory government agency duly empowered by the National Security and civil Defence Corps Act, 2003.

The enabling Act provide for the establishment of the corps. There were however some amendments to the Act. The most recent legislation regarding the corps being the Nigeria Security and Civil Defence Corps (Amendment) Act, 2007,\(^{207}\) which is an Act to amend the Nigeria Security and Civil Defence Corps Act, 2003, in order to enhance

\(^{206}\) Ibid.
\(^{207}\) Act No. 6.
its capacity to provide protection, crisis resolution and security to public infrastructures, and other related matters.

Section 1 of the amendment Act provides for the duties of the corps. It provides *inter alia*:

(1) The corps shall –

   a. Assist in the maintenance of peace and order and in the protection and rescuing of the civil population during the period of emergency,

   b. Maintain twenty-four hour surveillance over infrastructures, sites and projects for the federal, state and local government.

   c. Have power to arrest with or without warrant, detain, investigate and institute legal proceedings by or in the name of the Attorney-General of the Federation in accordance with the provisions of the Constitution of the Federal Republic of Nigeria against any person who is reasonably suspected to have committed an offence under this Act or is involved in any

   (i) criminal activity;

   (ii) chemical poison or oil spillage, nuclear waste, poisoning;

   (iii) industry espionage or fraud;

   (iv) activity aimed at frustrating any government program or policy;

   (v) riot, civil disorder, revolt, strike, or religious unrest;

   (vi) power transmission, oil pipelines, NIPOST cables, equipment, water board pipes or equipment vandalization.
Of interest here is the conferment of prosecutorial powers on the corps. This is clearly provided in section 1(f) above, to be exercised though either by or with the name of the Attorney-General.\textsuperscript{208} To confirm this prosecutorial power, the corps on July 26\textsuperscript{th}, 2010 apprehended 69 fake Corpers including a nursing mother, as the corps operations swooped on their illegal orientation camp in a remote location in Nassarawa State. They were arraigned before a Keffi Upper Area Court, which in August 2010, sentenced each of them to three years imprisonment with an option of N10,000 fine. Furthermore, the Public relations officer, Mr. Emmanuel Okeh, speaking on behalf of the Commandant General told leadership Newspaper on 14\textsuperscript{th} January 2013 that over 560 suspects had been arrested over fraudulent internet operations, with 135 cases prosecuted successfully and others ongoing.

VI. The Federal Inland Revenue Service (FIRS)

The Federal Inland Revenue Service started as part of a colonial tax organization under the name; The Inland Revenue Department of Anglophone West Africa. The department’s scope covered Nigeria, Ghana, Sierra Leone and the Gambia. In 1943, the Nigerian Inland Revenue was carved out of the Inland Revenue Department of Anglophone West Africa and established as an autonomous body under the supervision of the Commissioner of Income Tax. In 1958, the Income Tax Administration Ordinance No.39 1958, one of the recommendations of the Raisman Commission, was passed. The ordinance \textit{inter alia}, provided for the establishment of the Federal Board of Inland Revenue (FBIR). This recommendation took full effect under the Companies Income Tax Act (CITA) 1961. In 1977, the reorganization of the FBIR and the

\textsuperscript{208} See Federal Republic of Nigeria v. Osahon, supra n.180.
executive arm, the Federal Inland Department were formally approved by the Federal government.\textsuperscript{209}

In 1991, the Federal Government set up a study group with the task of reviewing the country’s tax administration. The group’s report led to the promulgation of the Finance (Miscellaneous Taxation Provisions) (Amendment) Decree No.3 of 1993. It was a landmark statute in the history of tax administration. Of interest is the provision of the establishment of the Federal Inland Revenue Service (FIRS) as the operational arm of FBIR. In spite of this, tax reform remained a function of the civil service. This led to the setting up of another study group by government in 2002 to examine the Nigerian tax administration. The most remarkable outcome was the passage of the Federal Inland Revenue Service (Establishment) Act, 2007.\textsuperscript{210}

The Federal Inland Revenue Service (Establishment) Act 2007 (FIRSEA) established the Federal Inland Service as a body corporate, with perpetual succession, a common seal and the power to sue and be sued. This is provided in section 1 of the Establishment Act thus:

1. There is established a body known as the Federal Inland Revenue Service (in this Act referred to as “the Service”).
2. The Service
   a. shall be a body corporate with perpetual succession and a common seal;
   b. may sue and be sued in its corporate name; and
   c. may acquire, hold or dispose of any property, movable or immovable, for the purpose of carrying out any of its functions under this Act.

\textsuperscript{209} The Federal Inland Revenue Service available at https://www.trade.gov.ng/firs accessed 14/11/16 at 2.15pm
\textsuperscript{210} Ibid
(3) The Service shall have such powers and duties as are conferred on it by this Act or by any other enactment or law on such matters on which the National Assembly has power to make law.

The FIRS as one of the Federal Ministries, Department and Agencies (MDAs) is charged primarily with the responsibility of accessing, collecting and accounting for the various taxes to the federal government.\footnote{Section 8 of the Federal Inland Revenue Service (Establishment) Act 2007.}

Of most interest in the Establishment Act is the provision of section 47 which spells out the prosecutorial powers conferred on the Service. It provides that “The Service shall have powers to employ its own legal officers who shall have powers to prosecute any of the offences under this Act, subject to the powers of the Attorney-General of the Federation.”

The case of \textit{Federal Republic of Nigeria v. Osahon (supra)} is also an authority here, as it made it clear that prosecutorial powers are not conferred on the Attorney-General alone.

\section*{VII. The Independent Corrupt Practices and Other Related Offences Commission (ICPC)}

On the perception of corruption in Nigeria, the Transparency International in their corruption index 2002, pronounced Nigeria as one of the most corrupt nations in the world. This was in spite of the fact that democratic institutions have been introduced and the Anti-Corruption Commission set up. The resolve to fight against corruption led to the promulgation of the Corrupt Practices and Other Related Offences Act 2000 following the approval by Olusegun Obasanjo at the inception of the present
democratic administration in 1999. The Act was signed into law on the 13th of June 2000. The Act establishes the Independent Corrupt Practices and Other Related Offences Commission, which was inaugurated on the 29th of September 2000. It was saddled with a huge responsibility of fighting corruption and other related offences. The Act in section 3(14) provides for the independence of the commission and gives the chairman authority to issue orders for the control and general administration of the commission. Section 6 of the Act provides for the functions of the commission. It confers three main responsibilities on the commission which are:

9. To receive and investigate reports of corruption and in appropriate cases prosecute the offender(s).

10. To examine, review and enforce the correction of corruption prone system and procedures of public bodies, with a view to eliminating corruption in public life.

11. Educating and enlightening the public on and against corruption and related offences with a view to establishing and fostering public support for the fight against corruption.

The Independent Corrupt Practices Commission is empowered to prosecute offences under the Act. The prosecutorial power is drawn from the powers of the Attorney-General. Section 61 of the Establishment Act provides that every prosecution for an offence under this Act or any other law prohibiting bribery, corruption and other related offence shall be deemed to be done with the consent of the Attorney-General. In furtherance to this, section 8 provides thus:

---

212 The Independent Corrupt Practices and Other Related Offences Commission available at www.icpc.gov.ng/ accessed 14/11/16 at 2.09am

213 See Federal Republic of Nigeria v. Osahon, supra n. 180
(1) Subject to the provision of this Act, an officer of the Commission when investigating or prosecuting a case of corruption shall have all the powers and immunities of the police, officer under the police Act and any other laws conferring power on the police, or empowering and protecting law enforcement agents.

The Commission has since its establishment prosecuted two hundred and eighty six (286) cases. This fact that shows the commission’s prosecutorial power in action was disclosed by the chairman of the commission, Ekpo Nta, represented by the Director of Education, Mrs. Rashedat Okoduma during a one day seminar at Oshogbo organized for religious leaders.²¹⁴

VIII. National Agency for Food and Drug Administration and Control

(NAFDAC)

The National Agency for Food and Drug Administration and Control (NAFDAC) is a Nigerian government agency under the Federal Ministry of Health that is responsible for regulating and controlling the manufacture, importation, exportation, advertisement, distribution, sale, and use of food, drugs, cosmetics, medical devices, chemicals and pre-packaged water.

The Agency was established in 1993 under the Health and Safety law due to the ravaging problem of adulterated and counterfeit drugs in Nigeria. The problem was so bad that in 1989, an incident occurred, which led to the death of over 150 children due to paracetamol syrup later discovered to contain diethylene glycol. It further got to a

stage where neighbouring countries like Sierra Leone and Ghana official banned the sale of drugs, foods, and beverages products made in Nigeria.\footnote{215}{Wikipedia, \textit{All About NAFDAC}, available at www.en.wikipedia.org/.../National-Agency-for-food-and-drug accessed 14/11/16 at 12.56am}

The birth of NAFDAC was inspired by a 1988 World Health Assembly resolution requesting countries’ help in combating the global health threat posed by counterfeit pharmaceuticals. In December 1992, NAFDAC’s first governing council was formed. In January 1993, supporting legislation was approved as legislative Decree No.15 of 1993. A year later, NAFDAC was officially established as a parastatal of the Federal Ministry of Health. NAFDAC then replaced an earlier Federal Ministry of Health body, the Directorate of Food and Drug Administration and control, which had been deemed ineffective, partially because of lack of law concerning fake drugs. NAFDAC then became a full fledge statutory Agency empowered by the National Agency for Food and Drug Administration Act. The enabling Act imposes a huge task on the agency. To enable it carryout these enormous duties, the agency is further divided into various units for ease of duties of interest here being the legal unit.

The legal unit of the Agency ensures that the rights and interest of the Agency are well protected under the various legal departments that bind it. It is also in charge of drafting regulations, agreements and rendering legal opinions of NAFDAC; and finally, the prosecution of offenders at the Tribunals and Courts. NAFDAC is therefore one of the Agencies conferred with the power of prosecution by its enabling Act. This power has been shown in a good number of cases. As at September 2012, there were about one
hundred and eight (108) cases of drug counterfeiting pending in various courts in the federation, fifty two (52) have been duly prosecuted and convicted.\textsuperscript{216}

B. The Nigerian Prison Service

The Nigerian Prison Service is an integral part of the complex network for the administration of justice in Nigeria. The Prison executes penal sanctions that have been imposed by the courts on persons found guilty of offences. The organization and operational efficiency of the Prisons in Nigeria is therefore critical to the effective administration of justice.

The history of the Prisons Service in Nigeria dates back to 1861 when colonialism began with the annexation of Lagos as a colony. The objective of the colonial government at this time was to protect ‘British colonial interest’\textsuperscript{217} to this end, by 1861, the acting governor of the Lagos colony (who was then a prominent British Merchant in Lagos) formed a Police Force of about 25 constables. This was followed in 1863 by the establishment in Lagos of four courts: a police court to resolve petty disputes; a criminal court to try the more serious cases; a slave court to try cases arising from efforts to abolish the trade in slaves; and a commercial court to resolve disputes among merchants and traders. A prison service was required to complete the colonial criminal justice system. Accordingly, in 1872, the Broad Street Prison was established. As British colonial interest expanded hinterland, more prison structures were put in place to secure the administrative structure of colonialism.\textsuperscript{218}

\textsuperscript{216} Onyeuchi, Ojunnaka, \textit{War Against Drug Counterfeiting: The Progress So Far}, (2010).

\textsuperscript{217} This meant protecting legitimate trade, guaranteeing the profit of British merchants as well as guaranteeing the activities of the missionaries. See Orakwe, W. \textit{Origin of the Prisons in Nigeria}, available at <www.prisons.gov.ng/about/history.php> accessed 2/1/ 17 at 9.14pm

\textsuperscript{218} \textit{Ibid}
The abolition of Native Authority Prisons in 1968 and the subsequent unification of the Prisons Service in Nigeria marked the beginning of the modern Nigeria Prisons Service. Prior to this, the Prisons in the North were under the general supervision of the Northern Inspector General of Police who was the ex-officio Director of Prisons; the same situation existed in the South. The Gobir report put an end to this situation. As a consequence of that report, Native Authority Prisons were abolished with effect from the 1st of April, 1968. Due to the civil war that raged at the time, it was not until 1971 that the government white paper on the reorganization of the prisons was released. It was followed in 1972 by Decree No. 9 of 1972 which spelt out the goals and orientation of the Nigerian Prisons Service. The Prisons was charged with taking custody of those legally detained, identifying causes of their behaviour and retraining them to become useful citizens in the society.

From the foregoing, it is clear that the primary objectives of the prison service in Nigeria is firstly to secure convicted persons; secondly, identify the causes of their deviant behaviour; and thirdly, rehabilitate them through training to become useful members of society. These functions of the prison service are very critical to the administration of justice in Nigeria as it ensures that the legal system keeps safe from the negative impact of deviant behaviour. More however needs to be done to achieve greater heights.

C. The Legal Profession in Nigeria

The legal profession has been a very significant part of the administrative process of Nigeria right from colonial times. The history of Nigeria will be incomplete without the history of the legal profession. ‘Nigeria’s legal profession dates back to the advent of
colonialism in 1860. The pre-colonial communities in what later became Nigeria were based on simple social, political and economic structures. There was no need for a legal profession and by extension legal education. Colonial rule brought with it enormous socio-economic and political changes to the Nigerian communities. A new society emerged in the urban centre in which contracts, rather than status, governed interpersonal relationship. Disputes and their resolution were becoming complex and less amenable to traditional methods of resolution. The colonial administration had to establish native and English-type courts for adjudication of disputes.

The socio-economic and political development brought about by colonialism created the need for lawyers. They were needed to occupy judicial positions in the English-type courts, to advise the colonial administration, to draft agreements and to render advice generally on commercial transactions. They were also needed to plead the case of litigants in the English-type courts. However, there were very few legally qualified persons to render those services.

There was no institution for the formal training of lawyers in Nigeria throughout the colonial period. To fill the vacuum, the Chief Justice was empowered to appoint fit and proper persons with basic education and some knowledge of English law and practice as attorneys. Under this provision, court clerks who had acquired knowledge of the

---


220 *Ibid*.

221 *Ibid*; for instance, “of the seven men who served as Chief Magistrates for Lagos between 1862 and 1905, only three had legal qualifications. Of the remaining four, two were ‘writing clerks’, one was a merchant and the fourth was a Commander of the West Indian garrison stationed in Lagos.” See Adewoye O., *The Judicial System in Southern Nigeria, 1854-1954* (Longman, 1977) p.52.

222 Section 74 Supreme Court Ordinance No. 4 of 1876; Order xvi rule 1 Supreme Court (Civil Procedure) Rules 1948.
rudiments of English law we appointed attorneys and granted licence to practice for
six months. Their licences were renewable at the expiration of six months, provided
they were of good behaviour. These appointed attorneys were known as ‘local-made
Solicitors’, self-taught Solicitors’ or ‘Colonial Solicitors’.  

These local Attorneys were later joined by legally qualified persons who went overseas
(mostly Great Britain) to acquire legal education. The first Nigerian to qualify as a
lawyer was Christopher Sapara Williams, who enrolled as a Barrister in English in
1879 and returned to enrol in Nigeria in 1880.224 By 1913, about 25 overseas trained
lawyers had enrolled to practice in Nigeria. In that year, the Chief Justice stopped
granting licences to unqualified persons to practice as Attorneys.225 From 1913 till
1963, legal practitioners in Nigeria received their training overseas and were qualified
as Barristers or Solicitors and thereafter enrolled at the Supreme Court. However,
lawyers trained in Britain before 1945 had no law degree because no British University
was offering a law degree at the time (the University College London was the first to
offer a law degree and this was in 1945).226

The Legal Profession was (and still is) a split profession in England. Lawyers qualify
by training either as barristers or as solicitors.227 However, most Nigerian lawyers
trained as barristers only but came to Nigeria to enrol as Barristers and Solicitors

---

224 Olawale Elias, Makers of Nigerian Law, (Sweet and Maxwell, 1965) 30 referred to in Onolaja M. O.,
225 Ibid
226 Ibid
227 To qualify as a Barrister, a person needed only to join one of the four Inns of Court, namely: Middle
Temple, Inner Temple, Lincoln’s Inn and Grays Inn, read for the Bar examinations, keep twelve
dinning terms which was compulsory and then be called to the Bar, without necessarily obtaining a
law degree. On the other hand, a qualification as a Solicitor was taking a Law Society’s Solicitors’
Examination after articleship with experienced Solicitors, Ibid.
because the legal profession in Nigeria has always been fused from the beginning.\textsuperscript{228}

When one considers the shortage of professionally trained lawyers that characterized the emergence of the legal profession in colonial Nigeria, one easily comes to terms with why it was necessary to fuse the profession from the outset.

The apparent deficiencies in the foreign training of Nigerian lawyers, coupled with the peculiarities of the Nigerian legal system (which were not taken into consideration in the training of lawyers abroad)\textsuperscript{229} necessitated the setting up of the Unsworth Committee by the Government of the Federation in 1959 to look into these anomalies and make recommendations for the future of the legal profession in Nigeria with particular reference to legal education, admission to practice and the right of audience before the Courts.\textsuperscript{230}

In the Committee’s report\textsuperscript{231} published in October 1959, the following recommendations were made:

1. Nigeria should establish its own system of legal education;

2. A faculty of law should be established, first at the University College, Ibadan and subsequently at any other University to be established in the future;

3. A law school to be known as the Nigerian Law School was to be established in Lagos to provide vocational training for legal practitioners to work as Barristers and Solicitors

\textsuperscript{228} \textit{Ibid}, see also the Supreme Court Ordinance, 1876

\textsuperscript{229} For instance, they were trained based on English legislations and case law without regard to the local circumstances in Nigeria; they had no knowledge of some important aspects of Nigerian law like Customary and Islamic laws; and most of them did not take the post-call practical course or training in the courts nor were they attached to Chambers for the mandatory Chambers attachment. See Onolaja M. O., \textit{Op. cit.}


\textsuperscript{231} \textit{Ibid}
4. The qualification for admission to legal practice in Nigeria should be a degree in law of any University whose course for the degree is recognized by the Council of Legal Education, and the vocational course prescribed by the Council;

5. Any person graduating in law from a University, which has not accepted the syllabus recommended by the Council of Legal Education should be required to take such further examination as the Council may prescribed; and

6. A Council of Legal Education should be established.

These recommendations formed the basis for the enactment of the Legal Education Act and the Legal Practitioners Act, both of 1962. The Council of Legal Education was set up and the Nigerian Law School established in 1962 with the first set of students admitted under a three-month program. By these measures, the structure of legal education and the legal profession in contemporary Nigeria was laid down. That structure consists of a two-tiered system of legal education: an academic stage at the University and a professional or vocational stage at the Nigerian Law School.

It is clear that the administration of justice in Nigeria cannot be possible without the involvement of the legal profession as it produces the lawyers and judges (drawn from the ranks of lawyers) who run the justice system and contribute immensely to governance at all levels in Nigeria.

D. Traditional Institutions

Reference to traditional institutions in Nigeria is a reference to those structures of social, community and economic existence rooted in custom and dating back to pre-colonial Nigerian communities. The organization of structures of local administration

---

232 Both enactments have been amended several times, culminating in the current Legal Education Act, Cap L10 and Legal Practitioners Act, Cap L11, Laws of the Federation of Nigeria, 2004; see Onolaja M. O., Op. cit.
did not begin with the onset of colonialism or the amalgamation of the Northern and Southern Protectorate in 1914 (to form modern Nigeria). Long before colonialism, ethnic nationalities carried on social and economic interaction with an efficient system for the resolution of disputes within the community.\textsuperscript{233}

Many of these structures have survived till this day and remain a very integral aspect of the administration of justice at the grass root in Nigeria. In two empirical research works carried out by the Nigerian Institute of Advanced Legal Studies (NIALS) in 2013\textsuperscript{234} it was the finding that traditional institutions remain a very important component of the institutional framework for the administration of justice in Nigeria. Their utility in ensuring social harmony in our local communities cannot be overemphasized.

