ADMISSIBILITY OF EVIDENCE BASED ON FINDINGS OF NEUROSCIENCE: IMPLICATIONS FOR CRIMINAL JUSTICE IN NIGERIA*

Abstract

Nigeria operates adversarial system of litigation in both civil and criminal proceedings. It therefore follows that allegation of facts can never be established without leading credible, reliable and admissible evidence. Consequently, the leading of compelling and admissible evidence by a qualified witness to sway the mind of the court is inevitable under the accusatorial system of litigation practiced in Nigeria. The strict rules of evidence are fundamentally regulated by the provisions of the Nigerian Evidence Act 2011. Therefore, the broad aim of this scholarly investigation is to explore the contemporary advancements in the fields of neuroscience and determinism as the bases for determination of criminal responsibility. Hence, the principal objective of the scholarly appreciation is to examine the legal possibilities of using the knowledge derived from the scientific domains of neuroscience and determinism within the context of admissibility under the extant laws and rules of evidence in Nigeria. The paper employs doctrinal research method as a tool to analyse how the advancements of the knowledge industry and the advocacy in the fields of neuroscience and determinism may be integrated into the rules and dynamics of the law of evidence in Nigeria.

Keywords: Admissibility, Evidence, Neuroscience, Criminal Justice, Nigeria

1. Introduction

The creeping of the trans-disciplinary domains of neuroscience and determinism into criminal law jurisprudence appears to be relatively new when compared with the already established normative and dogmatic principles of criminal law. The Nigerian legal system in relation to litigation is no doubt absolutely adversarial, being accusatorial in its operations, practice and procedures, the leading of legally admissible evidence to establish allegation of fact is of essence. Therefore, this scholarly investigation beams its searchlight on the possible prospects of admitting in evidence facts and skills emanating from the scientific advancements in the fields of neuroscience and philosophical determinism in the court room. The scientific fields of philosophical determinism and neuroscience are no doubt specialized areas that require specialized expertise and skills to outcrop their scientific contents and properties. A person who is not skillful, knowledgeable and well inclined in the two domains may not be qualified to testify as a witness to persuade the mind of the court in reaching a sound judicial decision. In fact, a testimony from a non-expert even if erroneously admitted, the court, the sworn judex is not entitled to attach any probative value or judicial weight to such testimony. This is because rules of evidence disqualify certain persons from leading evidence to establish certain specialized facts not within their professional or personal proficiency. One of such categorisations is a person who was not the maker of a document or who was not part of the team that negotiated the making of the document. In substantiating this sound principle of law, the apex and penultimate courts in Nigeria have held as follows: in *Flash Fixed Odds Ltd vs Akatugba*,[1] the penultimate court held as follows:

> It is the law that a maker of a document is the proper person to tender it, and if a person who did not make the document tenders it, (of which he can), the trial Judge should not attach any probative value to it because that person cannot be cross-examined on the document since he is not the maker and therefore not in position to answer any question arising therefrom.[2]

In fact, it is the firm position of the law, and well settled beyond all stress of doubts that evidence given in the circumstances described above is regarded as inadmissible hearsay evidence. The law is quite trite that hearsay evidence attracts no evidential weight in any proceedings. This preposition of the law was well espoused by the penultimate court in Nigeria, in *Remm Oil Services Ltd vs Endwell Trading Co. Ltd*,[3] wherein *Nsofor, JCA.*, held as follows:

> The all-important question of the first importance becomes this: Having not taken any part in the negotiations leading to the contract sued upon, could the PW1 really give any direct oral evidence to the terms of contract or negotiations? For an answer to the poser, the door opens to me to look at is Section 7 (b) of the Evidence Act.[4] **…**, Now the answer to the poser, (*supra)* therefore is that the evidence given by PW1 for an alleged breach of contract between the parties was indirect evidence, therefore, it was inadmissible hearsay evidence. The evidence given by PW1 lacked any probative value and consequently could not be relied upon as establishing the alleged breached by the appellant. There being no admissible evidence by the respondent at the trial of the alleged breach, the finding by the learned trial Judge at page 133 of the record of appeal that the defendant is liable to the plaintiff for breach of contract, is with due respect to the learned trial Judge, absolutely perverse.

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1. [2001] 9 NWLR (Part 717) 46 CA; [63, paras. D], per Tobi JCA (as he was then).

2. See also paragraph (b) of the proviso to Section 1 of the Evidence Act, 2011; which provides thus: '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.' Furthermore, in *Remm Oil Services Ltd vs Endwell trading Co Ltd* [2003] All FWLR (Part 152) 98 CA, it was held as follows: 'Such law for the time being in force includes the law against hearsay evidence which is inadmissible in law.'

3 *Supra*. [111-112, paras. E-B].

4 Now Section 1(b) of the Evidence Act, 2011.

Furthermore, in reiteration of the sacrosanct position of the law, the highest in hierarchical order of courts in Nigeria, in *Okereke v Umahi*,[5] *Nweze, JSC.,* held thus:

> Weight can hardly be attached to document tendered in evidence by a witness who cannot or is not in a position to answer questions on the document. One of such person the law identifies is the one who did not make the document. Such a person is adjudged in the eyes of the law as ignorant of the content of the document.[6]

The import of the above excerpts is rather very simple that a person who is not knowledgeable and skillful in the two fields under review is disentitled from giving evidence.[7] Therefore, to admit the facts and contents derivable from the scientific domains of philosophical determinism and neuroscience, the extant rules of evidence must allow for the admissibility of such specialized evidence. Knowledge and facts from the arts, sciences and customs, and as well facts which are relevant to the facts in issue are admissible in Nigerian legal jurisprudence.[8] In resonance to the above, the questions beckoning for answers are: Does the applicable law of evidence in Nigeria has the window for admissibility of relevant facts that may not be directly involved to the actual facts in issue? Whether the applicable rules of evidence in Nigeria allow for the admissibility of experts' evidence in specialized areas? Can the specialized knowledge and skills derived from determinism and neuroscience be admitted in evidence? The answers to the above rhetorical questions can only be given from the direct provisions of the Evidence Act itself. This is because it is the only statutory enactment in Nigeria that regulates the leading of evidence in any proceeding. Therefore, the specific answers to the above oratorical questions shall be visited in anon.

2. Extent of Assimilation under the Evidence Act

As a result of the adversarial system of litigation that is operational in Nigeria, rules of evidence regulating the proof of facts are extremely strict. Due to this special character of evidence in Nigeria, any class of facts which admissibility are not provided under the Act[9] can never be led in support or against any allegation of fact. Therefore, in specific response to the questions posed above, the first place of call shall be the operational law that regulates the leading of evidence in Nigeria, to wit, the Evidence Act.[10] It is the only authoritative and legal source of information for the purpose of answering the questions which are asked above. Specifically, does the Evidence Act, has the window for admissibility of specialized scientific and customary practices? In unfolding this question, the provisions of Section 68,[11] is quite instructive and authoritative, the provision, inter-alia 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 of upon that point of persons specially skilled in such foreign law, customary law or custom, or science or art, or in questions as to the identity of handwriting or finger impressions, are admissible.
>
> (2) Persons so specially skilled as mentioned in subsection (1) of this section are called experts.

In line with the above statutory provisions of the Act, an expert is judicially defined in *Airtel Networks Limited v Plus Nigeria Limited*[12] as follows:

> An expert is a person who is specially skilled in the field he is giving evidence. He is one who has made the subject he speaks on a matter of particular study, practice and observation and possess a particular and special knowledge of the subject. He must be a person qualified to speak with some amount of authority [and certainty] by reason of their special training skill, mastery of familiarly with the subject matter in question. It can be garnered from this clear provision, that it is the court that decides whether or not a witness is an expert.

To further illustrate the meaning of expert, the penultimate court in *Aigbadion v The State*,[13] per Rowland, JCA., defined an expert witness as follows:

> 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. There is no provision that the special skill attributable to an expert must be acquired through formal education professionally or otherwise. It is enough that the person claiming to be an expert has the skill that he professes or asserts to have. Thus an expert under the Evidence Act may be described as any person specially skilled in a particular field in which he had invited to testify. Whether a person will pass as an expert or not is a matter of law to be decided by the judge.

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[5] [2016] 11 NWLR (Part 1524) 438 SC; [472, paras. C-D], *Nweze, JSC.*

[6]The following cases are instructive: *Buhari v INEC* [2008] 18 NWLR (Part 1120) 246 SC*; NBC v Ubani [*2009] 3 NWLR (Part 1129) 512 SC; *Ogoro v Seven-Up Bottling Co Plc* [2016] 13 NWLR (Part 1528) 1 CA.

[7]Section 1 of the Evidence Act, 2011. This section of the Act disentitles some persons from giving evidence in trials or proceedings conducted in the court or tribunal.

[8]Section 5 of the Evidence Act, 2011; which provide thus: 'Facts which are the occasion, cause or effect, immediately or otherwise, of relevant facts or facts in issue, of which constitute the state of things under which they happened, or which afforded an opportunity for their occurrence or transactions, are relevant.'

[9]*Ibid*.

[10]*Ibid*.