\textsuperscript{233} See the discussion above on the Justice system in pre-colonial Nigeria.
\textsuperscript{234} The Restatement of Customary Law of Nigeria, \textit{op. Cit.} see also Epiphany Azinge and Adejoke Adediran (eds), \textit{Traditional Administration of Justice in Nigeria} (Nigerian Institute of Advanced Legal Studies, 2013)
CHAPTER FIVE

IMPACT AND CRITIQUE OF FORENSIC EVIDENCE IN NIGERIAN CRIMINAL JUSTICE SYSTEM AND OTHER JURISDICTIONS

5.1. Impact of Forensic Evidence

Criminal justice is primarily a Federal, State and Local function. Each year in every country, an enormous amount of money is spent on criminal justice at the Federal, State and Local levels. As a result, every country on the planet had to wrestle with how best to deal with the darker side of humanity. Whether through mass incarceration, rehabilitation or exceedingly harsh punishments, many countries have tried to develop strategies to help curb such acts from occurring. The most recent method is forensic science; the use of science to answer legal questions. Forensic science is critical to the efficiency and effectiveness of the criminal justice system.

The main contribution that forensic science makes to the criminal justice system is the generation of intelligence to assist investigations: the provision of actual evidence to convict the guilty or exculpate the innocent represents a very significant part of its role. This amounts to the eradication of crime generally or bringing crime to its barest minimum. Data from numerous sources provide the necessary information to demonstrate a reduction in crime through the use of forensics. DNA profiling, sometimes called DNA fingerprinting for example, is perhaps the most well known forensic technique and an increasing number of investigations rely on DNA evidence.1

According to the white paper “The Application of DNA Technology in England and

---

1Ian Gibson, Forensic Science on Trial, available at www.publications.parliament.uk/.../96 accessed on 01/09/16 at 12.05am
Wales” by Christopher H. Asplen, J.D., the Forensic Science Services serving the England and Wales:

a. Solves 0.8 other crimes for each crime solved with DNA

b. Prevents 7.8 other crimes for each custodial sentence resulting from a DNA based Conviction

c. Increases the suspect identification rate for domestic burglary from 14 to 44 percent when DNA is available at the crime scene

d. Maintains a 40 percent chance of obtaining a match between a crime scene profile and a “criminal justice” (arrestee or suspect) profile loaded into the database

According to the 2015 Annual Report of the Government’s Chief Scientific Adviser: Forensic science is not only about criminal justice. It also has a major part to play in preventing crime from happening in the first place. In the same way that milling the edge of coins and the machine engraving of banknotes has inhibited forgers since the 17th century, so modern technology can be used to deter, foil and inhibit the contemporary forger or other criminals. Forensic analysis has helped to reduce burglary, violent crimes and fraud in the past by enabling us to understand how particular types of crime were committed, and by making the crime less attractive to the criminal. For example, the great reductions in car and phone theft have been largely delivered by designing systems that made detection more likely and the object less valuable when stolen.

It is known that in 2002–03 there were more than 21,000 detections in crimes where a DNA profile had been obtained, a 132% increase since 2000. Her Majesty’s

2 Ibid
Inspectorate of Constabulary (HMIC) has described DNA analysis as “by far the most significant breakthrough in crime detection since the inception of fingerprint identification”. In the last ten years, Federal, State, and Local Government Law enforcement in concert with the forensic community has effectively convicted tens of thousands of criminals. DNA has been a critical tool to both increasing the number of convictions as well as the certainty.\(^4\)

An example in the United States comes from Denver which participated in a National Institute of Justice funded pilot study with four other cities. The study was to determine the effectiveness of DNA as a crime reduction tool by focusing on high volume crimes such as burglary, auto-theft, and theft from motor vehicle cases. According to a joint press release issued on June 10, 2007 by the Denver District Attorney and the Denver Police Department, Denver had the most hits on the Combined DNA Index System (DNA database), cases filed with the District Attorney’s office, and the number of cases prosecuted. Some of the specific results noted included:

a. Identified over 40 prolific burglars since the project started November 1, 2005.

b. A prolific burglar commits an average of 243 cases per year.

c. Of burglary cases where DNA is recovered, the prosecution rate is five times higher than cases without DNA.

d. The average sentence for burglars linked to DNA is over 12 years in prison (compared to six months without DNA evidence).

e. In a recent case, after police arrested a man (who later admitted to over 1000 burglaries), the burglary rate in the West Washington Park neighbourhood dropped about 40%.\textsuperscript{5}

Also in USA, reports for violent crime were down 6.2 percent and property-crime reports down 2.8 percent across the United States in the first six months of 2010, compared with the same period a year earlier, according to preliminary Justice Department data released. The biggest drops in violent-crime reports were in the South (7.8 percent), the Midwest (7.2 percent), and the West (7.2 percent). The Northeast, on the other hand, recorded a 0.2 percent decrease in violent-crime reports. Nationwide, the six-month report shows reports of murder down 7.1 percent, rape reports down 6.2 percent, robbery reports down 10.7 percent, and aggravated-assault reports down 3.9 percent. The data indicate a similar downward trend in reports of property crimes; with theft down 2.3 percent, motor-vehicle theft down 9.7 percent, and arson down 14.6 percent.\textsuperscript{6} Statistics in Florida State showed that burglary DNA matches linked to more than 28\% of the State's homicide cases and 28\% of its sexual assault cases. All these were made possible with the use of forensics.

According to the FBI’s 2001 uniform crime report on decline in violent crime rates the rate of violent crimes reported to the police increased slightly for the first time since 1992. Among the factors that police chiefs and academics cite for the preceding 9-year decline is mainly smarter policing through the use of forensic evidence in fighting

\textsuperscript{5} Howard Safir, \textit{DNA Technology as an Effective Tool in Reducing Crime}, available at www.forensicmag.com/.../dna accessed on 021/09/16 at 12.37am

\textsuperscript{6} Warren Richey, \textit{FBI report: Crime Statistics Improve for First Half of 2010}, available at www.csmonitor.com>USA>Justice accessed on 03/09/16 at 06. 32pm
crime.\textsuperscript{7} There are more than three-quarters of a million law enforcement officers in the United States, working on more than 24 million violent and felony-property crimes that occur each year. While many crimes are solved soon after the crime is committed, a significant number of crimes go unsolved. For law enforcement officers these “cold cases” remain open and are source of concern to the officers. In recent years, the use of scientific techniques and technology has made it possible for investigators to solve many cold cases. The following two cases illustrate how advancements in DNA databases and the availability of high-tech equipment have aided closure on cold cases.

In 1988 three persons were killed in two separate incidents in northern Virginia. Two of the victims were female and were raped by their murderer. Police were able to collect crime-scene samples that produced a DNA profile of the rapist in each incident but were unable to match the DNA to any other DNA sample then filed in a DNA database. In 2000 these DNA samples were entered into the new Virginia DNA database, which quickly showed that the DNA samples from both crime scenes came from the same man. However, the identity of the man was not established. In 2005 California collected DNA sample from all 70,000 inmates in the California Penal System and entered DNA profiles from these samples in the Federal DNA database, CODIS (see the discussion of CODIS in this chapter). In September 2005 the CODIS database indicated that the DNA sample taken from Alfredo Prieto, a convicted killer on California’s death row, matched the DNA taken from the Virginia rapes and murders. Virginia officials began efforts to obtain Prieto’s presence in Virginia for trial on those rapes and murders.\textsuperscript{8}

The crime statistics are part of the Uniform Crime Report assembled each year by the Federal Bureau of Investigation. Since the 1930s, the FBI has collected data from law-enforcement agencies nationwide concerning the number of crimes reported to police or other agencies. These figures are compiled and used to calculate crime rates.\(^9\) It is not however a thing of surprise that countries that are lagging behind in the use of forensic evidence in curbing crime, suffer increasing crime rates. In a 2017 research, tagged - “Countries with the Highest Crime Rate – 2016 List” got most of these countries trapped in the web as they were listed as countries with the highest crime rates. These countries include Kenya, Trinidad and Tobago, Venezuela, Nigeria, Honduras, South Sudan and a host of other countries\(^10\) which clearly does not fall within countries practicing the use of forensic science in curbing crime. At best, their practice of forensic science in curbing crime is still at embryonic level. Rape and pedophilia in Kenya for example is estimated to have increased by 5,200% compared to 2007.\(^11\) It is with pronounced pleasure that the government of Uganda embraced the notion to construct a National Institute of Forensic Sciences in Uganda, the first of its kind in the Greater Lakes Region. A proposal to construct the institute with support from the Nebraska Institute of Forensic Sciences in the United States of America comes at a time when the country is experiencing countless forms of crime and political and civil unrest. Currently in Uganda women and men face violence at alarming rates: 59% of women experience violence, 16% pregnant women experience violence while 28% have experienced sexual violence in their lifetime at the hands of intimate partners.

---

\(^9\) Ibid


\(^11\) Naseam R. B., *Rape Statistics in Kenya*, available at [www.covaw.or./.../2013/12/Rape](http://www.covaw.or./.../2013/12/Rape) accessed on 03/09/16 at 06.56am
according to the 2011 Uganda Demographic and health survey. The police Annual Crime Report 2012 indicate a significant increase in the number of sexual violence cases reported; 8,076 cases of defilement, 530 cases of rape and 108 cases of human trafficking were reported at police stations countrywide.

Unfortunately, even with the existence of constitutional laws such as the Penal Code Act, Defilement Act, and many gender based laws, crime occurrence in Uganda continues to manifest in various ways by both first time criminals as well as serial convicts. The courts continue to have big backlog while handling cases which to a great extent is attributed to lack of evidence while dealing with highly sensitive cases of crime. According to the Director of Public Prosecution, a total of 23,497 defilement cases and 1,808 of rape cases were registered in 2012. Of these, 8,901 defilement cases and 711 rape cases were new cases. Defilement was the third most prevalent offence committed, after theft (73,538) and assault (31,933). Recently, while addressing the congregation that had gathered to grieve and remember the lives of victims of the gender based violence, a representative of DPP highlighted that the 63 acquittal cases that were recorded were because some cases could not be proved beyond reasonable doubt. The introduction of forensics is a welcome development to help trash the lingering problems, but the bad news is that, the Commissioner Directorate of Government Analytical Laboratory, disclosed in 2013 that the machines for forensic investigations had broken down or expired due to lack of maintenance. This is indicative of the fact that the country’s forensic investigations could come to a halt anytime soon if nothing is done to repair and maintain the machines.\footnote{Betty Iyamuremye, \textit{Institute Of Forensic Sciences Will Ease Crime Investigation}, available at www.monitor.co.ug/OpEd/Commentary/institute-of-forensic-science Accessed 02/03/2016 at 08.34am}
This highly shocking and disturbing increase has been attributed to the lack of the use of forensic science, while those countries experiencing drop in crime rate has been attributed to the use of forensic science (improved technology). The power of forensic science to facilitate the administration of justice to curb crime is entirely dependent on the ability of the police, and other law enforcement agencies to use it effectively in countries where such is permitted by the legal system.

5.2. Critique of Forensic Evidence

This simply stands for the good, the bad and the ugly in the use of forensic evidence as a means of fighting criminality.

5.2.1. Background to Critique

Forensic science is the use of science to answer legal questions this includes well-known techniques such as fingerprint analysis, DNA analysis, odontology, pathology and ballistics (the analysis of firearms). In recent years, the use of forensic science in criminal investigations and trials has steadily gained in popularity as an effective and powerful tool for seeking truth and justice. The use of forensic science can effectively help convict those guilty of crimes and can equally help exonerate the innocent. For a very long time now, the forensic science disciplines have produced valuable evidence that has contributed to the successful prosecution and conviction of criminals. It has also done very well in the area of exoneration of innocent people to avoid wrongful convictions.

There have also been tremendous advances in some forensic science disciplines, especially in the area of the use of DNA technology. These have demonstrated that some areas of forensic science have great additional potential to help law enforcement

---

identify criminals. Crimes that have been pushed aside as cold cases or gone unsolved are now being solved because forensic science is helping to identify the perpetrators. In the same vein, those advances have also revealed that, in some cases, substantive information and testimony based on faulty forensic science analyses may have somewhere along the line contributed to wrongful convictions of innocent people. This fact has demonstrated the potential danger of giving undue weight to evidence and testimony derived from imperfect testing and analysis. Moreover, imprecise or exaggerated expert testimony has sometimes contributed to the admission of erroneous or misleading evidence. Further advances in the forensic science disciplines will serve three important purposes. First, further improvements will assist law enforcement officials in the course of their investigations to identify perpetrators with higher reliability. Second, further improvements in forensic science practices should reduce the occurrence of wrongful convictions, which reduces the risk that true offenders continue to commit crimes while innocent persons inappropriately serve time. Third, any improvements in the forensic science disciplines will undoubtedly enhance the Nation’s ability to address the needs of National security. Numerous professionals in the forensic science community and the medical examiner system have worked for years to achieve excellence in their fields, aiming to follow high ethical norms, develop sound professional standards, ensure accurate results in their practices, and improve the processes by which accuracy is determined. Although the work of these dedicated professionals has resulted in significant progress in the forensic science disciplines in recent decades, major challenges still face the forensic science community.

To ensure a more fair and accurate criminal justice system, it is critical to improve the reliability, objectivity, and independence of forensic analysis; the expert examination or testing of physical evidence to determine its connection to a crime, and forensic expert testimony in criminal investigations and trials. The common perception of forensic analysis as a precise, objective science often obscures the fact that many areas of forensic analysis involve discretionary interpretations by individual analysts. Because the need for interpretation introduces a significant subjective element to some kinds of forensic analysis, normal tendencies of human psychology can influence the interpretation of data in a way that threatens the fairness and accuracy of the analysis and testimony used in criminal trials. As such, forensic science laboratories that lack internal procedures and standards to prevent bias create the greatest danger to achieving justice. In Brandon Mayfield, experienced FBI fingerprint analysts found that Mayfield’s fingerprints matched fingerprints tied to the 2004 Madrid train bombings. The FBI crime laboratory declared with one-hundred percent certainty that Mayfield’s fingerprints matched fingerprints tied to the crime, but they were mistaken. After spending time in jail, Mayfield was found to be innocent and was released. The FBI was mistaken in its analysis. The mistakes made by experienced analysts’ show that tools such as fingerprint analysis, assumed by many to be objective barometers of truth, involve subjective interpretations.¹⁵

Although scientists have developed a good understanding of the sources of inadvertent bias and have incorporated effective safeguards in other areas of science, most forensic science laboratories, including the FBI laboratory, do not provide adequate safeguards to prevent bias and error in testing and analysis. In recent decades, the use of forensic

¹⁵ Ibid
science in criminal investigations and trials has skyrocketed. No other forensic science technique has received as much attention as DNA analysis. To date, DNA has exonerated more than two hundred people in the United States. These exonerations are a reminder that our system is flawed, and they have shed light on serious problems with the criminal justice system, including forensic science. While many assume that forensic science is a near-perfect tool for discovering the truth in criminal cases, a recent study found that false or misleading forensic expert testimony is a leading contributing factor in wrongful convictions.\(^1\)

In fact, forensic evidence was presented by the State in 113 of the first two-hundred cases in which the defendant was later exonerated by DNA testing.\(^2\) There are many cases where individual analysts' erroneous or misleading analysis and testimony have led to wrongful convictions. Some cases exemplify the most egregious errors and show intentional misconduct. These cases demonstrate the strong need for oversight of all forensic laboratories. One of the most notorious examples is Fred Zain, a former crime lab analyst in West Virginia and Texas, who fabricated test results in over one hundred cases during the late 1970s and throughout the 1980s.\(^3\) Many of the people convicted because of his work went on to serve lengthy prison sentences, including five who were later exonerated through DNA testing. In Texas, investigators discovered forensic pathologist Ralph Erdmann faking autopsies, but not before his testimony was used in twenty or more death penalty convictions.\(^4\)

---

The misleading testimony of former Illinois analyst Pamela Fish has been implicated in the wrongful convictions of at least seven men.\(^{20}\) While these examples of deliberately false testimony are troubling, the bigger concern is inadvertent error. Fortunately, the same reforms that prevent misconduct also reduce the risk of unintentional mistakes. If evidence and laboratory tests are mishandled or improperly analyzed; if the scientific evidence carries a false sense of significance; or if there is bias, incompetence, or a lack of adequate internal controls for the evidence introduced by the forensic scientists and their laboratories, the jury or court can be misled, and this could lead to wrongful conviction or exoneration. If juries lose confidence in the reliability of forensic testimony, valid evidence might be discounted, and some innocent persons might be convicted or guilty individuals acquitted.

The FBI has performed the technique of matching the chemical makeup of bullets found at crime scenes to other bullets, often called comparative bullet-lead analysis on bullets from thousands of criminal cases. Scientists based the technique on the assumption that no two batches of bullets would have precisely the same chemical makeup, and that each batch of bullets would have a consistent chemical makeup within that batch. Unfortunately, neither one of these assumptions is true.\(^{21}\) Testimony from forensic analysts about comparative bullet-lead analysis has played a role in hundreds of trials nationwide, leading to the incarceration of a large number of individuals.\(^{22}\) A landmark 2004 study performed by the National Academy of Sciences severely undermined the assumptions forensics experts had made for years about the accuracy of comparative bullet-lead analysis.

\(^{20}\) *Ibid* at 402.


The study concluded that the test was far less precise than analysts had often stated during their testimony, and that some testimony about the method was “misleading under federal rules of evidence.” Despite concerns raised about the technique as early as 1991, defence lawyers and judges rarely, if ever, challenged comparative bullet-lead analysis testimony.\textsuperscript{23} The lack of comparative bullet-lead analysis challenges in court is a good example of the problem of relying on judges and attorneys, rather than experts in the sciences, to evaluate the validity of scientific testimony.\textsuperscript{24} Attorneys and judges have not been successful in their attempts to prevent the introduction of bad forensic evidence in the courtroom.\textsuperscript{25} Courts often admit forensic evidence with little scrutiny of its reliability. This failure is not necessarily caused by any bias or prejudice on the part of the court or the attorneys in the case. Rather, judges and attorneys often simply do not have the scientific background to make educated decisions about the reliability of evidence.\textsuperscript{26} This is especially significant given the weight that jurors are likely to put on forensic evidence. One study found that about one quarter of jurors who were presented with scientific evidence believed that had such evidence been absent, they would have changed their verdicts from guilty to not guilty.”\textsuperscript{27} The traditional standard for admissibility of expert testimony, as stipulated by the Supreme Court, is that the techniques used to gather and test the forensic evidence must be “generally accepted” by those in the field.\textsuperscript{28} The numbers of wrongful


\textsuperscript{25} Moriarty J. C. and Michael J. S., Forensic Science: Grand Goals, Tragic Flaws, and Judicial Gatekeeping, 44 NO. 4 Judges Journal 16 (Fall 2005).


\textsuperscript{28} Frye v. United States 293 F. 1013 (App. D.C. 1923).
convictions caused by erroneous forensic testimony have shown this standard to be an insufficient safeguard. Ultimately, judicial safeguards alone are simply unable to effectively protect against faulty forensic evidence.

To increase the reliability, objectivity, and independence of forensic analysis and forensic expert testimony in criminal trials, and to increase fairness and accuracy in the criminal justice system, The Justice Project recommends that States create an oversight commission to set and enforce quality standards for forensic labs, develop internal structures and policies in forensic labs to prevent bias in testing and analysis, make forensic labs institutionally independent from law enforcement and prosecutorial agencies, improve training and certification standards for forensic analysts, and increase funding to implement these essential changes, that without these reforms, the integrity of the criminal justice system is threatened29.

Despite the best intentions and best efforts of forensic science professionals, supervisors, and managers, adverse events will occur in forensic laboratories, as in any complex organization. It is the position of the National Commission on Forensic Science that all responsible forensic science providers should embrace and implement a just culture of “learning from error” and continuous improvement to minimize the occurrence of adverse events and/or misconduct in the performance of forensic science services over time.