[11]*Ibid*.

[12][2020] 15 NWLR (Part 1747) 235; [296, paras. C-E], per Ogbuinya, JCA.

[13][1999] 1 NWLR (Part 586) 284 CA, per Rowland, JCA.

From the above judicial expositions deduced from the statutory provisions of Section 68.[14] The term expert witness in resonance with the law of evidence in Nigeria is very wide and could assimilate unquantifiable classes of persons. Going by the judicial interpretation of the provisions of the Act,[15] a native doctor, spiritualist, priest, diviner, sorcerer, enchanter, interpreter of horoscopes, zodiac symbols, prophet, philosopher, medical doctor, psychologist, psychiatrist, neurologist, expert in genetics, behavioural biologist, sociologist, and host of other classifications are qualified to give expert testimony. Flowing from the above, a schematic definition of the concepts of philosophical determinism and neuroscience is quite necessary. This is simply to lay an introductory background to the two concepts under the scholarly investigation. Accordingly, the exponents of philosophical determinism are projecting the view that actions and inactions of man including criminal acts and omissions are determined by the interactive laws of nature even before the subject was born. On the other hand, the proponents of neuroscience are positing the notion that the entire actions and behavioural conducts of man embracing both voluntary and reflex actions which include criminal acts and omissions are stimulated and coordinated by the brain circuitry systems. Going by the above postulations, man's acts and omissions are either determined or stimulated. By the inclinations of the emerging trends, acts and omissions are quite independent of the person's will, thereby signifying the absence of *mens rea*. The projection of absence of *mens rea* (guilty mind) presupposes an important gap in the chain of proving an alleged offence, wherein without it, an offence in criminal jurisprudence cannot be established in law. Consequently, since the offence cannot be established by law, the defendant cannot be convicted and as such shall be declared not criminally culpable of the offensive criminal allegation.

The extant laws in the criminal jurisprudence of Nigeria seem to support the non-culpability of acts and omissions which are independent of the person's will.[16] However, to persuade the court convincingly using the advancements derivable from the dual concepts of philosophical determinism and neuroscience may not be necessarily easy. Obviously, the interpretation of the interactive forces of nature and the functions of the brain circuitry systems require specialized knowledge of an expert. Therefore, the expert opinion given by any of the persons mentioned above in a criminal proceeding might be described as either deterministic or neuroscientific evidence.[17] If the evidence given is admissible and relevant to the fact in issue, the judex is judicially enjoined to evaluate same and make firm decision.

Streaming from the above, the scientific contents from the fields of philosophical determinism and neuroscience can only be outcropped by experts from the fields. In leading expert evidence, only persons who are well skilled and knowledgeable in the fields are qualify to do so. This is because only their testimonies have the potential capacity of tilting the mind of the court in the circumstance. By the preceding expository survey of the Act,[18] expert opinions are allowed to be led in criminal proceedings. Therefore, it follows, that the recent permeability and flow of encroachment of philosophical determinism and neuroscience into the realm of criminal jurisprudence may be examined within the context of the law. The administration of criminal justice, practice and procedure in Nigeria require admissible, binding and persuasive legal submissions to tilt the mind of the court. The specialized knowledge and skills derived from the dual concepts of philosophical determinism and neuroscience have the requisite quality to persuade the court in criminal proceedings.

Furthermore, going by the foregoing provisions of the Act excerpted above, the fields of determinism and neuroscience are indeed unique specialties. Therefore, the two domains need persons who have the requisite specialized skilful knowledge to handle their scientific contents in the court room. By the tenets of the Act,[19] and the judicial pronouncements expounded above, the special skilful knowledge derived from the fields of philosophical determinism and neuroscience could be admitted in evidence. Such admissible evidence can be evaluated by the sworn judex. This is because, the appreciation of neurological functions require the specialized skills of psychiatrists, medical doctors, pathologists, psychologists, behavioural genetics and neurologists.[20] These experts are well captured under the provisions of Section 68 of the Evidence Act.