5.2.2. Law and Forensic Science Evidence

Using science by way of forensic science in criminal trials has always posed a problem. This is borne out of the fact that Science and law always have had an uneasy alliance. Berger and Solan has this to say:

Since as far back as the fourteenth century, scientific evidence has posed profound challenges for the law. At bottom, many of these challenges arise from fundamental differences between the legal and scientific processes.... The legal system embraces the adversary process to achieve “truth,” for the ultimate purpose of attaining an authoritative, final, just, and socially acceptable resolution of disputes. Thus law is a normative pursuit that seeks to define how public and private relations should function. . . . In contrast to law’s vision of truth, however, science embraces empirical analysis to discover truth as found in verifiable facts. Science is thus a descriptive pursuit, which does not define how the universe should be but rather describes how it actually is. These differences between law and science have engendered both systemic and pragmatic dilemmas for the law and the actors within it. . . . Moreover, in almost every instance, scientific evidence tests the abilities of judges, lawyers, and jurors, all of whom may lack the scientific expertise to comprehend the evidence and evaluate it in an informed manner.30

Nowhere are these dilemmas more evident than in decisions pertaining to the admissibility of forensic science evidence proffered in criminal trials. Forensic science experts and evidence are routinely used in the service of the criminal justice system. DNA testing may be used to determine whether sperm found on a rape victim came from an accused party; a latent fingerprint found on a gun may be used to determine whether a defendant handled the weapon; drug analysis may be used to determine whether pills found in a person’s possession were illicit; and an autopsy may be used to determine the cause of death of a murder victim. In order for qualified forensic science

experts to testify competently about forensic evidence, they must first find the evidence in a usable state and properly preserve it.

A latent fingerprint that is badly smudged when found cannot be usefully saved, analyzed, or explained. An inadequate drug sample may be insufficient to allow for proper analysis. DNA tests performed on a contaminated or otherwise compromised sample cannot reliably identify or eliminate an individual as the perpetrator of a crime. These are important matters having to do with the proper “processing” of forensic evidence. The law’s greatest dilemma in its heavy reliance on forensic evidence, however, concerns the question of whether and to what extent there is science in any given “forensic science” discipline. The degree of science in a forensic science method may have an important bearing on the reliability of forensic evidence in criminal cases. There are two very important questions that should underlie the law’s admission of and reliance upon forensic evidence in criminal trials:

(1) the extent to which a particular forensic discipline is founded on a reliable scientific methodology that gives it the capacity to accurately analyze evidence and report findings and (2) the extent to which practitioners in a particular forensic discipline rely on human interpretation that could be tainted by error, the threat of bias, or the absence of sound operational procedures and robust performance standards. These questions are significant: The goal of law enforcement actions is to identify those who have committed crimes and to prevent the criminal justice system from erroneously convicting the innocent. So it matters a great deal whether an expert is qualified\textsuperscript{31} to testify about forensic evidence and whether the

\textsuperscript{31} See the case of \textit{Arewa Textiles Plc. v. Finetex Ltd} (2003) F.W.L.R. (Pt. 162) at 1993, on what qualifies a person as an expert.
evidence is sufficiently reliable to merit a fact finder’s reliance on the truth that it purports to support.

5.2.3. The Authenticity of Forensic Evidence

Section 68 (1) of the Nigeria Evidence Act\textsuperscript{32} provides for the general admissibility of expert evidence. It is important to note that section 68(1) does not make every expert evidence automatically admissible as it may be required to fulfil certain conditions. In other words, the mere fact that an evidence before a court is an expert evidence does not make it immediately admissible as that may seem to be the wordings of the section. Although there is no provision in the Evidence Act directly on the authenticity of expert evidence, it can be deduced from the courts procedure that before any evidence is admitted, it is usually screened by opposing parties to show authenticity before it can be admitted. That is to say, the party tendering such evidence has to satisfy the court that it is authentic; that the document is what it claims to be.

The United States Rule of Evidence\textsuperscript{33} requires that to satisfy the requirement of authenticating or identifying an item of evidence, the proponent must produce evidence sufficient to support a finding that the item is what the proponent claims it is. Anyone who wants to use an item as evidence have to satisfy the court that it is authentic by way of sufficient evidence, and show that the item is what it claims to be. Due to the high degree of sensitivity of forensic evidence, it can easily be manipulated, altered or damaged and therefore requires high level of authenticity. Once any forensic evidence is brought before a court and admitted such evidence will be considered proven until rebutted: an evidential burden is therefore placed on the party contesting the facts.

\textsuperscript{32} 2011
contained in it. It is however the duty of the expert\textsuperscript{34} to establish the authenticity of the forensic evidence brought before the court.

5.2.4. **Strengths and Limitations of the Use of Forensic Evidence**

Going by the popular saying that “Anything that has advantages always has disadvantages” appears to be applicable to the use of forensic science evidence. Forensic evidence is widely acclaimed to have so many advantages or much strength such that it has been totally embraced by most developed countries of the world in their quest for justice. This does not however hide the fact that it also has its drawbacks or limitations. The strength of the use of forensic science evidence shall be considered first.

A. **Strengths**

Numerous advantages abound in the use of forensic evidence through forensic science, especially in criminal matters which in summary brings down the level of crime to its barest minimum. It has a broad spectrum of applications which are very useful in our criminal justice system. Some of the advantages of this science based evidence are:

a. With the help of certain computer tools, it is possible to control cyber-crime. This is done through packet sniffing (sensing critical information in the data packets), email address tracing (to get the details of the email server and in cases of email bombs). This is called computer forensics.

b. Autopsy - An autopsy is the systematic external and internal examination of a body to establish the presence or absence of disease by gross and microscopic examination of body tissues. The pathologist makes a surgical incision from shoulder to shoulder and

\textsuperscript{34} See section 68 (2) of the Evidence Act, 2011 for the definition of an expert.
from the midpoint of the shoulder to shoulder incision to the pubic bone. The skin is reflected, and each organ in the chest, including the neck structures, abdomen, and pelvis is removed and carefully examined. An incision is also made from the mastoid bone on the right to the mastoid bone on the left, and the scalp is pulled forward and the bony cap removed to reveal the brain. The brain is removed and examined. The pathologist takes a small sample or biopsy of all tissues and archives them in formalin to maintain them for future reference. In medico legal autopsies, all tissues other than the biopsies are replaced in the body, except for perhaps the brain or heart, which may be retained and examined by consultants for diagnoses causing or contributing to death.

For hospital autopsies, depending on the list of permissions given by the person qualified to give permission, tissues and organs may be retained for study, research, or other investigations. The pathologist submits small 2 × 2 cm sections of tissue to the histology laboratory, where thin slices, a few microns thick are subjected to chemical treatment to preserve them. The tissue blocks are shaved, so that a thin layer can be mounted on a glass slide and stained with dyes to differentiate cells.

The pathologist can recognize diseases in the stained tissue. Medico-legal autopsies are conducted to determine the cause of death; assist with the determination of the manner of death as natural, suicide, homicide, or accident; collect medical evidence that may be useful for public health or the courts; and develop information that may be useful for reconstructing how the person received a fatal injury. In summary, it helps in determining the cause of death by examining the post-mortem changes, blunt injuries, burns and scalds on the body, and the scene of death. If it's sudden natural death, the case is investigated by the coroner or a medical examiner.

---

c. Forensic analysis is used to investigate accident cases and to determine its cause by analyzing the vehicle condition, tire and other marks, eye witnesses, calculating the vehicle's speed etc.

d. The alcohol content in a human being can be determined by analyzing the blood and other body fluids like saliva, urine etc.

e. It also includes anthropology and helps in sex determination.

f. Clinical forensic medicine is useful in finding out child abuse, defensive wounds on a victim, gunshot wounds, injury patterns in domestic violence victims, self-inflicted injuries, sexual assault, and semen persistence.

g. Biometrics technology is combined with forensics, which helps to identify the fingerprint of the criminal, on the objects present in the crime scene.

h. Phonetics, which is also a part of forensics that is used to tap the voice signals and identify the speaker. Speech enhancement, speech coding and tape authentication are other techniques used in phonetics.

i. Other useful aspects of forensic analysis include fire investigation, forgery and fraud in payment cards, lie detection, footprint marks, voice analysis, digital imaging and photography, etc.36

B. Limitations

“If forensic evidence is not objectively tested, analyzed and interpreted by adequately trained scientists, the search for the truth will potentially be compromised, if not defeated”.37 This goes to establish the point that despite the numerous advantages of

---

36 Suganya Sukumar, Advantages and Disadvantages of Forensic Science, available at www.buzzle.com/.../ accessed 02/03/2016 at 08.34am
37 These are the words of Betty Layne Desportes, Defence Lawyer and chairwoman of Jurisprudence section of the American Academy of Forensic Science.
forensic evidence, there still exist some ethical, legal, and knowledge constraints involved in forensic analysis. They include:

a. DNA analysis of a person is believed to be against human ethics, as it reveals private information about an individual.

b. Equipment used in forensics is expensive.

c. Scientific analysis may consume lot of time resulting in delay of verdict.

d. It requires precise and accurate analysis. Even if a minor error occurs in the analysis, it may result in the wrong figure\textsuperscript{38}.

e. The evidence cannot be accessible at all times.

f. Evidence is prone to manipulation, which may end up in an unrighteous verdict.

g. Interpretation of the analysis differs from one forensic scientist to another.

h. Forensic analysis can be prevented by strong influences (political or financial factors).

i. There is no particular standard to verify the result of the experiment. It requires wide knowledge and intensive study.

j. Innovation is hindered as the approach is mostly the same.

k. Misconceptions and ignorance can mislead the experimental analysis.

l. Maintaining privacy and secrecy of the information gathered through forensic analysis is quite difficult.

m. There is lack of knowledge and understanding and consequently interest by the Judges when the forensic scientists are explaining how they have come to their conclusion and the run of events that have taken place at the crime scene.

\textsuperscript{38} Suganya Sukumar, \textit{Advantages and Disadvantages of Forensic Science, Op. cit.}
5.3. Crime Scene Investigation and Management

To be able to achieve the impact of forensic evidence through forensic science, the scene of every crime scene must be processed by way of investigation and proper management of materials recovered with very few exceptions not requiring such.

5.3.1. Crime Scene Investigation

While there are general principles related to crime scene investigations, local laws, rules and regulations govern many activities of the crime scene investigation and forensic process. They relate to issues such as how to obtain authority to enter the scene, to conduct the investigation, to handle evidence (e.g. the type of sealing procedure required) and to submit physical evidence to the forensic laboratory. They ultimately determine the admissibility of the evidence collected at the crime scene. Failure to comply with existing laws, rules and regulations can result in a situation where the evidence cannot be used in court. It is therefore of importance for personnel working at the scene to be aware of, and ensure proper compliance with, these rules. Despite the variation among crime scenes, there is a standard procedure in place to ensure a scene is handled in an appropriate manner.

The scene is of great importance in almost all crimes except perhaps in cases of forgery where the utility is limited. This makes the examination of the scene need proper planning, care and diligence. In many cases the success or failure of the investigation depends entirely upon the proper management of the scene. The scene of occurrence changes rapidly and cannot be preserved forever. Some of the evidence may get lost soon after the occurrence, the other evidence disappears, gets contaminated or altered with further passage of time. Besides, the occurrence may have been on a busy public
place which cannot be closed for a long time. Therefore, the scene needs immediate processing.\(^{39}\)

The scene may be indoor or outdoor. It may be a room, a cellar or a roof. It may be a road or a road side, an open field, a jungle, hill or a mountain, a stream or a river. It may be a pond, a lake or a sea-shore. It may be a vehicle: a car, a truck, a bus, a train, a boat, a ship or an airplane. Every scene of occurrence presents unique aspects for which the technique of examination has to be modified. The opportunity to examine the scene is available only once. If the same is not fully exploited the wealth of information is lost forever. The examination of the scene of occurrence is expected to help establish the following:

a. How did the criminal and the victim reach the scene?

b. What were the routes of entrance and exit?

c. How many criminals and victims were involved?

d. What was the modus operandi?

e. What evidence did the criminal and the victim exchange?

f. Is the alleged scene of occurrence genuine or simulated?

g. When was the crime committed?

h. Why did the victim behave in a particular way?

i. Who were the criminals or victims?

j. Who did the criminal visit after the occurrence?

Tracing the crime scene is an important issue in crime scene management. The crime scene can be traced or located through the accounts of eye-witnesses, Marks of

struggle, *Corpus delicti*, abandoned articles, impressions and prints, bloodstains and stains from other body fluids (for example, a stain of ejaculated semen, once, established the site of rape) and traces carried over from the scene (for example, once, the plant fragments on the clothes of a child indicated the place of assault. It is not difficult to locate the scene of occurrence, but sometimes criminals simulate a scene to mislead the investigators, to avoid suspicion and try to pass on the guilt to others. Sometimes, natural phenomena may change the scene of occurrence.\(^{40}\) The body may be carried away by currents and fish in water; or, the carnivorous beasts may drag the corpse in jungles and in other open spaces. It is essential, therefore, that the scene is properly established.

The entire procedure of investigation and management of crime scene is herculean and a time consuming task in that it requires a step by step procedure.

**A. First Officer Attending**

When a crime is initially reported, the investigating officer cannot always reach the scene immediately after the occurrence. The first officer attending/first police official who reaches the scene, therefore, should be careful to preserve the evidence. The first officer attending will have a number of duties to complete whilst waiting for other personnel to arrive. The FOA must carry out an initial assessment of the situation, dealing with any emergencies as necessary. Any individuals already present at the scene, including witnesses and suspects, must be detained, should it be necessary to conduct any interviews or even make arrests. The FOA himself will informally interview any relevant persons in order to determine whether a crime has actually been committed and if any emergency aid is required, such as the summoning of paramedics.

\(^{40}\) *Ibid*
If first aid is given, the officer should take note of anything that is altered during life-saving efforts, such as the movement of victims or objects. When scientific support personnel arrive at the scene, the FOA will share any relevant information he has gained with them.

**B. Crime Scene Preservation**

The barriers of a crime scene are established, ensuring that all vital pieces of evidence plus entrances and exits are included, and a physical barrier placed around the scene. This barrier may be crime scene tape, police officers standing guard, barricades or vehicles. This barrier essentially controls who enters the scene, aiming to exclude all non-essential personnel. A log is produced noting all individuals who do cross the barrier and the times at which they enter and exit. As the scene and its evidence may be partially or wholly exposed to the elements, protection from weather damage may be required. This can be accomplished by simply using clean cardboard boxes to cover the relevant areas, or in some instances a tent may be erected. All individuals entering the scene should wear the correct protecting clothing, which may consist of a set of overalls, latex gloves, paper shoes, and even a face mask. Upon leaving the scene, all protecting clothing worn throughout the investigation should be collected for analysis to avoid the risk of losing valuable trace evidence.

**C. Crime Scene Processing**

During the systematic search for evidence, a leading investigator will often assign individuals to particular areas of the crime scene whilst overlooking the search for and collection of evidence. The way in which the scene is processed will often be determined by the nature of the crime. Indoor crime scenes will be quite simply

---

searched on a room-by-room basis, whereas outdoor crime scenes may require a more detailed search pattern. There are a number of search patterns that may be followed:

i. Zone or quadrant search: The scene is divided into smaller, manageable portions which are searched individually. Lane, line or strip search: Officers form a line and move on side-by-side, covering the entire scene together.

ii. Spiral search: The investigator begins at the epicentre of the room and moves outwards in a spiral pattern. Or alternatively the investigator starts at the edge of the scene and spirals into the centre.

iii. Wheel search: Investigators begin at the epicentre of the scene and move outwards, each in a straight line in a different direction.

D. Recording Crime Scene

Before anything is moved or even touched, the entire scene must be fully documented to ensure a permanent record exists of the scene in the state in which it was found. This documentation may include written notes, photographs, video recording, and sketches. Extensive notes will be kept for each item of physical evidence recovered from the scene, including the location in which it was found, who collected it and at what time, and a description of the item itself. General notes regarding the scene itself will also be taken, including environmental details, information on the state in which the scene was found, and any other details that may be relevant. Sketches are frequently used to show the locations, dimensions and orientations of objects of significant found at the scene, and relevant measurements.

---

42 Ibid
The photographs of scene of occurrence are extremely useful. The scene of occurrence should be photographed as a matter of routine. The photography of the scene does not add materially to the cost of investigation and trial. Yet it is bound to increase the conviction rate. The photography can be carried out by the investigating officer himself or he may employ a police photographer. Sometimes local professional photographer may have to be engaged. In all cases the investigating officer decides the coverage. If some persons witnessed the occurrence, photographs from their viewpoint should be taken. The photographs are useful to check and demonstrate what the witnesses could observe. The number of photographs of the scene of occurrence which are produced as exhibits in the court should not be large as a large number is likely to confuse the court. The photographs should be properly arranged and produced at appropriate time. Sketches are handy in depicting a scene of occurrence. In combination with the photographs, the sketches provide an ideal presentation of the scene.\textsuperscript{43} In summary, photography is perhaps the most important form of crime scene documentation, producing a permanent visual record of the crime scene and discovered evidence. Extensive photographs should be taken of all areas of the crime scene and every item of evidence collected.

\textbf{E. Recovery of Physical Evidence}

When documentation of the scene is complete, the scene of crime officers can then proceed to collect physical evidence from the scene. The nature of the evidence itself will determine the method of collection and how it is contained. It may be necessary to focus on the collection of certain evidence first, namely items that may be particularly fragile or valuable to the investigation. If a body is present at the scene, it will often be

\textsuperscript{43} Sharma B. R., \textit{Forensic Science In Criminal Investigation and Trials, Op. cit.}
impossible to touch or move the victim until the necessary specialist has arrived at the scene, such as the pathologist. Before the body is transported to the mortuary, plastic bags are secured over the head, hands and feet to prevent the loss of trace evidence.

F. Handling and Packaging of Evidence

As with recovery methods, the packaging of physical evidence is dependent on the nature of the evidence. All items collected should be packaged, stored and transported in such a way that prevents any change or damage from taking place between the time it is recovered and the time it is received by the laboratory. Distribution of the materials at the scene should be carefully noted. All foreign materials weapon of offence, bullets, cartridge cases, poison containers, vomitus, wearing apparel, prints and impressions, stains and odours form clues. They should be collected and recorded irrespective of the fact whether they appear or do not appear to be relevant to the case at the time of collection.44

The collection should be so organized that nothing gets, lost, misplaced or contaminated. Microscopic evidence like hairs, fibres, dust and paint should be collected first; prints and impressions are processed next and larger objects are gathered later. Collection of one object should not destroy or contaminate the other evidence. A careless investigating officer may introduce his fingerprints on the objects handled by him. Some writers suggest the use of gloves to guard against the evil. But the practice is undesirable as it is likely to destroy microscopic and print evidence due to complacency. Bacterial growth and other physical or chemical changes destroy or contaminate evidence especially when wet stains or liquids are sent to an examiner without taking proper precautions against these changes.

__________________________ 44 Ibid
As a general rule, articles (excluding liquids) should be packed only after they are perfectly dry. Contamination or destruction may occur due to dirty or fragile receptacles, packing corrosive materials in containers susceptible to corrosion and introduction of cigarette ash, dirt, etc., due to carelessness on the part of the investigation officer.45

There should be no seepage of the materials. The original character of the contents will otherwise be lost. Plastic bags, bottles and glass containers with proper lids or stoppers prevent spilling or contamination. The exhibits should be so packed that they are not damaged on opening. Only one item should be packed in one packet. Small, dry item may be folded in paper and then sealed in polythene bags, whereas wet items should be sealed in polythene bags and frozen, especially if they contain potential biological samples. Every item collected should be placed in a separate container to prevent damage through contact and cross-contamination. All pieces of physical evidence should be labelled with any identifying information regarding the item, plus the location in which it was found, the crime it relates to, and the date and signature of all persons involved in its recovery.46 If necessary, a number of packets (properly marked) may be dispatched in one box or in one packet. A copy of the description of the contents of various packets in the box should be placed inside. Exhibits of different cases should be packed separately. The article should not get rubbed, scratched or scraped in the transit; valuable-evidence, otherwise, gets contaminated or lost. Dangerous articles and the exhibits likely to get damaged in transit should be sent through special messenger.

46 Stephanie Rankin, *Forensic Science Central*, available at [www.forensicsciencecentral.co.uk/crimesceniunvestigation.shtml](http://www.forensicsciencecentral.co.uk/crimesceniunvestigation.shtml) accessed 21/06/16 at 2.13am

357
The chain of possession of evidence should be fully established. The article recovered should be marked and initialled, with date if possible. In doing so, however, the evidence on the exhibits should not be disturbed. For example, bullets should not be marked at the places where they carry marks from the barrel of firearm. Likewise the documents involving erasures and alternations should not be marked at the relevant places. The evidence should be collected, packed and sealed in the presence of two reliable witnesses and their signatures should be obtained on the sealed cover. A specimen of the seal should be placed on the case file. Another specimen seal impression should be placed on the case file, along with the covering letter. The seal should be clear and legible. The number of the case with date, the name of the police station, description of the contents, the name of the investigating officer and the name of the witnesses along with their signatures should be written on the label. The label should be so secured that it does not come off easily.

A minimum number of persons should handle the evidence. The ideal sequence is from the investigating officer to the expert and from the expert to the court. It is not always possible. A note, therefore, should be kept to show where, when and why the evidence was with a particular person. The exhibits should be dispatched to the concerned experts promptly through special messenger, otherwise, the defence alleges tampering with the exhibits. Quite a number of cases are dismissed because the investigating officer did not dispatch the exhibits promptly to the expert and could not account for the delay. Recording of events at the scene is also crucial to avoid forgetting important points. The evidence discovered at the scene such as saliva, bloodstains and semen are immediately recorded. Modern aids are been used by the police departments for the examination of scene in view of the importance of crime scenes. These includes
investigator’s toolkit (containing items needed by the investigating officer), mobile laboratory (with which the laboratory personnel examines examine some exhibits on the spot where desired), flying squads (a group of police officers who immediately reach the crime scene and carry out preliminary duties), expert help (experts in the various fields of forensics such as a toxicologist to be able to take on the spot decision) and trained police dogs (they can help search and guard the crime scene, detect criminals, explosives and explosives).47

G. Detection Dogs

A vital aspect of a forensic investigation may be to detect and locate specific people or substances of interest, ranging from illegal drugs to missing people. Sophisticated detection equipment does exist, however this technology can often be expensive, have unsuitable portability, and may even prove useless when searching vast areas. Fortunately for investigators, there is an ideal tool available.

Dogs, commonly known as K9s by law enforcement professionals, have played an important role in legal investigations for decades, with their keen sense of smell being noticed and utilised. The average human being has roughly five million sensitive cells within the nose. This appears to be a large number, until compared with the 200 million cells in the average dog’s nose. Further increasing the canine’s sense of smell is an organ in the roof of the mouth that is not present in humans. This organ essentially allows the dog to ‘taste’ a smell, thus strengthening its ability to detect odours. Canines detect odours direct from the source or residual scents; odours which persisting in an area after the original source is no longer present.

Obviously the air is full of a vast variety of different odours, many of which will be powerfully clear to the dog. Fortunately they are able to distinguish between different odours, even if one smell overpowers another, and trace a specific scent to its source.\textsuperscript{48}

**H. Drug Detection**

The police commonly train canines to detect the presence of illicit substances to the extent that they are capable of locating even the tiniest trace of a drug. Such dogs are frequently trailed through train stations, airports, country borders, workplaces, and even schools to allow police to locate individuals who are carrying these illegal substances. The dog may be moved near pieces of luggage, near groups of people, and generally kept in the vicinity to react if he or she picks up on an odour of interest. An average stop and search conducted by officers may yield nothing, especially if the subject has hidden the drugs somewhere on his person. However properly trained canines are usually able to detect the scent of illegal narcotics, regardless of where the suspect has concealed them.

**I. Explosives Detection**

Perhaps used more in recent years due to the increased attention to terrorism, canines have also been trained in the detection of explosive materials. The dogs are trained to detect the odours of specific substances such as sulphur, nitro-glycerine, and any other compound commonly used in the production of gunpowder and explosive devices. Such specially trained dogs may be used in airports to detect or at least deter terrorism, or in the homes of suspected bomb-makers to identify the presence of these substances on work surfaces and in storage areas. In these scenarios, it is particularly vital that the

\textsuperscript{48} Stephanie Rankin, *Forensic Science Central*, *Op. cit.*
canine is trained not to touch any substances or devices it does locate, as many types of bomb can potentially explode if touched.

J. Arson Dogs

Similar to canines trained to detect explosives, arson dogs are instructed to detect the chemical traces of accelerants. During an arson investigation, one of the primary tasks is to determine what caused the fire and, if accelerants were used, establish where the accelerant was placed. Though the odour of most forms of accelerant is generally quite strong, a fire scene will often be engulfed in the smell of smoke and various burning materials. However dogs can be trained to pick out the specific odours of flammable substances and locate the source. Even if the accelerant is found in numerous locations, the dog is trained to pinpoint the area in which the accelerant concentration is at its greatest.

K. Cadaver Dogs

Also known as ‘decomp dogs’, these specially trained canines are trained to follow the scent of decomposing flesh in order to locate the bodies of deceased human beings. Whether the cadaver is on the surface, buried underground or under water, a dog’s nose is powerful enough to pick up the scent and trace it back to its source. Cadaver dogs can not only locate actual human remains, but also the location in which a corpse or body parts may have previously been stored by tracking down residual scents. Depending on the use of the cadaver dog, they will be trained to detect specific decomposition odours.\footnote{Ibid} For example, some may be trained to detect odours associated with the early stages of decomposition, whereas others may be required to locate older remains. Some dogs are specifically trained to detect dead bodies underwater, with the

\footnote{Ibid}
canine situated on a shoreline or boat. A newer concept is that of historical human remains detection dogs, which are trained to locate historical or archaeological graves.

L. **Search and Rescue Dogs**

Like cadaver dogs, search and rescue canines are trained to specifically locate human beings. However in this instance, they are searching for living individuals, usually missing people, individuals lost in the wilderness, and those trapped during mass disasters. For example, trained dogs will be used in the case of an earthquake, where numerous people may be trapped inside crushed buildings or similar. The dogs follow the scent of each person, so that they may be located and finally rescued.

M. **Tracking Dogs**

Tracking dogs are trained for the same purpose as search and rescue dogs. They track down and locate living human beings. However in this case the dogs are trained and used to track down fugitives or suspected criminals. The scene of a recent crime may hold the scent of the perpetrator which, if investigators work quickly enough, may be tracked by a trained dog. Alternatively an object or a piece of clothing known to have belonged to or been touched by the suspect may be presented to the dog, hopefully allowing him or her to follow the scent and locate the suspect.\(^{50}\)

N. **Training**

Dogs are trained as trailing dogs and air-scenting dogs. Trailing dogs follow a scent on the ground, whereas air-scenting dogs must be able to pick an odour out of a breeze and follow it back to its source. Training begins with repeatedly presenting particular odours to the dog whilst teaching him or her to display a particular alert when detecting

The odour. The procedure essentially involves typical Pavlovian conditioning. The dog is motivated to perform a particular task and rewarded upon completion of this task. The canine will soon learn to associate a particular act, in this case locating a specific odour, with receiving a reward, generally in the form of food or a dog treat. Throughout the procedure, trainers may use actual samples of what the dogs are being trained to follow, or they may use chemicals which simulate the scent. Initially the dog may be trained in laboratory-like conditions, in which he or she is simply being taught to identify the odours.

Once the dog is capable of doing this, scenario-based training may be given. Potentially distracting odours will also be introduced, generally scents that the dog is likely to encounter during a real search. The dog is trained to ignore these odours and focus on specific scents. Upon locating the desired odour, the canine is taught to situate the point at which the source is at its strongest, at which point it will give a specific indication to the handler.

Various breeds of canine are suitable for police work, though golden retrievers, Labrador retrievers, German shepherds, and border collies are all commonly used.

**O. Fieldwork**

During actual field work, the canine’s handler must aid the dog in any way possible. This includes utilizing any known information plus his or her own experience to develop a search plan that will give the dog the best opportunity to locate the desired odours. Allowing a dog to randomly move around and sniff a huge area may yield no results or it will take an extremely long time for the dog to locate the target of the

---

51 Ibid
search. In outdoor areas, odours may drift and pool in lower areas or up against physical barriers, therefore these locations should especially be searched. Every search area should be treated as a potential crime scene. Accurate records must be kept of the entire search, including the trainers and canines involved, the area covered by the search, and any findings. Dogs should be trained in such a way that, if they do locate, for example, a human cadaver, they do not actually touch or attempt to retrieve the remains, which would compromise potential evidence. If anything of interest is found, the appropriate professionals will enter the scene to take over. If nothing is found, the area is deemed as having been 'cleared' and the search team can move on.\textsuperscript{53}

P. \textbf{Investigator’s kit}

Investigator’s kit is a collection of items needed by the investigating officer at the scene of occurrence. It generally contains:

1. Examination kit. A compass, a magnifying glass, a mirror, a torch (with spare bulbs and cells), a scale, measuring tapes, vernier calipers, forceps, tongs and a pair of rubber gloves.


3. Fingerprint kit. It includes inking slab, ink roller, thumbprint ink tube, powders: grey, graphite and anthracene, camel hair brushes, lifting tape, iodine fuming tube, glass wool, iodine and anhydrous calcium chloride.

\textsuperscript{52} Ibid \textsuperscript{53} Stephanie Rankin, \textit{Forensic Science Central, Op. cit.}
4. Casting kit. It contains talcum powder, powder sprayer, lacquer and lacquer sprayer, rubber cup, ladle, plaster of Paris, sieve, aluminium strip frames, wire gauze, salt, scale and a towel.

5. Blood testing kit. It consists of high quality filter paper circles about 10 cm. in diameter, spatula, scalpel, droppers, pipettes, distilled water, saline solution, glacial acetic acid, benzidine, (benzidine tablets are preferable), barium peroxide and methanol.

6. Collection paraphernalia. A set of clamping boards with nuts and bolts, screws, nails, cardboard boxes of various sizes, (economy of space is achieved by placing one into other in the decreasing order of sizes), plastic and paper bags and envelops, kraft paper and cellophane sheets, clean white linen, tissue paper, absorbent cotton, test tubes, bottles of various dimensions (20 ml., 50 ml., 100ml., 500ml. and 1 litre) with screw and glass stoppers. Rubber bands, gummed labels, tags, needles and thread, sealing wax, seal and spirit lamp are needed for sealing and labelling.

7. Recording equipment. Writing board, graph paper, noting sheets, carbon paper, drawing paper, various types of forms (for example, fingerprint form, recovery memo forms) pen, pencil, coloured pencils, erasers, scale, mathematical drawing box and compass.

However, it is not convenient to carry all these items at all times. Nor are they necessary in every crime. It is, therefore, convenient if the items are kept ready and those required in a particular investigation are taken there.\textsuperscript{54}

5.3.2. **Management of Forensic Evidence**

This means the handling of forensic evidence identified from collection at the crime scene to testing towards identifying the culprit or exonerating the suspect. In order to obtain accurate and reliable results from forensic science analyses and measurements, examiners must maintain the integrity and chain of custody of each item of evidence. Scientific research on the degradation of materials and state-of-the-art technologies in asset tracking can be very useful in improving forensic evidence management in law enforcement agencies. The importance of management of forensic evidence cannot be overemphasized. This is so in that it is what determines the eventual outcome of the whole process. Where there is proper management of forensic evidence, the outcome is certain as the result will not be doubted. It will clearly point at the suspect, and eventually fish out the criminal or exonerate the suspect in the long run. On the other hand, where there is improper management of forensic evidence, there is the likelihood of mistake in the final result which can amount to wrongful convictions. It can also create opportunity for the results to be challenged. In March 2012, the national media reported that the Crown Court case of *R v Adam Scott*\(^{55}\) on a charge of rape, had been halted by the Crown when it was revealed that a DNA profile sample obtained from a crime scene had been contaminated by the re-use by the forensic science provider of a container which had contained evidence relating to an offence of affray perpetrated by Scott. This type of incident is very rare in relation to the large number of cases involving DNA evidence, but it demonstrates the possibility of a person's DNA being linked to a crime due to a sample handling error or contamination event during

processing. This may occur in the handling of samples by the same police force or forensic service provider, or by different forces or providers.

Diligence must be used in every stage in the management process of forensic evidence as that is the only way to ensure certainty and accuracy in eventual results.

5.4. Cases Solved via the Use of Forensic Evidence

A look at some of the cases solved with the use of forensic evidence will help give an idea on the extent of embrace of the use of forensics by the countries in question.

5.4.1. In Nigeria

In *Shonubi v. People of Lagos State*, the appellant was arraigned before the High Court of Lagos State for the offence of murder, in that he was alleged to have killed one Miss Anniemeke Steen by strangulating her in a bath tub full of water. When the body of the deceased was discovered by her mother (Wilma Steen) and her friend, who returned together from a shopping spree, she raised an alarm, which attracted security men and policemen attached to the Shell Nigeria Exploration Petroleum Company, who were around. The environment was thereafter cordoned and nine (9) suspects were arrested. Based on forensic analysis carried out both in the United Kingdom and in Nigeria, only the appellant was arraigned. He was found guilty by the trial judge, based on scientific evidence, surrounding circumstances and evidence of prosecution witnesses, and sentenced to death by hanging, pursuant to section 316 of the Criminal Code Law of Lagos State, Cap C17, Vol. 12, 2003. Aggrieved, the appellant lodged an appeal to the Court of Appeal. Obaseki Adejumo JCA in dismissing the appeal held as follows:

---

56 *Shonubi v. People of Lagos State* (2015) All FWLR (pt. 801) 1424, 1432 to 1433
'Forensic report of PW6, exhibit E was tendered. He stated that of the three (3) questions in forensic analysis, two (2) were answered in Nigeria while the final question was sent to London. He said there was a stain on the shirt of the defendant, it was subjected to three (3) stages of test he said:

i. Was the stain blood?

ii. Does this blood belong to a human being?

iii. Does the human blood belong to the deceased?

And it was this question (i) and (ii) that were answered in Nigeria and that the answer sent confirmed that the stain on the shirt was blood which matched that of the deceased.

He said exhibit E was based on exhibit E7—partly exhibit D is based on exhibit E.

Therefore, I agree with the respondent that the PW6 was a member of the police forensic investigation, his evidence at cross-examination was not shaken.”

“Exhibit E bearing the forensic report was admitted through the witness. Section 68 of the Evidence Act, 2011, dealing *inter alia* with the evidence of an expert in science, inclusive of identity of finger impression and DNA analysis of blood of a human being accommodates the evidence of the PW6 and the forensic reports in exhibits D and E.

The forensic report from London in connection with the case is also accommodated by section 149 of the Evidence Act, which provides:

> When any document is produced before any court purporting to be a document which by the law in force for the time being in any country other than Nigeria would be admissible in proof of any particular crime in any court of justice in that country, without proof of the seal or stamp or signature authenticating it, or of the judicial or official character claimed by the person by whom it purports to be signed, the court shall presume:

(a) that such seal, stamp or signature, is genuine; and
(b) that the person signing it held, at the time when he signed it, the judicial or official character which he claims, “and the document shall be admissible for the same purpose for which it would be admissible in the country where the document is produced.” (emphasis mine).

The evidence of the PW6 and the forensic reports corroborated by the evidence for the respondent dislodging the *alibi* of the appellant are of probative value and were not shown to be prejudicial to the appellant which fixed the appellant with the commission of the offence charged.

In addition, the evidence of the PW6 to the effect that the DNA analysis of the blood stain found on the checkered shirt of the appellant matched that of the appellant was positive identification of the appellant’s culpability as the person that caused the death of the deceased.

In *Aigbadon v. The State*,$^{57}$ the appellant was charged with the murder of one Victoria Ogo with whom he had been living together in Benin as lovers. The appellant denied the act both in his statement to the police and his evidence in court at the trial. The case of the appellant was that he and the deceased returned to Benin from their village earlier in the day on 5th December 1993. They went to sleep that night in the appellant’s room but during the night the deceased developed stomach trouble as a result of which she started to roll on the bed.

The appellant claimed that when he noticed that the deceased’s condition did not improve, he had to hire a taxi and with the aid of some tenants in the house, conveyed the deceased to the General Hospital, Benin. At the hospital, the appellant claimed to have obtained a card in the name of the deceased and the deceased taken to emergency

---

ward of the hospital. The appellant further claimed that there was no doctor on duty and that when the doctor eventually arrived; the woman was certified dead by the doctor. At the trial the Chief Consultant Pathologist (PW3) testified that the post mortem examination he carried out on the deceased certified the cause of death as due to strangulation, and not stomach trouble. The appellant on the other hand was unable to produce the names of the co-tenants who allegedly assisted him in conveying the deceased to the hospital and was also unable to produce the hospital card. At the conclusion of the trial, the trial court found the appellant guilty as charged and sentenced him to death. The appellant was dissatisfied with the sentence of conviction and appealed to the Court of Appeal. The Court of Appeal in resolving the matter considered the provisions of section 57 of the Evidence Act (now section 68 of the Act), and unanimously dismissed the appeal.

In Oguonze v. The State, the Supreme Court considered the difference between a medical expert and a ballistic expert. In this case the appellant, an Assistant Superintendent of Police, was arraigned before the High Court, Benin City, charged with the offence of murder punishable under section 319(1) of the Criminal Code in that he killed one Remigious Makoba, the deceased. The accused pleaded not guilty to the charge and the prosecution called four witnesses at the trial. The accused also testified in his own defence but called no witnesses. The substance of the charge as presented by the prosecution was that on the 18th day of August, 1994 the deceased, one Remigious Mekoba, and PW4 his younger brother, were travelling from Lagos to Awomona in Imo State in a Volvo car driven by the deceased.

---

According to PW 4; the principal witness for prosecution, at a road check point between Ugbowo, and Oluku, near Benin City along the Benin/Lagos Express Road, a team of Policemen signalled to them to stop. This was at about 9am in the morning. As they were on speed the deceased did not see the policemen on time. The deceased after he had slightly driven past the policemen, stopped his car, engaged his reverse gear and drove backwards to the checkpoint.

In answer to a question by one of the policemen as to why he failed to stop, the deceased replied that he had eventually stopped. At the stage, the appellant who was heading the team of policemen walked to their car, flung the driver’s door open, dragged the deceased out to the car and slapped him. When the deceased received the slap, he held his jaw and laid his head in pains on the bonnet of their car. The appellant next asked the deceased a question which PW4 did not hear as PW4 was still inside the car. As the deceased was about to answer the question, the appellant drew backwards to a distance of about seven feet, pointed his gun at the deceased and shot him on the left side of his chest. The deceased immediately held his left chest with both hands and shouted saying “Vincent, I am dying, I am dying, I am dying”. At that stage PW4 rushed out of the car to assist his injured brother but they both fell to the ground. When PW4 got up, the appellant faced him by pointing the same gun at him, but one of the policemen in the team stopped him by shouting “No, no, no” whereupon the appellant abandoned his aim.

PW4 and about four policemen at the scene conveyed the deceased into a waiting police pick-up van but after about three minutes, transferred him into the Volvo car. One of the policemen in company of some of his mates drove the deceased with PW4 to the University Teaching Hospital, Benin City where the deceased on arrival was
certified dead. It was at this stage that the policemen melted away and PW4 had to travel back to Lagos to report the incident. A medical doctor attached to the Department of Pathology, University of Benin Teaching Hospital also testified for the prosecution as PW2. He performed the post-mortem examination on the body of the deceased. He gave detailed evidence at various internal injuries sustained by the deceased, which were consistent with gunshot injury.