The testimony in relation to the philosophical concept of determinism, the testifier (witness) must be knowledgeable and vast in the traditional customary practices of the people.[21] A practical illustrative example, is how the priest of the oracle of Apollo at Delphi in the ancient Greek kingdom of Thebes revealed the shocking revelation of the about the heir to the throne. To the effect that Oedipus (a neonate) was spiritually determined and destined by the cosmic forces to kill his father, the King and marry his own mother, the Queen. This revelation of divinity against all means to avert its occurrence definitely came to actual materialization.[22] Flowing therefrom, the priest of Apollo is an expert having the capacity to testify his expert opinion in proceedings of the court. Therefore, there is a real prospect of admitting expert spiritual customary evidence in relation to the unseen spiritual inclinations. Oedipus scenario as having evidential value is well encapsulated under the statutory stipulations

[14]Evidence Act, 2011.
[15] *ibid*.
[16]Section 24 of the Criminal Code, which states thus: 'Subject to the express provisions of this Code relating to negligent acts and omissions, a person is not criminally responsible for an act or omission which occurs independently of the exercise of his will, or for an event which occurs by accident.'
[17]P Catley and L Claydon, 'The Use of Neuroscientific Evidence in the Courtroom by those Accused of Criminal Offences in England and Wales' [2015] (3) (5) *Journal of Law and the Biosciences*, 510.
[18]Evidence Act, 2011.
[19]*ibid*.
[20]L. Klaming and E. J. Koops, 'Neuroscientific Evidence and Criminal Responsibility in the Netherlands' [2012] 15 (10), *Journal of International Neurolaw, Tilburg University, Netherlands*, 13-14.
[21]O. I Ferdinand 'Admissibility of Traditional Evidence in Judicial Proceedings' [2015] 2 (3) *Universal Journal of law and Philosophy*, 34-44.
[22] Encyclopaedia Britannica.org//Oedipus. Accessed on Thursday the 24th day of December 2020 at about 7:15 hours.

of Section 68.[23] Wherefore, the law of evidence in Nigeria has the vast unbridled amplitude to admit all species of relevant scientific and customary expert evidence in the course of litigation.

Apart from the express and specific provisions of Section 68,[24] for the admissibility of expert evidence of scienter and customs, Sections 1 and 5 of the same Act open the flood gates for admissibility of any kind of species of relevant evidence to the fact in issue in the course of any suit or proceeding. The duo Sections provide thus:

> Section 1.[25]
> 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 hereafter declared to be relevant, and of no other.
> Section 5.[26]
> Facts which are the occasion, cause or effect, immediately or otherwise, of relevant facts or facts in issue, of which constitute the state of things under which they happened, or which afforded an opportunity for their occurrence or transactions, are relevant.

By the further entrenchment of the two provisions of the Act,[27] all kinds of relevant evidence to the fact in issue in the course of criminal proceedings are admissible. Particularly, Section 5 of the Act to the express effect that if the facts are the cause of which constitute the state of things under which they happened, or which afforded the opportunity for their occurrence or transaction are admissible. Wherefore, as it has been submitted above in this scholarly investigation, the circumstances surrounding Oedipus' acts were ordained and destined by the ever interactive cosmic powers of nature to be. The predestination being an ordination beyond human comprehension to kill his own father and marry his own mother cannot be averted against all human efforts, but came into reality.

It therefore follows that if Oedipus is arraigned for murder or incest nor treason. The priest of Delphi could be called as a witness to testify in court in consonance with the provisions of Section 5.[28] The priest may testify that the murdering of the King was an ordination of the gods and that it was the gods that acted through him. Therefore, the acts of murder and incest are independent of Oedipus, and therefore not willed. And if this testimony of the priest is subjected to judicial examination in accordance with the provisions of Section 24,[29] to the effect that a person shall not be criminally liable for acts or omissions which occur independent of his will. Going by this provisions the priest's testimony is relevant and could support the fact in issue. This is because the act of killing the king and marrying the queen are quite independent of the Oedipus. Consequently, he (Oedipus) shall be exculpated from all allegations of treason, murder or incest and other sundry offences in that the acts were not his, but that of the gods acting through him.

3. Nigerian Legal System

The Nigerian legal system, in addition to the specific provisions of the Evidence Act appear to have window of opportunities to explore the possibilities of admitting deterministic and neuroscientific evidence in legal proceedings. This is predicated on the view that the Nigerian legal system honours the doctrine of *stare decisis*. By this legal doctrine, all previous decisions which are either the same or similar to subsequent proceedings are relevant and binding. This include statutory provisions which are *in pari materia* to a subsequent proceeding and case laws which are the same or similar to a subsequent proceeding. Furthermore, the operations of this principle of law in Nigeria embrace both domestic and foreign authorities, particularly those that will expand the frontiers of our domestic legal jurisprudence. This stand point of the law in Nigeria is expatiated in *Abdullahi v Nigerian Army*,[30] where the highest in the echelon of courts in Nigeria, per *Augie, JSC.,* held thus:

> There is nothing in our laws that says that Nigerian courts cannot rely upon foreign decisions. However, such foreign decisions, which may be 'useful in the expansion of the frontiers of our jurisprudence.' Though they are not automatically binding on Nigerians courts, they are persuasive authority. There is no case in Nigeria where an applicant has been substituted for a deceased appellant in a criminally appeal, but Nigeria derived its legal system from England, and the applicants have cited English cases where this was dealt with, that is, such application was granted. The cases of *Hodgson v Lakeman (1943) KB 16; R v Jefferies (1968) 3 All ER 238 and Regina v Rowe (1955) 1 QB 573* are all relevant and binding in the circumstances.[31]

In the instant academic investigation, deterministic and neuroscientific evidence have not been admitted in Nigerian courts. However, species of such evidence have been admitted in England, Wales Netherlands, India and the United States of America. It therefore follows, that since the Nigerian legal system allows for reliance of foreign authorities for the expansion of our legal jurisprudence and there are several of such cases. In the circumstance, such cases shall either be binding or persuasive source materials in Nigeria. Therefore, the legal system in Nigeria is another avenue to examine the possibilities of admitting deterministic and neuroscientific evidence in criminal proceedings in Nigeria.

[23] Evidence Act, 2011.
[24] *Ibid.*
[25] *ibid*
[26] *Ibid.*
[27] *Ibid.*
[28] Evidence Act, 2011.
[29]Criminal Code Act. To the effect that a person is not criminally responsible for acts or omissions which are independent of the person's will.
[30](2018) 5 SC (Part I) 133; @ 165.
[31]See also Araka vs Egbue (2003) 7 SC 75, @ 86-87.

4. Specific Survey of Admissibility from Other Jurisdictions

In furtherance of the submissions in substantiation of the admissibility of expert deterministic and neuroscientific evidence in criminal proceedings. Some decided cases in England, Wales and the Republic of Netherlands may serve as a great springboard for the admissibility of neuroscientific evidence in Nigeria. The analyses of some selected cases are as follows:

Admissibility of Neuroscientific evidence in England and Wales

In England and Wales, a scholarly survey conducted between 2005 and 2012 showed that over 5096 judgements contained neuroscientific terms. 1794 cases were positively influenced by neuroscientific evidence,[32] and 204 cases were absolutely decided on neuroscientific evidence.[33] In some of the cases murder convictions were quashed. Others, sentence were drastically reduced, murder conviction upturned to manslaughter. Terms of imprisonment reduced, some others ordered for re-trial and so on. All these decisions were wholesomely in criminal proceedings. This goes demonstrate vividly that neuroscientific evidence has been utilized in the court for the determination of criminal liability. In that scholarly investigation, the two authors summarised their findings as follows:

> The use of neuroscientific evidence in the determination of criminal responsibility is increasing annually. The annual average number of cases identified over the period doubled from approximately 17 per year in the period of 2005–2008, and 34 per year from 2009–2012. In a number of cases, neuroscientific evidence has been central to successful appeals against conviction of murder.[34] This is particularly the case where it is being used to dispute prosecution evidence as to the cause of death or injury, particularly in cases of NAHI[35] and SID.[36] Neuroscientific evidence has also been at the heart of a number of appeals to have murder convictions reduced to manslaughter.[37] This can be seen in several cases relating to ADS where neuroscientific evidence has helped to challenge original decisions of trial courts and has led to the quashing of convictions for murder.[38] The appeal court has then used its powers to substitute convictions of murder for manslaughter on the grounds of diminished responsibility.[39] Neuroscientific evidence has assisted defendants to argue that they were not fit to stand trial and has also been used to cast doubt on the credibility of witnesses.[40] This issue has arisen in a number of cases in relation to childhood amnesia,[41] and in others as decided in *R v X*[42] has led to many conviction being quashed.[43] Neuroscientific evidence has also been utilized by those convicted of crimes who, on appeal, have succeeded in having their sentence reduced drastically .[44]

Specifically, in *R v Hendy*,[45] the defendant was sixteen (16) years when he was arraigned and convicted of first class murder in an English Crown court. Evidence showed that the defendant took heavy alcohol in a party and started kicking some persons. And on his way home, he attempted to throw himself into a moving vehicle. His action prompted the calling of the Police who intervened and took him home. At home he took a knife and went out by a few metres from the alleyway, he met a total stranger on his way and stabbed eighteen (18) times and killed him instantly. During the trial the Police testified that the defendant was not under the influence of alcohol capable of sustaining the plea of diminish responsibility put forward by the defence. The trial court and the jury believed the testimony of the Crown prosecution and convicted him of the offence of murder. And he was detained at Young Offenders' Institution due to his age.