The case for the appellant was that he and his men were on anti-crime patrol when he received information that robbers came operating along the Benin-Lagos Express Road. They proceeded to the scene of crime where he ordered his men to stop and search all private cars. Presently, a Volvo car drove in from the Lagos direction. The deceased was its driver. He drove past the check point but eventually stopped. A policeman then went to him and demanded for the particulars of his vehicle. The appellant stated that there was argument between the deceased and the policemen as a result of which he personally went to the deceased and the appellant insisted on taking the ignition key from him. The deceased at this stage gripped the appellant’s pistol. The appellant claimed that he struggled to recover possession of his pistol from the deceased. It was in this exercise that the pistol exploded and the bullet hit the deceased accidentally. He claimed that the incident was one of accidental discharge. At the conclusion of the hearing, the trial court found the appellant guilty as charged and accordingly sentenced him to death. Appellant’s appeal against the said decision to the Court of Appeal was dismissed. The appellant therefore further appealed to the Supreme Court. The Supreme Court held inter alia: (dismissing the appeal by majority)

(i) A medical doctor does not need to be an eye witness or a ballistics expert to be able to give an expert opinion on the issue of the range and distance from which a particular
missile, whether gunshot or otherwise, was launched, having regard to the resultant injuries to the victim, particularly, where he gave factual basis for the opinion he arrived. Without doubt, PW2 testified before the court as an expert witness. He is a medical doctor attached to the Department of Pathology of the University of Benin Teaching Hospital and it is a matter of common knowledge that to qualify as a medical doctor, one must undergo a study in forensic medicine, the extent and scope of which the witness would have clarified were his competence challenged while he testified in the witness box. A close study of the evidence of PW2 reveals that the expert opinion he gave on the issue of distance or range from where the shot was fired was based entirely on deductions from the nature and extent of the injuries he found on the deceased in the course of his post mortem examination.

(ii) A ballistics experts is not trained in human anatomy, pathology, forensic medicine or to relate the nature, extent or quantum of injuries to the human body to a particular weapon of weapons likely to be responsible for such injuries. He may also not be in position to give an expert evidence as to the amount of force used in the commission of an assault and whether or not the resultant injuries could be self-inflicted or otherwise. Those are matters which concern medical doctors and not ballistic experts.

In *R. v. Michael Adedapo Omisade & Ors.*, 59 to prove that one of the accused persons paid a visit to the naval base in furtherance of an alleged conspiracy the prosecution produced the visitors’ book of the institution. The Nigerian Police have a corps of handwriting analysts who are trained specialists in identification of handwriting and allied studies. In criminal cases involving disputed writings, they testify as expert for the prosecution. A police handwriting expert gave evidence which would appear to favour the defence that the signature in the book alleged to be that of the particular accused person was in fact not his. The trial judge discarded the evidence of the expert, described him as inexpert, and resolved the matter himself by comparing the signature.

In holding that the trial judge was in error in so doing, Ademola C.J.N. stated as

59 *R. v. Michael Adedapo Omisade & Ors* (1964) N.M.L.R. 67; (1964) 1 All N.L.R. 233
“We do not share the view of the learned judge that he can so discard the evidence of the handwriting expert, confused though it was.” It would have been a different matter had there been evidence from a person familiar with the writing of the accused which contradicted that of the expert. Then in deciding the issue the trial judge would have been justified in himself comparing the disputed writing with the writing of the accused with a view to coming to a conclusion as to which of the two witnesses to believe.

In the old case of The Queen v. Akpan, the appellant was accused of burglary and stealing contrary to sections 411(1) and 390(4)(b) of the Criminal Code respectively. The accused denied the allegations stating that at the time of the alleged offence, he was far away from the scene of the crime. He stated further that none of the alleged stolen properties was found in his possession and finally stated that the 2nd prosecution witness, Inspector Fayemi, who conducted the investigations, had a grudge against the appellant and trumped up this case against him. On one of the louvers removed by the police from the house of the 1st prosecution witness which has been broken into, there was a finger-print impression and a person of experience and training compared it with the accused finger-prints. He gave evidence with sixteen similarities, and testified that he excluded the possibility of the impression on the louver being that of any other person. The trial judge also made a visual examination of the exhibit put in by the witness and satisfied himself that the two finger-prints impressions were identical and found him guilty. On appeal, the appellant advanced same arguments earlier put forward at the trial court.

---

60 Ibid at 86
61 The Queen v. Akpan (1961) 1 All NLR 3
In delivering the judgment, Taylor F. J. of the Federal Supreme Court held that the method by which entry had been gained into the premises was in fact through the window by removing some 8 or 10 of these louvers from their fastenings. That the trial Judge found him guilty because the evidence showed that the accepted finger-prints of the appellant were similar to the finger-prints discovered on the louver. The court held that there was no substance in the appeal and that the conviction based as it was on the similarity of the forger-prints under the circumstances of this appeal is sound and therefore upheld the conviction

5.4.2 In United Kingdom

R v. Garry Dobson and David Norris,\(^{62}\) reveals that on 22nd April 1993 just after 10.35 in the evening, a young man, Stephen Lawrence, then 18 years old, was waiting at a bus stop at Eltham with a close friend of the same age, Duwayne Brooks. As they waited peacefully for the bus, a group of white youths crossed the road towards them. One of the youths used abusive racist language. This was followed by a sudden and immediate attack, as the group converged on or charged at them. Duwayne Brooks managed to make his escape, but Stephen Lawrence was felled. He was stabbed twice on the upper torso, one wound tracked vertically downwards from 10cm to the right of the mid line, and the second tracked more or less horizontally, but in an upward direction, from the outer aspect of the left shoulder. Major blood vessels were severed. The injuries were fatal. The position and angle of the wounds suggested that the torso may have been upright at the time when the knife wounds were inflicted. Apart from the stabbing wounds, the only further injuries noted at post mortem were an incised injury to the left side of the chin and abrasions to the cheek and the back of the right hand. Mortally

\(^{62}\) R v. Garry Dobson and David Norris (2013) EWCA Crim. 712
wounded, Stephen Lawrence managed to get to his feet. He ran after Duwayne Brooks, but after a little while, he collapsed on the pavement. He died shortly afterwards in hospital. Police surveillance of their homes began four days after the killing and the five were arrested, with two charged. But the Crown Prosecution Service felt there was insufficient evidence to prosecute, and the charges were dropped in 1993.

A year after Stephen's death, secret surveillance footage filmed in Dobson's Eltham flat captured the men's hate-filled racist outlook on life. In the 1994 video, which was shown to the Old Bailey jury in the 2011 murder trial, Norris was heard to say: "I would go down Catford and places like that I am telling you now, with two sub-machine guns." Using extremely racist and sexually explicit language, he said he would take a black person, torture them, skin them alive and set them alight. 'I would blow their two arms and legs off and say 'go on, you can swim home now'. They would be bobbing around like that." He also shared an anecdote about beating up a black man, thought to be in his 60s, in a park following an argument. The surveillance footage "showed violent racism at its worst," concluded Sir William Macpherson.

In September 2010, 17 years after Stephen's death, Dobson and Norris were arrested and charged with murder, following the Court of Appeal's decision that fresh forensic evidence warranted a trial. The 2011 trial was the second occasion in which Dobson appeared at the Old Bailey in connection with the murder. In the past this could not have happened, because of the double jeopardy rule which prevented a suspect being tried a second time for a crime. But the law was changed in 2003 to allow the prosecution to apply to quash an acquittal if a court was satisfied that there was new and compelling evidence to be put before a jury. And, with the emergence of new forensic evidence that appeared to link them to the crime, they took to the stand in an
attempt to disprove any connection to a killing that came to define their lives. Gary Dobson and David Norris have been found guilty of the murder of Stephen Lawrence, the black teenager stabbed to death by a gang of white youths at a London bus stop in 1993. The pair has spent their entire adult lives denying any involvement in one of the most high-profile unsolved cases in British history.

In *R v. Vincent Tabak*, Joanna Yeates a landscape architect, 25 year old woman was murdered on 15 December 2010. Her body was discovered on 26 December 2010 and on 23 January 2011 her next door neighbour Dr Vincent Tabak, a highly qualified Dutch architectural engineer (working in Bath, England, United Kingdom) was arrested and charged with her murder. The murder trial began on Monday 10 October 2011. He strangled Miss Yeates after becoming obsessed with violent sex and pornography. The 33-year-old Dutch engineer was convicted following a three-week trial at Bristol Crown Court.

The jury of six men and six women returned their 10-2 majority verdict on their fourth day of deliberation. He was sentenced to life imprisonment with a minimum term of 20 years. Tabak had pleaded guilty to manslaughter but had denied murdering the 25-year-old whose frozen snow covered body was discovered in a remote country lane by dog walkers on Christmas morning last year. During the trial Tabak, who lived in the adjoining flat to Miss Yeates in Canynge Road, Clifton, claimed her death had been an accident. He told the court Miss Yeates, whose boyfriend Greg Reardon was away for the weekend visiting relatives had invited him in after spotting him passing her kitchen window on the evening of December 17 last year. But the jury rejected his version of

---

events after hearing that Miss Yeates had 43 separate injuries when she was killed including numerous abrasions and bruises.

When police seized Tabak's work and home computers they discovered a chilling collection of pornographic films, featuring women being choked. Detectives fear he may have graduated from “observer to perpetrator” after watching the films and strangled Miss Yeates for his own sexual gratification. He also stored images on his computer of a woman who bore a striking similarity to Miss Yeates exposing her breasts. In the photograph the woman was also wearing a pink t-shirt similar to the one Miss Yeates was wearing on the night she was killed. Tabak looked down at his feet but showed no sign of emotion as the verdict was delivered. He immediately sat down and put his head in his hands. Mr Justice Field began sentencing by telling the jury: "I think there was a sexual element to this killing." The judge told Tabak he had committed "a dreadful, evil act on a vulnerable young woman". Tabak intended to go "much further" after attempting to kiss her, the judge added, saying that Miss Yeates died "in pain and fear" and her disappearance left her family suffering "seven days of agonising uncertainty".

*R v. Kyo Soo Kim*,\(^{64}\) involves the murders of South Korean women Jin Hyo Jung and Song In Hea which appalled and shocked both detectives working on the case and the court at the Old Bailey that heard the gruesome details. Each was slowly suffocated to death over a long period, stripped, bound and gagged with tape and left to die. Miss Jin, 21, was studying French at Lyon University, visiting the UK for a sightseeing trip and to see London’s large Korean community. Miss Song, 22, was studying hotel management at Guildhall University in London. The pair each made the mistake of

\(^{64}\) *R v. Kyo Soo Kim* (2007) EWHC 1463 (QB)
staying in accommodation run by 31-year-old landlord Kim Kyu Soo. His flat in East London was used by many Korean students and Miss Jin stayed there for three days in October while Miss Song stayed for a week in November. Miss Jin's badly-decomposed body was found in a suitcase dumped in a lane in Askham Richard, North Yorkshire, on 18 November 2001. The body of Miss Song - who had been reported missing on 18 December 2001 - was found sealed in a cupboard at an east London address in March last year. Kim had used both of their credit cards to extract cash. It was later discovered that both women knew Kim Kye Soo Kim, who also lived at the address in Holborn and let a room to both of them. They had been bound and gagged with an unusual adhesive tape designed by London-based artists Gilbert and George. The colourful tape, bearing a pattern of men's faces, was produced exclusively for Tate art gallery shops in London, Liverpool and Cornwall gave a lead. The pathologist was however struck by the absence of any injuries to her body suggestive of a struggle. He concluded that she must have been incapacitated in some way before her head was bound.

Kim Kyu Soo, 32 years old was convicted by unanimous verdicts of the jury, of murdering 2 young women who, like himself, were South Korean nationals. The method of killing in each case was identical. Kim bound the heads of his victims with sticky tape so that their mouths and noses were completely sealed off, and they could not breathe. They therefore died of asphyxia. It is clear that he intended to kill them, and not merely to cause them really serious harm. The case against Kim was based on an exceptionally powerful chain of circumstantial evidence. He himself declined to answer any questions in interview, and did not give evidence at his trial. He had given no instructions to his lawyers until the first day of the trial. On the second day, in the presence of the jury, he tendered a plea of guilty to manslaughter of the second victim.
This plea was not accepted by the Crown. No indication was given on Kim’s behalf, at any stage, as to the basis on which the pleas was tendered. His counsel accepted, however, that no question of provocation or diminished responsibility could arise.

In *State v. Beverley Allitt*65 where Beverley Allitt a.k.a. “Angel of Death” had attacked thirteen children, four fatally, over a 59 day period, between February and April 1991 in the children’s ward at Grantham and Kesteven Hospital, Lincolnshire, where Allitt was employed as a State Enrolled Nurse. She poisoned her victims by administering large doses of insulin-lignocaine. It was only following the death of Claire Peck that medical staff became suspicious of the number of cardiac arrests on the children’s ward which led to the invitation of police for investigation. They examined the records of 25 suspicious cases. In most instances the victims, four of whom were dead, either had high levels of insulin or potassium or both in their systems. The only common factor linking all the cases together was Beverley Allitt. It was found that Allitt was the only nurse on duty for all the attacks on the children and she also had access to the drugs. Beverley Allitt was eventually arrested and charged with 4 counts of murder, 11 counts of attempted murder and 11 counts of causing grievous bodily harm in November 1991. On Friday 28 May 1993 she was found guilty on each charge and sentenced to 13 concurrent terms of life imprisonment, which she is serving at Rampton Secure Hospital in Nottinghamshire.

Allitt's trial judge recommended she serve a minimum term of 40 years (one of the longest minimum terms ever suggested by a trial judge, High Court judge or politician), which would keep her in prison until at least 2032 and the age of 64, and even then she

---

could only be released if she was no longer considered to be a danger to the public. In August 2006, Allitt launched an appeal on the length of her sentence. On 6 December 2007, the High Court ruled that Allitt would have to serve at least 30 years in prison, meaning she will now have to wait until at least 2022 and the age of 54 until she can apply for parole.66

In R v. Buckley,67 fingerprints led to the conviction of the accused person. Rose LJ, highlighted the accepted position that fingerprints varied from person to person and that such patterns were unique and unchanging throughout life. It was held inter alia, that fingerprint evidence, like any other evidence, is admissible as a matter of law if it tends to prove the guilt of the defendant.

In State v. Smith,68 a single mother of three, Genai Coleman, 40, was waiting to pick up her teenage daughter near a transit station in Duluth on July 18, 2008, when someone fatally shot her during a carjacking. Genai Coleman was waiting to pick up her teenage daughter near a transit station in Duluth on July 18, 2008, when someone fatally shot her during a carjacking. Witnesses described the shooter as a black male wearing a white shirt with green sleeves and carrying a backpack. A man fitting that description was captured in surveillance video at an adjacent QuikTrip gas station. A similar-looking man was also seen in the vicinity of where the car was abandoned in Forest Park a few hours later. The improbable case hinged on a cigarette butt found under the driver's seat of Genai Coleman's car. When a saliva sample from the cigarette was entered into the national DNA database of convicted felons, authorities discovered that it matched Donald Smith, who had a prior drug-related conviction. He was arrested

66 State v. Beverley Allitt, Ibid.
February 3rd on murder charges. But when confronted with the incriminating video footage in the interrogation room, Donald said it was his twin brother on the video.

Investigators took several days to track down Ronald Smith at his parents' home. The parents and sister both subsequently confirmed that Ronald, not Donald, was the man in the surveillance video. Ronald was further incriminated when an analysis of his fingerprints matched those left by the suspect in Coleman's Dodge Intrepid. Cell phone records also showed that Ronald was in the area where Coleman's car was dumped shortly after the shooting. When faced with the evidence, Ronald Smith admitted shooting Coleman with a 357 Magnum and stealing her car, police said. He was arrested for Coleman's murder on Feb. 6 and Donald was set free.

5.4.3. **In United States**

In *State v. Shaun Wainwright*, a pair of gloves was found in a hedgerow near a murder scene, the victim who was later identified as Simon Holdsworth’s. The gloves were found by police on January 15, 2014 - almost one month after Mr Holdsworth was beaten to death with a blunt weapon on playing fields near Rainbow Forge Primary School in Hackenthorpe on December 16, 2013. The prosecution alleged Wainwright lay in wait for his colleague and carried out the attack as Mr Holdsworth walked home from work. The gloves were found a day after Wainwright’s arrest on January 14, 2014. Wainwright, aged 46, of Dagnam Road, Arbourthorne, visited the murder scene on several occasions after Mr Holdsworth was killed. The pair had both worked together at FBS Prestige on Birley Vale Avenue. Forensic scientist Samantha Warna said the DNA match to Wainwright was ‘one in one billion’ and the findings were consistent with him having worn the gloves at some point. Teesside Crown Court held murder had a ‘one in

---

a billion’ DNA match to his colleague Shaun Wainwright. Wainwright was subsequently convicted.

The Supreme Court through the case of *Maryland v. Alonzo Jay King* further enriched the US Database to ease forensic identification and help in solving cases. In 2003, a man concealing his face and armed with a gun broke into a woman’s home in Salisbury, Maryland and raped her. The police were unable to identify or apprehend the assailant based on any detailed description or other evidence they then had, but they did obtain from the victim a sample of the perpetrator’s DNA. When King was arrested on April 10, 2009, for menacing a group of people with a shotgun and charged in State court with both first- and second-degree assault, he was processed for detention in custody at the Wicomico County Central Booking facility. Booking personnel as part of a routine booking procedure for serious offences used a cheek swab or filter paper known as a buccal swab to take the DNA sample from him pursuant to provisions of the Maryland DNA Collection Act (or Act). On July 13, 2009, King’s DNA record was uploaded to the Maryland DNA database, and three weeks later, on August 4, 2009, his DNA profile was matched to the DNA sample collected in the unsolved 2003 rape case.

Once the DNA was matched to King, detectives presented the forensic evidence to a grand jury, which indicted him for the rape. Detectives obtained a search warrant and took a second sample of DNA from King, which again matched the evidence from the rape.

In *Glenn Joseph Raynor v. State of Maryland*, early on the morning of April 2, 2006, after cutting the victim's telephone line, appellant gained entry to the victim's home by

---

70 *Maryland v. Alonzo Jay King* 569 U. S. 2013

chiselling open the basement door, and raped her. Later that day, swabs were taken of the victim's vagina and anus. When the police arrived, they took swabs of blood stains that were found on a pillow case on the victim's bed and on the floor of the back patio of the victim's home, underneath a broken window. After appellant left her house, the victim ran to her neighbours’ house and, from there, called the police. Appellant did not become a suspect in the investigation of the rape until, more than two years later, the victim sent an email to the lead investigator in the case, Trooper First Class Dana Wenger of the Maryland State Police, stating that she believed that appellant was the man who had raped her.

After appellant left the police barracks, Sergeant Decourcey swabbed the armrests of the chair on which appellant had been sitting. The swabs were submitted to the Maryland State Police Forensic Lab, where the forensic sciences supervisor, Bruce Heidebrecht, extracted DNA from the swabs and developed a DNA profile for comparison purposes. The appellant’s DNA profile was found to match the DNA profile developed from the evidence taken from the pillow case and the patio at the scene of the crime.

An independent lab compared the DNA obtained from appellant's cheek with DNA from swabs of the victim's anus and vagina, taken during the forensic examination the day of the rape, and concluded that neither appellant nor any of his male paternal relatives could be excluded as a potential contributor to that DNA sample. The DNA from the additional sample, gathered by swabbing appellant's cheek, also matched the DNA on the pillow case and the patio. On the strength of the DNA comparison and circumstantial evidence developed by Trooper Wenger, specifically the victim's identification, appellant's familiarity with the victim and her home, Trooper Wenger's
detection of a “metallic” odour emanating from appellant’s person, and appellant’s nervousness and “peculiar” conduct during his interview with the police; Trooper Wenger obtained warrants to arrest appellant, search his home, and collect an additional DNA sample. But that 99.57% of the male population in a country the size of the United States could be. This led to the affirmation of his conviction.