On an appeal to the Court of Appeal, and while in detention, four other experts in forensic neuropsychiatry examined the appellant and faulted the previous expert opinion rendered by the Crown prosecution, as appearing thus.[46] The appellant also

[32]P Catley and L Claydon, 'The Use of Neuroscientific Evidence in the Courtroom by those Accused of Criminal Offences in England and Wales' [2015] (3) (5) *Journal of Law and the Biosciences*, 517-518.

[33]*Ibid*.

[34]*R vs Hendy* [2006] EWCA Crim. Div. 819. R vs Wood [2008] EWCA Crim. Div. 1305.

[35]The abbreviations; NAHI, SID and ADS stand for: Non-Accidental Head Injury, Sudden Infants' Death and Alcohol Deficiency Syndrome respectively.

[36]R vs Harries; R vs Rock; R vs Cherry; *R vs Faulder* [2005] EWCA Crim. Div. 1980; others decided cases include: R vs S [2009] EWCA Crim. Div. 838; R vs Henderson; *R vs Butler; R vs Onyidiran* [2010] EWCA Crim. Div. 1269.

[37] *R vs Hendy* [2006] EWCA Crim. Div. 819.

[38] *R vs Wood* [2008] EWCA Crim. Div. 1305.

[39]S vs R [2008] EWCA Crim. Div. 6; R vs Hendy [2006] EWCA Crim. Div. 819; R vs Norman [2008] EWCA Crim. Div. 1810; *R vs Sharif EWCA* Crim. Div. 1709; R vs Walton (a.k.a Wright) [2010] EWCA Crim. Div. 2255; R vs MB [2010] EWCA Crim. Div. 1684.

[40]*R vs W* [2006] EWCA Crim. Div. 1404.

[41]*R vs X* [2005] All E R 06; R vs Bowman [2006] EWCA Crim. Div. 417.

[42][2005] All ER 06.

[43]*R vs Martins (a.k.a Anthony*) [2010] EWCA Crim. Div. 1960; R vs Hendy [2006] EWCA Crim. Div. 819

[44]*Ibidem*.

[45] [2006] EWCA Crim. Div. 819.

[46]'The fresh evidence in the first ground is in the form of psychiatric reports made by Dr David *Somekh*, a consultant forensic psychiatrist and Professor Pamela Taylor, a Professor of Forensic Psychiatry at Cardiff University. In his report, Dr *Somekh* criticizes the opinions and conclusions of the prosecution expert evidence called at trial. Professor Taylor in her report, relying on treatment and examinations carried out by her on the Applicant since the trial, expresses the opinion that the psychiatric evidence called by the prosecution at trial was flawed. In the opinion of both of these two doctors, the Applicant at the date of the killing was suffering from such an abnormality of the mind as substantially to diminish his responsibility for the killing. On behalf of the Applicant, it is also submitted that this court should receive this evidence pursuant to S. 23 of the Criminal Appeal Act 1968. In the second ground, it is submitted that the judge in written questions

urged the court to admit further fresh evidence emanating from other experts. The court accepted the fresh evidence and quashed the verdict of murder. A re-trial was not ordered, rather in line with the provisions of Sections 37 and 41 of the Mental Health Act, 1983 the court made a hospital ordered. The Court of Appeal on relying the fresh expert opinions on appeal observed as follows:

> The Applicant had suffered a head injury following a road accident. In his opinion that injury may have caused damage to the Applicant's temporal lobe, that part of the brain which governs temper control and learning. He thought that a striking theme was the Applicant's despair and realisation that there was something wrong with him. In his opinion it was very probable that the Applicant had sustained a mild to a moderate degree of cerebral pathology at some stage particularly in the left temporal lobe but his problems were more complex than being solely related to this.[47]

Admissibility of Neuroscientific Evidence in Netherlands

Over the years, especially at the inception of the twenty-first century, the courts in the Republic of Netherlands have been utilizing expert evidence from the domains of philosophical determinism and neuroscience in criminal proceedings. In some of the cases, the defendant is completely exculpated from the offence due to neurological imbalance. To some others punishment is drastically reduced as a result of neurological malfunctioning. The following are the analysis of some decided cases: In the District Court of Utrecht in the case of (LJN AV 1864) decided in February 14, 2006.[48] In that case a seventy-four (74) year old man was arraigned for sexual and physical abuse of four female children of one parents that were entrusted in his care for counselling and treatment. The defendant was an alternative health care giver (a native doctor in Nigeria) whom the mother of the four children contacted and found efficacy on the services provided by the defendant. Subsequently, she introduced her four daughters to be handled by the defendant. In the course thereof, the defendant repeatedly abused these children sexually and physically for several years before getting to the knowledge of the parents. During the criminal trial, the defendant was examined by three experts, to wit, a psychiatrist, a psychologist and a behavioural neurologist[49] who testified that the defendant had suffered from two cerebrovascular accidents (CVA). And that the accidents have caused serious damage in the brain making the defendant to have acute cognitive impairment and loss of moral judgement. The court during the evaluation of evidence agreed with the opinions of the experts and passed a very diminished sentence of six week imprisonment for the old man.[50]