In *State of Ohio v. Raymond Samuels*, when the death of a homeless or transient person occurs, not as much attention might be given to solving the crime. This was however not the case with transient Sara Lynn Wineski, who was found strangled and raped outside a then-Ronald McDonald House in St. Petersburg, Fla., in 2005. Screams were heard about 11 p.m. on May 21, 2005, reported 10-News, but it was not until the following afternoon that her body was found under a deck behind the house. DNA evidence was collected at the scene, but progress had never been made until November, 2013 when it was linked to Raymond Samuels, aged 31. He has been in prison since 2006 in Ohio for attempted murder and kidnapping and will be extradited to Florida. Investigators indicate that Samuels, also a transient, was in the area at the time of Wineski’s death. According to investigators, it was DNA that was the missing link in solving the crime, and, as a result, Samuels now faces first-degree murder charges.

In *United States v. Crisp*, Crisp was charged with bank robbery with a dangerous weapon. Part of the evidence against him included the note used by the robber during the bank robbery. The prosecution produced a handwriting expert, who had examined both the note and a sample of Crisp’s handwriting given for purposes of the examination. Over Crisp’s objection under Daubert, the expert was permitted to testify.

---

72 *State of Ohio v. Raymond Samuels* (2007)-Ohio-3904
Crisp was convicted and on appeal contended the trial court was wrong to admit the handwriting expert’s testimony.

Crisp contends that, like fingerprinting identifications, the basic premise behind handwriting analysis is that no two persons write alike, and thus that forensic document examiners can reliably determine authorship of a particular document by comparing it with known samples. He maintains that these basic premises have not been tested, nor has any error rate been established. In addition, he asserts that handwriting experts have no numerical standards to govern their analyses and that they have not subjected themselves and their science to critical self-examination and study.

The court rejected these contentions. It noted that the expert, Officer Currin, had twenty-four years of experience with the North Carolina State Bureau of Investigation. Currin testified that every questioned document was first examined by a “questioned document examiner,” and then reviewed by another examiner. He testified that he had passed numerous proficiency tests in handwriting analysis and that there was a “consistent methodology of handwriting examination” followed by document examiners. He also testified that studies existed showing that experienced document examiners consistently scored higher on identification of handwriting than laypersons.

Based on this, the court concluded that handwriting analysis was reliable scientific knowledge and admissible. It also noted that every circuit court of appeals addressing the question after the Daubert decision had reached the same conclusion. The court gave the following description of Currin’s tests of the handwriting samples, and the reasons given by him for his expert opinion:

At trial, Currin drew the jury’s attention to similarities between Crisp’s known handwriting exemplars and the writing on the Note. Among the similarities that he
pointed out were the overall size and spacing of the letters and words in the documents; the unique shaping of the capital letter “L” in the name “Lamont”; the spacing between the capital letter “L” and the rest of the word; a peculiar shaping to the letter “o” and “n” when used in conjunction with one another; the v-like formation of the letter “u” in the word “you”; and the shape of the letter “t”, including the horizontal stroke. Currin also noted that the word “tomorrow” was misspelled in the same manner on both the known exemplar and the Note. The court affirmed the defendant’s conviction.

In *State v. Jackson*, a young girl was reported missing in Spokane, Washington, in 1999. Extensive search for the girl or her body came up empty. While there was some evidence pointing to the girl’s father as a possible suspect in the girl’s disappearance, searches of his home and truck produced nothing. When the father picked up his truck after it was searched, police officers said they believed the girl was buried in a shallow grave and that the police would find the body after animals dug it up. Unknown to the father, the police had, pursuant to a court order, placed a global positioning system (GPS) in his truck. The father then went to the spot where he had buried the girl, dug her body up, and moved it to a new burial site. The police retrieved the GPS device, which showed the movements of the truck during the time the GPS device was operating. By tracing the truck’s movement through the GPS, officers were able to locate the girl’s body. This and other evidence collected from the body resulted in the father’s first-degree murder conviction.

In 1993 case of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, the Supreme Court finally clarified that Rule 702, not Frye, controlled the admission of expert testimony.

---

74 *State v. Jackson*, 76 P.3d 217 (Wash 2003)
in the federal courts. *Daubert* was a civil\textsuperscript{77} case brought by two minor children and their parents, alleging that the children’s serious birth defects had been caused by their mothers’ prenatal ingestion of Bendectin, a prescription drug marketed by the defendant pharmaceutical company. In support of a motion for summary judgment, the drug company submitted an affidavit from a qualified expert, who stated that he had reviewed all the literature on Bendectin and human birth defects and had found no study showing Bendectin to be a human teratogen (i.e., an agent that can cause malformations of an embryo or foetus).

The plaintiffs countered with experts of their own, each of whom concluded that Bendectin could cause birth defects. Their conclusions were based on animal studies that found a link between Bendectin and malformations; pharmacological studies of the chemical structure of Bendectin that purported to show similarities between the structure of the drug and that of other substances known to cause birth defects; and the “reanalysis” of previously published epidemiological (human statistical) studies. The district court held that the expert testimony proffered by the plaintiffs was inadmissible, because their scientific evidence was not sufficiently established to have general acceptance in the field to which it belonged. The court of appeals, citing *Frye*, affirmed the judgment of the district court, declaring that expert opinion based on a methodology that diverges significantly from the procedures accepted by recognized authorities in the field cannot be shown to be generally accepted as a reliable technique.

\textsuperscript{76} In the case of *Frye v. United States* 509 U.S. 579, 597 (1993), the Court held that, “expert opinion based on a scientific technique is inadmissible unless the technique is ‘generally accepted’ as reliable in the relevant scientific community.”

\textsuperscript{77} Though a civil case, but a landmark case that practically laid the foundation stone on the conditions for the admissibility of forensic evidence in United States. In 2000, Rule 702 was amended “in response to *Daubert*. 
The Supreme Court reversed, holding that the trial court had applied the wrong standard in assessing the expert testimony proffered by the plaintiffs. The case was then remanded for further proceedings. In construing and applying Rule 702, the Daubert Court ruled that a “trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable.” The Court rejected the Frye test, noting that the drafting history of Rule 702 made no mention of Frye, “and a rigid ‘general acceptance’ requirement would be at odds with the ‘liberal thrust’ of the Federal Rules and their ‘general approach of relaxing the traditional barriers to ‘opinion’ testimony.’”

The Court indicated that the subject of expert testimony should be “scientific knowledge,” so “evidentiary reliability will be based upon scientific validity.” The Court also emphasized that, in considering the admissibility of evidence, trial judges should focus “solely” on experts’ “principles and methodology,” and “not on the conclusions that they generate.” In sum, Daubert’s requirement that expert testimony pertain to “scientific knowledge” established a standard of “evidentiary reliability.” In explaining this evidentiary standard, the Daubert Court pointed to several factors that might be considered by a trial judge: (1) whether a theory or technique can be (and has been) tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) the known or potential rate of error of a particular scientific technique; (4) the existence and maintenance of standards controlling the technique’s operation; and (5) a scientific technique’s degree of acceptance within a relevant scientific community.
In the 1993 case of *United States v. Jacobetz*, DNA fingerprinting was used to identify the defendant as the man who abducted a woman in Vermont, repeatedly raped her, and released her in New York. The court held that “in future cases with a similar evidentiary issue, a court could properly take judicial notice of the general acceptability of the general theory and the use of these specific techniques.”

*State v. Perry* is a case of a serial killer. Detectives brought up three first-degree murder charges against Donna Perry, 61, at the end of October 2013 for allegedly killing three prostitutes in 1990 in Spokane, Wash., with a 22-caliber handgun. At the time of the murders, it was thought that the deaths of all three women, Yolanda Sapp, 26, Nickie Lowe, 34, and Kathleen Brisbois, 38, were related, but the connection didn’t become clear until this year. Perry, who was actually Douglas Perry prior to a 1990 sex change, was arrested in 2012 on federal charges of possession of illegal firearms. The investigation into the deaths of the three women had been re-opened in 2005 with DNA evidence submitted in 2009 and sent through a federal database. During trial, prosecutors argued there was a common link between Perry and the three deceased women, whose bodies were found naked or exposed near the banks of the Spokane River. Perry frequented the same area of Spokane’s skid row East Sprague Avenue and dated a prostitute who worked the same streets as the three women. The DNA evidence gathered matched Perry’s DNA. It was also found underneath one of the victim’s fingernails, on a blanket near where another victim’s body was discovered and on a bottle of lubricant known to be used by the third victim, which was located in a trash

78 *United States v. Jacobetz* 955 F. 2d 799 (2nd Cir.).
79 *State v Perry*, 610 So. 2d 764 (1992)

390
bin along with some of her other items. She also admitted to killing people in the past, according to witness testimony from a jailhouse informant.

A serial killer, who legally changed her gender and name from Douglas Perry to Donna Perry a decade after multiple murders took place, sat quietly throughout the two-and-a-half-week trial with headphones in, scribbling on a legal notepad. She stared ahead as Superior Court Judge Michael Price read the verdict aloud, then spoke briefly with her attorneys before being handcuffed and taken from the courtroom. Family of the three slain women cried and hugged as they walked into the courthouse hallway. Prosecuting attorney Sharon Hedlund praised the hard work of her staff and police officers involved in the decades long investigation. “We know it was a tough case, and we are obviously pleased with the verdict,” she said. “We hope this gives the (victims’) families some closure.” Finally, for more than 27 years after bodies were found, a Spokane jury convicted Donna Perry in the multiple murders. An Ohio Court of Appeals held in the 1973 case of State v. Brock that “courts may take judicial notice of any scientific fact which may be ascertained by reference to a standard dictionary or is of such general knowledge that it is known by any judicial officer. In the instant case, the trial court was correct in taking judicial notice of the fact that heroin is a narcotic drug and is habit forming.”

The importance of the use of forensic evidence in the administration of criminal justice cannot be over-emphasized as all the cases analyzed and solved above, both in Nigeria and other jurisdictions would have been impossible. This is because, without the use of forensic evidence, the courts would not have succeeded in connecting the criminals to their crimes. Nigeria therefore need to improve on this aspect of the law by first

80 State v. Brock 296 N.E. 2d 837.
expanding the laws in this regard and training of experts/specialists in this field who will help in investigating and prosecuting crimes.
CHAPTER SIX
CONCLUSION AND RECOMMENDATIONS

6.1. **Summary**

In this study, attempt had been made to discuss forensic evidence as a springboard for the development of the Nigerian Criminal justice system under the Nigerian Law of Evidence and other relevant statutes. Based on the analysis, the study summarized the findings and made conclusion and relevant recommendations to take Nigeria to the desired height for her to continually address criminal matters without much ado. Legislative and policy recommendations were the front burners to aid Nigeria criminal administration. There is no court, lawyer, agency with prosecutorial powers or law enforcement officers that does not know of the extent to which forensic evidence is helping tremendously in fighting criminality.

The use of forensic evidence has an unparalleled ability both to exonerate the wrongly convicted and to identify the guilty. The use of forensic evidence also has the ability to deter prospective criminals due to the knowledge that they are likely to be identified easily. It therefore has the potential to significantly improve both the criminal justice system and police investigative practices of any nation that incorporates it into their legal system.

Forensic science develops on a daily basis, so is the companion forensic evidence and therefore bound to increase in its ability to identify as well as exonerate suspects. Criminality is part and parcel of every country, and has caused a lot of pains to them especially going by the level of sophistication with which crime is now been
committed, such that fighting the menace is paramount. Many advanced countries have seen the great potential in the use of forensic evidence and have wasted no time in tapping from it. Prominent among these countries are the United Kingdom and the United States of America. The question that now comes to mind is how has the Nigeria Police and other security agencies been functioning without or without proper forensic science for decades. This is not because there is no provision in our statutes enabling the use of forensic evidence in fighting criminality, but because it is not been developed.

The entire research work was divided into six convenient chapters, to enable us do justice to the work. Chapter one which was dedicated to introduction took a broad outlook of the research work. In so doing, it analyzed in details the sub-topics ranging from background of the study, statement of the problems, research questions, objectives of the study, significance of the study, contribution to knowledge, scope and limitation of study as well as research methodology. It went further to discuss other sub-topics in details which are theoretical framework, definition of terms, literature review and overview of the chapters in the entire research work.

Chapter two extensively dealt with the evolution of forensic science under three stages for ease of understanding. The stages are the early which marked the beginning of the use of forensic evidence in fighting crime, the mid stage captured by the 16th – 18th centuries saw the tremendous improvement from the early stage as medical practitioners emerged and took the use of forensics in fighting criminality to a greater height. Criminal investigation became more evidence-based; the use of torture to force

---

1 Though the statutes are in need of restructuring
confessions was curtailed, and belief in witchcraft and other powers of the occult largely ceased to influence the courts’ decisions. This stage experienced technological breakthrough in the use of advanced methods such as DNA in fighting crime. Lastly, in the modern stage, there has been great advancement in numerous area which includes ballistics, DNA profiling technique, DNA fingerprinting and documenting forensic scenes. The stage has experienced great advances in both medical and scientific knowledge which has contributed considerably in the use of medical evidence or forensic evidence in courts till date. Chapter two also dealt with the classification of judicial evidence which are oral evidence, real evidence, documentary evidence, circumstantial evidence, hearsay evidence and best evidence. It further dealt with the classification of forensic science and crime.

In chapter three tagged ‘forensic evidence and Nigerian law of evidence,’ a critical analysis of the history and sources of Nigerian law of evidence in the contemporary legal system was carried out. Under this heading, a cursory look at the historical development of the Nigeria Evidence Act, the provisions introduced in the 2011 evidence Act and the application of evidence Act were analyzed details. The chapter further took a look at proof of evidence, admissibility of forensic evidence in Nigeria evidence act, implication of section 68 of the Nigerian evidence act (dealing with opinions of experts via opinion evidence), corroboration of expert evidence and the limit of expert opinion.

Chapter four titled ‘Statutes On Forensic Evidence and their Application In Nigeria And Other Jurisdictions’ explained that every jurisdiction is guided by its applicable laws with regard to their use of forensic evidence in fighting criminality as provided in their various statutes. Statutes on Forensic Evidence in the United States, United
Kingdom and Nigeria were analysed in great details as their various provisions were spelt out for utmost clarity. This was followed by an extensive comparative analysis and the application of forensic evidence in United States and United Kingdom in consonance with what is applicable in Nigeria using statutory provisions and case laws. This exposed the fact that the applicable laws with regard to the use of forensic evidence in fighting criminality is inadequate, as this was clearly seen in their application to cases; being few and far between. The chapter was concluded with the administration of criminal justice in Nigeria wherein historical analyses was done. The Nigerian court system and institutions lending support to the court system were discussed. This brought to limelight the Nigerian courts in charge of administration of justice and those agencies with powers to prosecute offenders in Nigeria with a view to fighting criminality. Such agencies include the Police, National Drug Law Enforcement Agency (NDLEA), Code of Conduct Bureau and Tribunal, and Economic and Financial Crimes Commission (EFCC). Others discussed includes, the legal profession, the Nigerian prison services and traditional institutions.

Chapter five with the heading ‘Impact and Critique of Forensic Evidence in Nigeria Criminal Justice System and Other Jurisdictions’ commenced with the sub-topic ‘Impact of Forensic Evidence’ where the rate at which criminal cases were been resolved was seen to be high in countries that use full fledge forensic evidence in their legal systems, and consequently linked with low crime rates. On the other hand, countries lagging behind in the use of forensic evidence in their legal systems to fight crime end up with high crime rates. This was followed with the ‘Critique of Forensic Evidence’ where the strengths and limitations of the use of forensic evidence to fight
crime were thoroughly discussed. Granted that because of the enormous advantages that forensic evidence presents, it has steadily gained popularity, but it still has its drawbacks; disadvantages. The chapter also discussed Crime Scene Investigation and Management, and Management of Forensic Evidence, throwing light on the procedure to be taken to achieve the desired result; solving the crime. The sub-topics dealt on ensuring that the crime scenes are well secured/protected, the necessary evidence are taken from the scenes, the evidence are well preserved to avoid contamination, taken into proper custody, proper and extensive testing is carried out, proper storage is done until it's time for them to be presented in courts. The chapter was capped by cases solved via the use of forensic evidence which dealt on both old and recent cases indicative of the fact that the use of forensic evidence in fighting crime is not a recent development, and to show that it is still in use, and has in fact expanded in its use. It was observed that the cases solved in the United States and United Kingdom were numerous and up to date indicative of their full fledge practice of forensic evidence in their day to day management of crime, while in the case of Nigeria, it was discovered that the cases solved through the use of forensic evidence are mostly old and scanty, pointing to the fact that it is not a prime tool when it comes to the management of crime. Put succinctly, Nigeria has not well embraced the use of forensic evidence to tackle its problem of crime fighting.

The thesis ended with chapter six, which is summary, conclusion and recommendation on the platform of the entire research analysis. It was concluded that Nigeria is in dire need of full employment of forensic evidence in her courts through investigators and experts to help eradicate the menace of crime. To achieve this, it was recommended
that the existing statutes be expanded to accommodate the necessary provisions required to implement full fledged forensic evidence or in the alternative create specific enactments. Databases should be created for matching of suspects, standard laboratories should be established and Government funding must be regular amongst others.

6.2. Conclusion

The advent of DNA technology is one of the most significant scientific advancements of our era. The full potential for use of genetic markers in medicine and science is still being explored, but the utility of DNA identification in the criminal justice system is already undisputed. Since the first use of forensic DNA analysis to catch a rapist and murderer in England in 1986, law enforcement, the defence bar, and the courts have acknowledged DNA testing’s “unparalleled ability both to exonerate the wrongly convicted and to identify the guilty. It has the potential to significantly improve both the criminal justice system and police investigative practices.”

This is the popular quotation in the highly celebrated case of Maryland v. Alonzo Jay King. This quotation succinctly explains the overwhelming benefits of the use of forensic evidence in a country’s criminal justice system as an effective solution to solving crimes. This is more imperative in that the world is a place full of crime. Crime takes place in the workplace, schools, homes, places of business, motor vehicles, on the streets, and, increasingly, on the Internet. Crimes are committed at all hours of the day and night and in all regions of the country, in rural, suburban, and urban environments. In many cases, a weapon is used, such as a handgun, knife, or blunt object. Sometimes the perpetrator is under the influence of alcohol or illicit drugs. In other cases, no one is

---

2 With this quotation coming from a judicial system, one cannot help but wonder in shock why the use of forensic evidence has still not taken root as expected in Nigeria’s Criminal justice system.

3 Maryland v. Alonzo Jay King, 569 U. S. 2013

398
physically hurt, but property is damaged or stolen for example, when burglary, theft, and motor vehicle theft occur. Information technology has provided the opportunity to identify theft and other types of cybercrime.