In a similar circumstance in the case of (LJN BK5962)[51] decided in the District Court of Alkmaar, Netherlands on June 24, 2008. A man was arraigned for sexual abuse of an underage girl of twelve years. In the course of proceedings, the defendant, a fifty-four (54) year old was examined by a team of behavioural experts comprising, psychologists, psychiatrists and behavioural neurologists and was found that the defendant was suffering from *fronto-subcortical* dementia that has led to brain damage which has resulted into impairments of cognitive limitations and impulsivity. This mental condition has made the defendant unable to control his impulse and to foresee the consequence of his behaviour. The mental condition has also impaired his moral coordination to the extent that could no longer stop any action he begins irrespective of the social and psychological outcome.[52] By the end of the proceedings, the court believed the testimony of the experts for inability to appreciate reality and sentenced the defendant to a sixty (60) days probation period.[53]

Furthermore, in the District Court of Amsterdam in the case of (LJN BA 3923) [54]delivered on April 26, 2007. In that case a man who was regularly visiting the Rijksmuseum in the city of Amsterdam, Netherlands and in one of the days he visited, the defendant picked some painting out of the museum and poured petrol on them and lit fire on them. Thereafter, he was charged with the offences of arson and malicious destruction of national property. During the criminal trial, the defendant was examined

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provided for the jury to answer incorrectly directed the jury on the effect of alcohol as a factor for consideration in the defence of diminished responsibility. In support of this ground of appeal, counsel relied on the case of *R v Dietschmann* [2003] UKHL 10 [2003] 1 AC 1209 [2003] 2 Cr App Rep 54., [And we believed their expert testimony as true.]'

[47] *Id*, 12.

[48]The criminal administration in the Netherlands allows the services of behavioural experts such as psychologists, psychiatrists and behavioural neurologists to proffer independent experts' opinion during the pendency of a criminal trial to ascertain the functional ability of the brain as at when the offence was committed. See Article 37 paragraph 2 of the Dutch Criminal Code (DCC) which provides thus: 'if a court wants to order forced hospitalisation on the basis of poorly developed or pathologically disturbed mental capacities, it can only do so after being advised by two or more behavioural experts from different disciplines, including a psychiatrist, who must have examined the defendant.'

[49]By the provisions of Article 37 paragraph 2 of the Dutch Criminal Code (DCC) provides thus: if a court wants to order forced hospitalisation on the basis of poorly developed or pathologically disturbed mental capacities, it can only do so after being advised by two or more behavioural experts from different disciplines, including a psychiatrist, who must have examined the defendant. Article 37 paragraph 3 of the Dutch Criminal Code (DCC) makes similar provisions for the assessment of offences for detention on Her Majesty's pleasure. See also the learned article articulated by L. Klaming and E J Koops, 'Neuroscientific Evidence and Criminal Responsibility in the Netherlands' [2012] (15) (10), *Journal of International Neurolaw, Tilburg University, Netherlands*, 15.

[50]L. Klaming and E. J. Koops, 'Neuroscientific Evidence and Criminal Responsibility in the Netherlands' [2012] (15) (10), *Journal of International Neurolaw, Tilburg University, Netherlands*, 15.

[51] *Ibid.*

[52] L. Klaming & E. J. Koops, 'Neuroscientific Evidence and Criminal Responsibility in the Netherlands' [2012] (15) (10), *Journal of International Neurolaw, Tilburg University, Netherlands*, 15.

[53] *ibid*

[54] *Ibid*.

by behavioural experts, to wit, forensic psychologists, forensic psychiatrists and behavioural neurologists. They testified that the defendant was suffering from frontal lobe damage which was caused by a previous leucotomy. And as a result the defendant had developed personality disorder with obsessive, neurotic and narcissistic features. These conditions had made him to be living in a world of his own, believing only on his obsessive instincts and the defendant cannot perform an act on his own will. By the end of the trial, the court believed the evidence of the experts and ordered the defendant to be detained during Her Majesty's pleasure.[55]

Further reiterations on the admissibility of neuroscientific evidence in the Republic of Netherlands, in the District Court of Haarlem in the case of (LJN BK 4178)[56] delivered on November 24, 2009. In that case a sixty-three (63) year old woman murdered her husband and their only daughter while they were sleeping with an axe. While proceeding was going, the woman was examined by behavioural experts who found that the defendant suffered from acute depression as at the time the offence was committed. The experts further added that the defendant failed to take her antidepressants drugs and her sense of responsibility was seriously diminished at the time of commission of the offence. After judicially assessing and evaluating the adduced evidence, the court sustained the experts' testimony of diminished liability and sentenced the woman for minimal punishment. The court further held that a person with normal psyche and neurological balance cannot afford to kill her husband and the only child of the marriage.[57]

5. Admissibility in Some Other Jurisdictions

The essence of including the above decided cases from the Republic of Netherlands, England and Wales is that those European countries are inhabited by human beings, just as Nigeria is being inhabited by people. In the Dutch, Welsh and English criminal jurisprudence, behavioural experts in the fields of psychology, psychiatry, medicine, pathology, behavioural biology, genetics, and neuroscience are integral parts of the wheels of administration of criminal justice. The offences of sexual abuse, arson, malicious damage, murder and others where neuroscientific evidence were used in determination of the defendant's culpability are offences well known in Nigeria. In the cases analysed above, behavioural experts, to wit, psychologists, psychiatrists, pathologists, medical doctors, behavioural neurologists and genetics were invited as expert witnesses to examine the brain of the defendants who were standing criminal trial.

Therefore, since those offences are known in Nigerian criminal jurisprudence, there is the strong likelihood and prospect that with the passage of time, the radical judicial approached adopted in the Netherlands, England and Wales might also be imbibed in Nigeria. This shall be geared to ascertain the actual mental state of a defendant who is standing criminal trial. The direct involvement of behavioural experts in the criminal justice administration and the direct positive admissibility of neuroscientific evidence in Dutch, English and Welsh are indeed admirable and could be transferred to Nigeria for domestic ratification. Yes! there is the strong possibility of inculcating same within the shores of Nigeria. The world is never static, but always on ceaseless plastic accelerative motion ready to assimilate all admirable innovations and technological advancements. We therefore, make a strong case for direct provisions for admissibility of neuroscientific and deterministic evidence in criminal proceedings in Nigeria.

6. Conclusion

From the foregoing expository survey of the Nigerian Evidence Act, 2011, particularly the provisions of Sections 1, 5 and 68 and the persuasive illustrations of cases from the Republic of Netherlands, England, Wales, and others. It is compelling to submit categorically that the utilization of expert neuroscientific and deterministic evidence in the determination of criminal liability is no more hypothetical. It has gone far beyond the realm of hypotheses and theoretical explanations of abstract ideas, but has eminently occupy the centre stage in the determination of criminal responsibility in some countries. The scientific advancements knitted upon philosophical determinism and neuroscience are very relevant in criminal jurisprudence. The extant laws and operational legal system in Nigeria allow for the admissibility of deterministic and neuroscientific evidence.

Therefore, neuroscientific and deterministic evidence may be successfully admitted in all criminal proceedings conducted within the shores of Nigeria. This is particularly significant in that the provisions of Sections 1, 5 and 68 of the Nigerian Act, 2011, are respectively captioned 'evidence may be given of facts in issue and relevant facts'; 'facts which are the occasion, cause or effect or facts which constitute the state of things under which they happened' as well as the 'opinions of experts are admissible.' Further, the operational legal system in Nigeria allows reliance of foreign authorities for the purposes of expanding the frontiers of the country's legal jurisprudence.[58] To this end, there are so many foreign cases that have been decided using neuroscientific evidence as the sole parameter. Some of those cases have been analysed in this scholarly investigation. Therefore, those cases can be cited and relied upon in substantiation of the submissions for admissibility of deterministic and neuroscientific evidence in criminal proceedings within the shores of Nigeria. In doing so, the frontiers of knowledge are being expanded, thereby enriching the current criminal jurisprudence and administration of criminal justice in Nigeria. Hence, the paper recommends the use and admissibility of all relevant and admissible species of neuroscientific and deterministic evidence in the course of criminal trials in Nigeria. To effectively do so, the work further recommends that members of the bar and the bench in Nigeria need an up-to-date knowledge about the basic operations and functions of neuroscientific and deterministic evidence. This will definitely embrace as well articulated and sound knowledge in the dual fields of neuroscience and philosophical determinism.

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[55] *Ibid*.

[56] *Ibid.*

[57] L. Klaming and E. J. Koops, 'Neuroscientific Evidence and Criminal Responsibility in the Netherlands' [2012] (15) (10), *Journal of International Neurolaw, Tilburg University, Netherlands*, 17.

[58] Abdullahi vs Nigerian Army (2018) 5 SC 133; @ 165, per Augie, JSC.