A crime scene often is rich in information that reveals the nature of the criminal activity and the identities of those persons involved. Perpetrators and victims may leave behind blood, saliva, skin cells, hair, fingerprints, footprints, tire prints, clothing fibres, digital and photographic images, audio data, handwriting, and the residual effects and debris of arson, gunshots, and unlawful entry. Some crimes transcend borders, such as those involving national security, for which forensic evidence can be gathered. Crime scene investigators, with varying levels of training and experience, search for and collect evidence at the scene, preserve and secure it in tamper-evident packaging, label it, and send it to an appropriate agency normally a crime laboratory, where it may be analyzed by forensic examiners. If a death was sudden, unexpected, or resulted from violence, a medico-legal investigator (e.g., coroner, medical examiner, forensic pathologist, physician’s assistant) will be responsible for determining whether a homicide, suicide, or accident occurred and will certify the cause and manner of death. Crime scene evidence moves through a chain of custody in which, depending on their physical characteristics (e.g., blood, fibre, handwriting), samples are analyzed according to any of a number of analytical protocols, and results are reported to law enforcement and court officials. When evidence is analyzed, typically forensic science “attempts to uncover the actions or happenings of an event by way of identification (categorization), individualization, association, and reconstruction.” Evidence is also analyzed for the
purpose of excluding individuals or sources. For decades, the forensic science disciplines have produced valuable evidence that has contributed to the successful prosecution and conviction of criminals as well as to the exoneration of innocent people. Advances in some forensic science disciplines, especially the use of DNA technology, have demonstrated that some areas of forensic science have great additional potential to help law enforcement identify criminals. Many crimes that may have gone unsolved are now being solved because forensic science is helping to identify the perpetrators. Forensic analysis, when performed properly by qualified technical and scientific staff in an accredited facility, is rightly considered one of the most powerful tools for the individualization of bodily substance that eventually identifies the criminal or exonerate the suspect. In the 2005 case of United States v. Sczubelek, the court made the following comments about the role and importance of DNA testing:

DNA testing has changed the criminal justice system. All 50 states and the federal government have enacted DNA collection and database statutes. To date, 143 people have been exonerated by DNA evidence, thirteen of whom were sentenced to death. 38 states have enacted some form of a DNA statute, allowing for post-conviction DNA testing, compensation for wrongful conviction, or preservation of evidence. In 2003 the House of Representatives passed the Advancing justice Through DNA Technology Act (HR3214), a federal statute which would give prisoners the right to petition for DNA testing in support of a claim of innocence.

---

5 Ibid
6 United States v. Sczubelek 402 F 3d 175, 185 (3d Cir. 2005).
It is at this point very clear that the use of Forensic evidence in Nigeria in fighting criminality is still at infancy stage. This is due to the fact that there are no sufficient or elaborate statutory provisions in our statutes and no concerted effort by the concerned authorities to improve and develop the existing ones on the use of forensic evidence in our criminal trials. No wonder in the recent case of *Mohammed v. State*\(^7\), where the PW2, PW3 and their brother (now deceased) were allegedly robbed by the appellant and co-accused while armed with cutlasses and sticks, the deceased had died in the process. On being arrested, the accused person was arraigned in the high court of kwara State on a 2-count charge of criminal conspiracy and armed robbery contrary to section 97 of the Penal Code and section 1(2) of the Robbery and Firearms (Special Provisions) Act, 2004 respectively. Confessional statements made by the accused persons but retracted were tendered at the trial. The appellant in his defence raised the defence of alibi. The trial court found them guilty and sentenced them accordingly. Aggrieved, the appellant filed an appeal to the Court of Appeal contending that his conviction was wrong on grounds that the prosecution failed to prove the charge against him. In the Court of Appeal, Uwa JCA on the issue of whether forensic evidence is mandatory in criminal trials said thus: “…it is common knowledge of lack of scientific and forensic analysis in our criminal trial in this country with the resultant effect that the trial court would be left to look for other means to arrive at its conclusion.” The case was dismissed.

Also in *Shonubi v. People of Lagos State*,\(^8\) the appellant was arraigned before the high court of Lagos State for the offence of murder, in that he was alleged to have killed one

---

\(^7\) *Mohammed v. State* (2015) All FWLR (pt. 806) 209-211

\(^8\) *Shonubi v. People of Lagos State* (2015) All FWLR (pt. 801) 1428
Miss Aniemeke Steen by strangulating her in a bath tub full of water. When the body of the deceased was discovered by her mother (Wilmer Steen) and her friend who returned together from a shopping, she raised an alarm, which attracted security men and police men attached to the Shell Nigeria Exploration Petroleum Company, who were around. The environment was thereafter cordoned and (9) suspects were arrested based on forensic analysis carried out both in the United Kingdom and in Nigeria, only the appellant was arraigned. He was found guilty by the trial judge, based on scientific evidence, surrounding circumstances and evidence of prosecution witnesses, and sentenced to death by hanging, pursuant to section 316 of the criminal code law of Lagos State, CAP C17, vol. 12, 2003. Aggrieved, the appellant lodged an appeal to the Court of Appeal. Obaseki-Adejumo JCA on the issue of meaning and uses of forensic analysis (medicine), standard required of forensic experts by court, reservations about the use of forensic analysis to prove commission of crime in Nigeria and cases applicable to, held thus: “...the use of forensic analysis has not taken firm ground in Nigeria, especially in proof of murder cases, except for drug and fingerprints in fraud and election malpractices.” The appeal was dismissed in the final analysis.

In *Legi Mohammed v. State*, the appellant and his co-accused were alleged to have attacked and robbed PW3, PW4 and their brother who died during the attack. On being arrested, they were arraigned in the High Court of Kwara State on a 2 count charge of conspiracy and armed robbery, contrary to section 97 of the Penal Code and section 1 (2) of the Robbery and Firearms (Special Provisions) Act, 2004. The prosecution tendered in evidence, the confessional statements made by the accused persons, which were resiled from at the trial. The trial court found them guilty and sentenced them to

---

death. Aggrieved, the appellants filed an appeal to the Court of Appeal, contending that their conviction was wrong as the prosecution failed to prove his guilt. The court in dismissing the appeal per Uwa J.C.A, on the question of whether forensic evidence must be tendered in trial for armed robbery in proof of weapon used, the court held thus:

In the submissions of the learned counsel to the appellant, it was argued that there was no forensic or medical evidence that linked the appellant to the crime, since the appellant was not found at the scene of crime and was not linked to the weapons allegedly used, the cutlass and the sticks as well as the amputated arm, all found at the scene… The argument was also put up that there was no forensic analysis to ascertain that exhibits P1 and P2, the cutlass and stick respectively, belonged to the appellant. I would add that it is common knowledge of lack of scientific and forensic analysis in our criminal trials in this country with the resultant effect that the trial court would be left to look for other means to arrive at its conclusion….

His Lordship, Hon. Justice B. A. Adejumo, OFR, President National Industrial Court stated thus:

The need for an expert witness to offer technical opinion is a great challenge currently facing the judiciary when adjudicating election disputes. In Nigeria, there are insufficient or lack of experts witnesses in this respect. The few experts that have so far being introduced are foreigners who contended with some communication and socio-cultural related problems thereby limiting the dispensation of their professional services. Examples of communication barriers relate to accents and intonations on the sides of the expert, counsel and Tribunal Judges. This creates the problem of comprehension and affects timely resolution of the case. More than necessary time is spent by the court battling with how to understand the purpose of the expert witness. Therefore there is need to build the capacity of Nigerians to
offer expert opinions that can guide and fast track the Court proceedings on election matters.\textsuperscript{10}

Mr. Babatunde Fashola, whilst the governor of Lagos State, made an observation on 3\textsuperscript{rd} of January, 2014 while speaking on Lagos television as part of activities to mark the New Year, that the establishment of Deoxyribonucleic Acid (DNA) laboratories and forensic laboratories in Nigeria would ease the process of solving domestic violence such as rape and other related issues. Fashola explained that lack of the valuable facilities makes it difficult to prove cases of rape and related issues against the accused in the court of law.\textsuperscript{11}

However disheartening this ugly situation may seem, Nigeria must wake up and face reality which is that it is almost impossible to fight modern crimes in view of the upsurge of technical innovations which the criminals have not also wasted time in using in their criminal activities. It is still better to be late than never. The use of forensic evidence in curbing crime is a very essential part of law, particularly in criminal trials where securing conviction is herculean because of the standard required to prove the cases. This was well explained in \textit{Eyo v. State}.\textsuperscript{12} In considering proof beyond reasonable doubt as the required standard of proof in a criminal trial, the court held as follows:


\textsuperscript{12} \textit{Eyo v. State} (2016) All FWLR (Pt 829) at 1042. See also the case of \textit{State v. Gwagwag} (2015) All FWLR (pt.801) 1472-1473 In order for the prosecution to succeed whenever the commission of a crime is in issue against an accused, he is under a duty to establish his case beyond reasonable doubt.
The standard of proof in a criminal trial is not proof beyond any shadow of doubt. To so hold would amount to a possibility of many hundreds of cases going unestablished. There shall forever be no conviction. Many hundreds of proved criminal cases will thus go scot free. Which means that in every criminal trial, there must be hundred percent absence of doubt. Which is quite impossible to have. The law does not look for certainty. Once the ingredients of a particular criminal offence are established by the prosecution beyond reasonable doubt, then the burden becomes that of the accused person to discharge, that is, to show by credible evidence that he was not guilty. If therefore there is genuine doubt incredible defence evidence, then that doubt must quickly be resolved in favour of the accused person. In the instant case, the prosecution established all the ingredients of the offence against the appellant beyond reasonable doubt and the trial court rightly found the appellant guilty as charged.

This was also succinctly put in *Re Winship,*\(^{13}\) where the Supreme Court of United States held that the Due Process Clause of the Fourteenth Amendment requires the prosecution to establish the elements of a charged crime beyond a reasonable doubt.

Many criminals are on the loose simply because whenever they are arrested and brought before the court, there are always issues as to insufficient evidence to link such accused persons to the alleged crime/offence. This is so as criminal cases must be proved beyond reasonable doubt. An attempted murder case of *State v. Uhunoma,*\(^{14}\) easily comes to mind where the accused person poured a liquid substance on his lover who was pregnant and refused to have an abortion. Since the victim was still alive to give evidence, she testified that the accused is the one that poured the liquid on her face and chest. The police investigators were able to recover the container from which the liquid was poured, and tendered same. The accused while questioning the police


\(^{14}\) *State v. Uhunoma* (unreported) Charge no. B/53c/2004 High Court of Justice, Benin City.
investigator, as his counsel had been persistently absent, asked whether he had the liquid tested and of course the answer was no. He then further asked the investigator how he got to know that the liquid was an acid, and the investigator was dumb founded. The accused only got a conviction for assault for such a heinous crime, he escaped the due weight of the law simply because of the absence of forensics. The above case of *Uhunoma* can be compared to the highly celebrated South African case of *Director of Public Prosecutions, Gauteng v Pistorius*¹⁵ where the initial judgment was devoid of forensic evidence and the eventual judgment on appeal where forensic evidence was considered. In this case, the tragic story of Oscar Pistorius and his girl friend, Reeva Rebecca Steenkamp could not have been more vividly captured than in the lead judgment when the Director of Public Prosecutions appealed his (Pistorius') initial conviction of culpable homicide (manslaughter), handed down by the trial judge. The lead judgment had this opening;

This case involves a human tragedy of Shakespearean proportions; a young man overcomes huge physical disabilities to reach Olympian heights as an athlete; in doing so he becomes an international celebrity; he meets a young woman of great natural beauty and a successful model; romance blossoms; and then ironically, on Valentine's Day, all is destroyed when he takes her life. The issue before this case is whether in doing so he committed the crime of murder, the intentional killing of a human being or the lesser offence of culpable homicide, the negligent killing of another. To the trial judge, the prosecution did not adduce evidence beyond reasonable doubt to convict Pistorius of murder; the prosecution had failed to rebut Pistorius’ version of

---

events that he had mistakenly shot Steenkamp. The trial judge had this to conclude: “I am of the view that Pistorius acted too hastily and used excessive force. In the circumstances, it is clear his conduct was negligent.” The judge sentenced Pistorius to five years in prison capable of being converted to correctional supervision. But the State challenged this judgment on the grounds that the trial court had incorrectly applied the principle of criminal intent to kill in this case when it held that Pistorius did not intentionally shoot and kill Steenkamp and more importantly that the court did not take all relevant (especially forensic) evidence adduced during the trial to determine the presence or absence of criminal intention to kill.

On the first ground of criminal intent, the appellate court faulted the trial court and instead ruled that a reasonable person would have foreseen the possibility that the shots fired at the door might kill whoever was in the toilet. Although a person's intention to kill must relate to the person killed, this does not mean that the killer must know or appreciate the identity of the victim. A person who causes a bomb to explode in a crowded place will probably be ignorant of the identity of his or her victims, but will nevertheless have the intention to kill those who might die in the resultant explosion.

Therefore, to the appellate court, the question was whether there was a person behind the door who might possibly be killed when a gun was fired into the toilet. The court ruled that the trial court had misdirected itself on this issue.

On the second ground, the trial judge was also faulted by the appellate court for not directing itself to all the relevant evidence bearing on the relevant issues. The trial judge had ignored vital forensic evidence and failed to mention it and in doing so, displayed a lack of appreciation of the relevant evidence which had a bearing on the
verdict. In the *Pistorius* case, although the question of his intentions at the relevant time was one of fact to be determined by inference, the appellate court noted that there, regrettably, did appear to have been an absence of appreciation of material evidence relevant to the issue. The trial court did not appropriately consider the evidence of Captain Mangena who was a police forensic expert, whose evidence was with respect to the reconstruction of the scene of crime. The forensic expert examined the position of the bullet holes in the door, the marks the bullet left in the toilet and the position of the injuries on Steenkamp's body. The forensic expert determined that Steenkamp must have been standing behind the door when she was first shot, and then collapsed down towards the toilet bowl. The toilet cubicle was extremely small and all the shots fired through the door would inevitably have struck a person behind it. There had effectively been nowhere for Steenkamp to hide. And the weapon used had an effect of causing devastating wounds to any person who might be hit.

The appellate court ruled that if the trial court had considered all these, it would have convicted Pistorius of murder. The court stated that Pistorius ought to have been found guilty of murder on the basis that he had fired the fatal shots with criminal intent. The court, therefore, ruled that “the interests of justice require that persons should be convicted of the actual crimes they have committed and not of lesser offences, particularly in crimes of violence.” The court finally ruled that the conviction and sentence given to Pistorius of culpable homicide is set aside and replaced with the following, guilty of murder, having had criminal intent.

Without forensics, *Oscar Pistorius* like *Uhunoma* would have been convicted for lesser offence as against their actual offences, while others go totally free. The use of forensic
should therefore be promoted and encouraged in order to ensure proper justice and fairness being the only tool that can provide this required proof. Nigeria will benefit immensely if the practice of forensics is allowed to blossom in view of the overwhelming advantages it presents. It will go a long way in helping the government achieve its goal of crime-solving/reduction. If the legislature enacts a distinct Act or expands the existing Nigeria Evidence Act,\textsuperscript{16} and gives premium to the law on the use of forensic evidence as allowed for in other jurisdictions practicing full fledge forensics it will ensure quick, appropriate and unbiased judgments. If Nigeria can take after its model countries, UK and US, in the use of forensics, it will set a moral foundation for ensuring human dignity and procedural accuracy as opposed to the common use of force, beatings and even death at times, of accused persons as obtainable in the Nigerian prisons.

6.3. **Recommendations**

To be able to tap from the enormous benefits presented by the use of forensics, a lot of sacrifices must be made. These include:

6.3.1. **Specific Enactment**

Granted we have skeletal provisions in our evidence Act\textsuperscript{17} and Police Act\textsuperscript{18} creating enabling environment for the use of forensic evidence to thrive, but these are clearly inadequate as can be seen in the application to the cases in Nigeria. These provisions are not sufficient to create fertile ground for forensics to thrive in Nigeria. It is therefore recommended that our legislators should create/enact specific statutes for the use of forensics in Nigeria just as we have in the cases of Economic and Financial Crimes

\textsuperscript{16} Section 68 of the Evidence Act, 2011.
\textsuperscript{17} Ibid
\textsuperscript{18} Section 30, Cap P19, Laws of Federation of Nigeria, 2004
Commission (Establishment) Act,\(^{19}\) the Corrupt Practices and other Related Offences Act,\(^{20}\) the Money Laundering (Prohibition) Act,\(^{21}\) and the Cybercrimes (Prohibition, Prevention etc) Act,\(^{22}\) having their specific detailed statutes. This will no doubt bring about clarity on the use of forensics as every detail concerning it will be well spelt out. This is not far from the methods employed by other jurisdictions where full fledge forensics is practiced. In the United Kingdom for example, there are several legislations that cover the use of forensics. They include Police and Criminal Evidence Act,\(^{23}\) Criminal Justice Act\(^{24}\) and Serious Organized Crime and Police Act.\(^{25}\)

6.3.2. Expansion of Existing Statutes

In the absence of the creation of specific statutes as spelt out above, the expansion of the already existing statutes can be adopted. It is necessary to expand the Nigeria Evidence Act beyond the mundane provisions as types of forensics have expanded beyond its provisions as it were. In the United States of America for example, the Federal Rules of Evidence which contains the rules on the use of forensic evidence is very detailed. This is not the case with the Nigeria Evidence Act where the provisions concerning forensic evidence are very scanty. More details and inclusion of more recent types of forensics will go a long way in ensuring that forensic science is developed in Nigeria. Nothing stops the expansion of the existing laws from going along with the creation of specific statutes, as both working together will create better base for the use of forensic evidence in our criminal justice system to thrive.

\(^{19}\) 2002  
\(^{20}\) 2000 Act No 5  
\(^{21}\) 2011  
\(^{22}\) 2015  
\(^{23}\) 1984  
\(^{24}\) 2003  
\(^{25}\) 2005
6.3.3. **Database Creation**

Database should be created from which matching of possible criminals are done. Where there is no database, there is no point collecting evidence for testing for possible identification of the offender. In other words, it forms the basis upon which certain evidence are collected and tested with a view to matching it in the database and then fishing out the offender or exonerating the suspect. Countries\textsuperscript{26} benefiting from the enormous advantages presented by the use of forensic evidence have large databases built over time and criteria for the collection of such specimens.

6.3.4. **Standard laboratories**

Forensic laboratory is where the evidence collected from crime scenes are tested before sending the results for matching in the database to ascertain the who the offender is or exonerate the suspect. Without standard laboratories to run these tests, all these will not be possible. It is recommended that standard laboratories be established all over the nation for analysis of specimens for the eventual eradication of crime or at least, to bring crime to its barest minimum.

6.3.6. **Independent and transparent oversight commission**

Independent and transparent oversight commission should be created to develop and enforce quality standards for forensic science laboratories. This is imperative as some wrongful convictions were a result of incorrect or improperly conducted tests. While many of these mistakes are likely unintentional, many of them could have been prevented with proper quality standards and policies. In some disturbing cases, crime laboratory analysts have intentionally fabricated or misrepresented test results to aid.

\textsuperscript{26} The United Kingdom and the United States
prosecutions.\textsuperscript{27} Intentional or unintentional, erroneous or misleading forensic analysis or testimony severely undermines the fairness and accuracy of criminal trials. To prevent error, each State should create an independent oversight commission to regulate its forensic science laboratories. The creation of a State oversight commission would provide a venue for investigating cases of misconduct, negligence, or poor management of testing practices. The commission should implement quality assurance standards, and monitor laboratory performance. These commissions should include a cross-section of people from inside and outside the forensic establishment and other stakeholders in the criminal justice system, including prosecutors and defence attorneys with expertise in forensic evidence.\textsuperscript{28} The commission should set and enforce standards for laboratory accreditation. State-wide standards and rigorous oversight of forensic testing ensure that laboratories operate in a way that is consistent with the highest scientific standards. The commission should create or adopt operational, training, administrative, and scientific standards and regulations for forensic laboratories and other entities performing or offering forensic analysis in the state. The standards should be designed to increase and maintain the objectivity, reliability, and efficiency of forensic testing and analysis.

6.3.5. Development of Internal Structures and Policies

All forensic science laboratories should develop internal structures and policies to prevent bias in testing and analysis.\textsuperscript{29} The information a forensic analyst receives prior to performing any forensic testing or analysis can have a subtle, but significant effect

\footnotesize{\textsuperscript{27} Desportes B. L., Improving the Practice and Use of Forensic Science, available at \url{www.ag.ca.gov/meetings/tf/pdf/Justice_Project_Report.pdf} accessed 24/8/16 at 7.12am \textsuperscript{28} Ibid \textsuperscript{29} Ian Gibson, Forensic Science on Trial, available at \url{www.publications.parliament.uk/.../96} accessed on 01/09/16 at 12.05am}
on the objectivity of the analysis. When an analyst is assigned a sample to test, it is common that they receive a wide array of information about the sample and its context. Information such as details of the crime, names of suspects, where the police collected the sample, and the expected result can have a huge impact on the objectivity of the analyst. Information about the crime, suspects, and where data was collected may not be necessary to accurately conduct testing. At times, some of this data is necessary to perform analysis, but analysts and those they receive data from should take caution. Expectations and desires can influence perception, and this extraneous information can skew the outcome of the testing by subtly biasing the analyst.\footnote{Michael Risinger D. \textit{et al.}, \textit{The Daubert/Kumho Implications of Observer Effects in Forensic Science}, 90 CAL. L. REV. 1, 6 (2002).} Forensic analysts are especially susceptible to biases if other analysts, police, or prosecutors inform them of other results from the same case before completing their own tests and making their own conclusions. Becoming aware of other test results or other case evidence from the same case can push analysts to expect a particular outcome, making it more likely that their conclusion will fulfil this expectation.\footnote{Michael Risinger D. \textit{et al.}, \textit{Op. cit.} p. 29} These dangers are especially real given the subjective element of most forensic analysis and the high stakes of the test outcomes. Another factor increasing the danger of bias is the nature of crimes that leave forensic evidence behind. Many crimes with the greatest amount of forensic evidence available to test involve sensational acts such as murder, assault, or rape. Photos, descriptions of the crime, and other unnecessary information can evoke strong emotions, creating greater risks of inadvertent bias.\footnote{An expert with the FBI Materials Analysis Unit stressed that “you work so many of these cases that you try not to get involved, but it’s very difficult when a crime involves a baby or a small child, somebody that’s defenceless, and you find yourself, I think, working harder to try to establish something in a case.”\textsuperscript{27}}
6.3.7. **Independent laboratories**

All forensic laboratories should be made independent from law enforcement and prosecutorial agencies. In most States, police agencies or other public safety agencies have jurisdiction over the operation of public forensic laboratories.\(^{33}\) Due to the nature of their location within law enforcement or prosecutorial agencies, forensic science laboratory employees often have close, collegial relationships with law enforcement and prosecutors conducting investigations of crimes. In addition, many forensic analysts come from law enforcement backgrounds. As a result, analysts sometimes see their role as part of the crime-fighting team as opposed to being a fully objective agent of science.\(^{34}\) In some circumstances, the nature of forensic analysis will be unaffected by such factors. However, in other types of analysis; those types of forensic analysis with a significant subjective element—the risks of inadvertent bias cannot be ignored. States must address the issue of inadvertent bias on the part of analysts. Forensic science lab analysts must be fully objective agents of science. Analysts must operate without bias or favour. In its report, the Illinois Commission on Capital Punishment recommended that laboratories should operate as an “independent third force in the criminal justice system.”\(^{35}\) The operation of forensic laboratories as part of law enforcement or prosecutorial agencies is at odds with this needed objectivity. Making forensic science laboratories structurally independent from law enforcement and

---


prosecutorial agencies is a reform that is needed to effectively guarantee an environment of impartiality and objectivity. A handful of States are leading the way on making labs independent from law enforcement and prosecutorial agencies. Maryland, for example, gives the Department of Health and Mental Hygiene jurisdiction over the regulation of forensics laboratories. The State Crime Laboratory in Arkansas operates independent of law enforcement or the Attorney General and the executive director is accountable directly to the governor. Virginia also has an independent Department of Forensic Science.

6.3.8. **Quality Assurance and Quality Control Procedures**

Forensic laboratories should establish routine quality assurance and quality control procedures to ensure the accuracy of forensic analyses and the work of forensic practitioners. Quality control procedures should be designed to identify mistakes, fraud, and bias; confirm the continued validity and reliability of standard operating procedures and protocols; ensure that best practices are being followed; and correct procedures and protocols that are found to need improvement. This will in the long run give credence to the outcome of the laboratory findings.

6.3.9. **Training of Analysts**

All forensic laboratory analysts should be properly trained. The output of any forensic science laboratory is only as strong as the analysts performing the work. Thus, any attempt to reform forensic science must ensure that laboratories provide proper training and certification for its analysts. Currently, training programs vary wildly around the country. While forensic science is an important part of the criminal justice system, the practice itself is scientific in nature. Care is needed to ensure that forensic analysts have
a greater interest in performing objective science than in fighting crime.\textsuperscript{36} In addition to improving analytical skills, effective training improves respect for, and belief in, forensics as an objective science. Analysts should be certified before they are allowed to perform forensic analysis or testify in criminal trials.\textsuperscript{37} The commission recommended above should adopt and enforce a certification and continuing education program for all forensic analysts, examiners, and technicians in all forensic fields. Certification should be mandatory, not voluntary. Research in other fields has proven that voluntary certification is less effective in ensuring competence than required certification. One potential problem is that many analysts come from criminal justice, rather than scientific, backgrounds. Crime-fighting bias can lead to inaccurate results. Less scientific training also decreases the likelihood that forensic analysts will critically analyze information received from police, prosecutors, and their colleagues. Even with scientific training, however, a bachelor’s degree in some cases is not enough to ensure competence. One study found that, “hands-on training is needed to develop and maintain expertise, update knowledge and skills, and keep up with advances and changes in technology.” Improved training must involve additional field work and blind proficiency testing. In addition to creating a program for certification and training, laboratories should adopt and teach an ethical code. The creation of a strong ethical code provides analysts with a guide to understanding the serious nature of their responsibilities by helping them navigate the sometimes challenging ethical waters of a forensics laboratory.

\textsuperscript{36} Office of the Inspector General, U.S. Department Of Justice, the FBI Laboratory: \textit{An Investigation Into Laboratory Practices And Alleged Misconduct In Explosives-Related And Other Cases} (1997).

\textsuperscript{37} The American Bar Association endorses such standards in \textit{Achieving Justice: Freeing the Innocent, Convicting the Guilty}, 2006 A.B.A. Sec. Crim. Just. L. Rep. 56. The recommendations in this policy review in this area are largely adopted from the A.B.A.
6.3.10. **Training of key players**

Judges, lawyers, prosecutors and law enforcement officers should be made to undergo forensic trainings. There is no doubt that whenever forensic issues are brought before judges by experts, they are most times completely at sea with the whole analysis. This makes their training very important so that they are able to get along with the whole idea of forensics whenever such issues are brought before them and analyzed by expert witnesses. It is also recommended that the Bar should make a minimum level of training and continuing professional development in forensic evidence compulsory. This will also make them prepare their cases whenever they have cases bordering on forensics and follow proceedings in court whenever they have expert witnesses. Same applies to prosecutors and other law enforcement officers. It is also recommended that they be given an annual update on scientific developments of relevance to practice and courts.

6.3.11. **Creating an Academic Discipline**

We call for the creation of a separate academic discipline of forensic science administration. We now have disciplines in “public administration,” “healthcare administration,” and “business administration,” but not in “forensic science administration.” Considering the importance of any society’s system of justice and the importance of forensic science in the justice systems of modern societies, it seems only reasonable to call for a discipline in forensic science. Creating such a discipline would serve two primary functions. First, it would provide an institutional context for the research we have called for. Second, it would provide a vehicle for the application of that research to forensic science. In particular, it would provide a way for forensic
scientists and the managers and directors of forensics laboratories to receive training in the established principles of forensic science administration. Presumably, the preponderance of such training would be through continuing education vehicles such as seminars and certification programs. Such training would be provided by recognized specialists in forensic science administration. It might be appropriate to consider adding such training to the requirements of university programs in forensic science. Forensic scientists would be educated on the nature of the environment in which forensic science is practiced and the challenges thereby created for forensic science; and they would be given training in how to meet the challenges facing forensic science.

To attract students in the physical and life sciences to pursue graduate studies in multidisciplinary fields critical to forensic science practice. To make these programs appealing to potential students, they must include attractive scholarship and fellowship offerings. Emphasis should be placed on developing and improving research methods and methodologies applicable to forensic science practice and on funding research programs to attract research universities and students in fields relevant to forensic science.\(^{38}\)

This training would serve several ends. First, training in forensic science administration would serve the needs of individual forensic scientists. Training would be aimed in part at helping forensic scientists prepare for testimony in open court. For example, it would help them defend the scientific integrity of fingerprint analysis.

Second, training in forensic science administration would serve the needs of forensic labs. Training in forensic science administration would help crime laboratories to adapt scientific protocols to the contingencies of daily practice of high throughput

---

Polymerase Chain Reaction (PCR) DNA analysis, for example, is extremely reliable if all scientific protocols are followed scrupulously. These protocols, however, are hard to follow. Merely greeting a co-worker may cause contamination of a sample from minute bits of saliva, phlegm, or mucus released when speaking. Forensic science administration can design and test protocols that reflect not only the scientific requirements of PCR DNA analysis, but also the contingencies of daily crime-lab work. Training in forensic science administration will then allow forensic scientists to understand and implement such protocols.

Finally, training in forensic science administration would serve the larger institutional needs of the forensic science community. The challenges facing forensic science require us to reconsider some of our basic institutions, such as accreditation, or within-laboratory verification of results. As we will discuss in a later section, many principles of forensic science administration are principles for the partial re-design of our institutions. The design and testing of such institutional changes is work in forensic science administration. Training in forensic science administration will then allow forensic scientists to understand and implement such institutional changes. For example, the system-wide implementation of “information hiding” would require institutional changes in forensic science.

In part, the need for continuing education programs in forensic science administration arises from new developments from within forensic science administration. More importantly, perhaps, the external environment of forensic science is rapidly evolving.
For both reasons, the forensic science community needs continuing education programs in forensic science administration to keep current in the area.\textsuperscript{39}

6.3.12. **Funding**

States should allocate sufficient funding to adequately implement these recommendations.

Lack of funding is a common problem in public forensic laboratories. In many States, funding for forensic laboratories has remained constant, despite a dramatic increase in workload. As a result, laboratories that do not receive adequate funding to implement much needed reforms are often incredibly short-staffed, have underpaid laboratory employees, and carry large backlogs of evidence to be tested, resulting in delayed trials. One study reports that increasing the number of personnel in the field is the number one need of the forensic science community.\textsuperscript{40} A lack of funding also endangers quality control and often encourages rushed or non-existent oversight. States must increase funding to implement the aforementioned recommended reforms. Laboratories can use new funding to increase capacity, an issue of critical importance for the countless jurisdictions across the country with backlogs of evidence waiting to be tested. Due to low salaries, it is often difficult for forensic laboratories to hire and retain highly qualified analysts. As a result, increasing analyst salaries to make them more competitive is another pressing funding need. Salaries should reflect the importance of forensic analysts to the accuracy of our criminal justice system. Ninety-six percent of positions in forensic science laboratories are held by persons with a bachelor’s degree.

\textsuperscript{39} Roger Koppl, *Forensic Science Administration*, available at www.alpha.fdu.edu/~koppl/fsa.doc accessed 3/01/17 at 2.23am

\textsuperscript{40} National Institute of Justice, U.S. Department of Justice, *Status and Needs of Forensic Science Service Providers*: A Report to Congress 12 (2006)
or less.\textsuperscript{41} Salaries must be competitive with other job opportunities to attract the best and the brightest applicants. The State-created oversight commission recommended above will also require funding. While it may be possible to have members of the commission serve without compensation, the costs associated with any investigative oversight body will require funding. Without sufficient funding, such a commission cannot be effective. A failure to properly fund forensic science can lead to tragic results. United States Congress recognized the importance of adequate funding for forensic science in 2000 by passing the Paul Coverdell National Forensic Science Improvement Act. Now, States can follow the Federal Government’s lead to deal with backlogs of forensic material, increase the pay of qualified analysts, improve training, and create and enforce meaningful laboratory standards and oversight.

6.3.13. Research

Research is needed to address issues of accuracy, reliability, and validity in the forensic science disciplines. The Federal Government should competitively fund peer-reviewed researches in this regard to ensure development/advancement and the availability of reliable and accurate forensic evidence in curbing crime.

All this will properly set the stage for the implementation of the use of forensic science in our criminal justice system, thereby eradicating crime or bringing it to its barest minimum. There shall be enormous benefits that will flow from a strong, independent, strategic, coherent, and well-funded use of forensic evidence in criminal justice system in Nigeria. These include bolstering the Nation’s ability to accurately identify true perpetrators and exclude those who are falsely accused, improve its ability to

effectively respond to, attribute, and prosecute threats to national security and reduce the likelihood of convictions resting on inaccurate data.\textsuperscript{42} Moreover, establishing the scientific foundation of the forensic science disciplines, providing better education and training, and requiring certification and accreditation will position the forensic science community to take advantage of current and future scientific advances in that they will go a long way in enhancing Nigeria’s criminal justice system. This is more so as the use of forensic evidence is science based. The way in which science is conducted is distinct from, and complementary to, other modes by which humans investigate and create. The methods of science have a long history of successfully building useful and trustworthy knowledge and filling gaps while also correcting past errors. The premium that science places on precision, objectivity, critical thinking, careful observation and practice, repeatability, uncertainty management, and peer review enables the reliable collection, measurement, and interpretation of clues in order to produce knowledge.

Although, the expert witness has not escaped critics, he is probably the best means, compatible with the adversarial system of furnishing the judge and jury with information on matters calling for expertise so as to tackle the matter before them with certainty.

6.3.14. \textbf{Double Jeopardy Rule}

To be able to fight criminality and bring crime to its barest minimum will require the removal of the clog “Double Jeopardy Rule.” This is because the Administration of Criminal Justice Act, 2015, clearly does not have any provision lending support to the trial of an offence more than once. To be able to fight crime and achieve the desired result with forensic evidence, such clog must be removed. This is because forensic evidence...
science is an evolving phenomenon that keeps developing with passage of time. Certain evidence may not be well evaluated, observed or focused on at the time of first trial or, at the time of the commission of crime, there was no sufficient scientific standard to conduct a particular test to connect an accused to an offence, such that the alleged offender may be tried and acquitted. This should not however stop the same suspect from been tried again where new facts or forensic evidence emerge to connect such suspect to the crime. This was what led to the re-arrest, retrial and eventual conviction of the alleged suspects; Dobson and Norris in the United States case of *R v. Garry Dobson and David Norris*, 43 17 years after the murder of Stephen, following the Court of Appeal's decision that fresh forensic evidence warranted a trial. In the past, this could not have been possible in the United States, because of the double jeopardy rule which prevented a suspect from being tried a second time for a crime. But the Law was changed in 2003 to allow the prosecution to apply to quash an acquittal if a court was satisfied that there was new and compelling evidence to be put before a jury. There is need for Nigeria to copy this development by amending its Laws 44 to accommodate second trials.

6.4. **Contribution to Knowledge**

This work has contributed to knowledge as follows:

i. It has established the inadequacies of the Nigerian Law of Evidence and the need for its amendment to ensure proper administration of criminal justice.

ii. It has established that the lack of forensic knowledge in criminal administration has resulted in injustice

---

43 *R v. Garry Dobson and David Norris* (2013) EWCA Crim. 712
44 Amend the Administration of Criminal Justice Act, 2015, to take advantage of the proviso of section 36(9) of the Nigerian Constitution, 1999.
iii. It has contributed to knowledge in that this study is a rare comparative study of Nigerian law of Evidence.
REFERENCES

Books

Barry H. S., Samuel B, and Jack D. “The Broad Range of Clinical Use of Phenytoin” (New York; Dreyfus Medical Foundation, 1988)


Journals

Archbold : Criminal Pleading, Evidence And Practice, 38th ed., of Evidence Act, Paragraph 1392


Maletzky, B. M., Treatable violence, Medical Times 100: 74-79, 1972

Michael J. Saks and Jonathan J. Koehler, the Coming Paradigm Shift in Forensic Identification Science, Aug. 5, 2005

Moriarty J. C. and Michael J. S., Forensic Science: Grand Goals, Tragic Flaws, and Judicial Gatekeeping, 44 NO. 4 Judges Journal 16 (Fall 2005).


Ochem C. E., Relevance and Admissibility of Electronically Generated Evidence (2012) a thesis submitted to the college of law, Igbinedion University, in partial fulfillment of the requirements for the award of the degree of Doctor of Laws (Ph.D.) of the Igbinedion University, Okada, Edo State.


Newspapers/Magazines


Internet


Adelani Adepegba, “Police Acquire Forensic Lab, Drones To Track Kidnappers, Robbers” available at www.nairaland.com/3168543/police-acquire-forensic-lab-drones accessed 3/4/17 at 1.10pm


Betty Iyamuremye, Institute Of Forensic Sciences Will Ease Crime Investigation, available at www.monitor.co.ug/OpEd/Commentary/institute-of-forensic-science Accessed 02/03/2016 at 08.34am


*Director of Public Prosecutions, Gauteng v Pistorius (96/2015) (2015) ZASCA 204; (2016) 1 All SA 346 (SCA); 2016 (2) SA 317 (SCA); 2016 (1) SACR 431 (SCA) available at www.saflii.org>Databases accessed on 7/6/17.


Howard Safir, *DNA Technology as an Effective Tool in Reducing Crime*, available at www.forensicmag.com/.../dna accessed on 021/09/16 at 12.37am

Ian Gibson, *Forensic Science on Trial*, available at www.publications.parliament.uk/.../96 accessed on 01/09/16 at 12.05am


Kehinde Adegbite, *Law and Forensic: Techniques of Evidence Gathering and Case Presentation in Court*, available at [www.gettipsforeveryday.blogspot.com/.../law](http://www.gettipsforeveryday.blogspot.com/.../law) accessed 22/05/16 at 2.16am


Naseam R. B., *Rape Statistics in Kenya*, available at [www.covaw.or./.../2013/12/Rape](http://www.covaw.or./.../2013/12/Rape) accessed on 03/09/16 at 6.56am

National Drug Law Enforcement Agency, available at [www.ndlea.gov.ng/testsite/?q=content/history](http://www.ndlea.gov.ng/testsite/?q=content/history) accessed 14/11/16 at 12.56am


New York State Police *Forensic Science History*, available at https://troopers.ny.gov/cime_laboratory_system/history accessed 23/04/16 at 2.28am


Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/toxicology.shtml accessed 17/06/16 at 2.51am

Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/biology.shtml accessed 17/06/16 at 2.01am

Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/psychology.shtml accessed 17/06/16 at 2.15am

Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/photography.shtml accessed 17/06/16 at 1.18am

Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/traceevidence.shtml accessed 17/06/16 at 2.43am

Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/nursing.shtml accessed 17/06/16 at 2.32am
Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/reconstruction.shtml accessed 17/06/16 at 2.22am

Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/questioneddocuments.shtml accessed 17/06/16 at 2.22am

Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/linguistics.shtml accessed 17/06/16 at 2.52am

Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/latentprints.shtml accessed 17/06/16 at 2.32am

Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/impressions.shtml accessed 17/06/16 at 2.32am

Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/dna.shtml accessed 17/06/16 at 2.32am

Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/art.shtml accessed 19/06/16 at 2.13am

Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/engineering.shtml accessed 19/06/16 at 2.13am

Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/crimesceneinvestigation.shtml accessed 21/06/16 at 2.13am

Stephanie Rankin, *Forensic Science Central*, available at www.forensicsciencecentral.co.uk/anthropology.shtml accessed 21/06/16 at 2.13am


Suganya Sukumar, *Advantages and Disadvantages of Forensic Science*, available at www.buzzle.com/.../ accessed 02/03/2016 at 08.34am

433
The DNA Fingerprint Act Of 2005 available at www.appliedbiosystems.com/cms/groups/mcb_marketing/documents/ accessed on 21/4/17 at 2.15pm

The Federal Inland Revenue Service available at https://www.trade.gov.ng/firs accessed 14/11/16 at 2.15pm


The Independent Corrupt Practices and Other Related Offences Commission available at www.icpc.gov.ng/ accessed 14/11/16 at 2.09am


