RECONCILIATION OF LIBERTARIAN FREE WILL WITH THE
CONTEMPORARY NEUROSCIENTIFIC ADVOCACY FOR
DETERMINISM IN HUMAN ACTION.

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DECLARATION
This thesis is my original work and has not been presented for award of degree in any other university.

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To my parents Anthony and Mary Nzioka whose constant encouragement and support uplifted my spirits and without whom this work would not have been completed.
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## TABLE OF CONTENTS

DECLARATION .................................................................................................................. ii

DEDICATION ................................................................................................................... iii

ACKNOWLEDGMENTS ................................................................................................. iv

TABLE OF CONTENTS .................................................................................................. v

OPERATIONAL DEFINITION OF TERMS ..................................................................... viii

ABSTRACT ...................................................................................................................... ix

CHAPTER ONE: INTRODUCTION .................................................................................. 1

1.0 Background of the Study ......................................................................................... 1

1.2 Statement of the Problem ......................................................................................... 6

1.3 Research Objectives ................................................................................................. 7

1.4 Research Questions .................................................................................................. 7

1.5 Justification and Significance of the Study ............................................................. 8

1.6 Scope of the Study ................................................................................................... 8

1.7 Assumptions of the Study ....................................................................................... 9

1.8 Literature Review .................................................................................................... 10

1.8.1 Libertarian Views on Conditions that Characterise Freely Done Actions ....... 10

1.8.2 Neuroscientific Advocacy for Determinism ..................................................... 15

1.8.3 Compatibilism of Neuroscientific Determinism and Free Will .................... 18

1.8.4 Gaps in Literature .............................................................................................. 22

1.8.5 Theoretical Framework ....................................................................................... 25

1.9 Research Methodology ........................................................................................... 30

CHAPTER TWO: LIBERTARIAN FREE WILL .......................................................... 31

2.0 Introduction ............................................................................................................. 31
2.1 Free Will ............................................................................................................ 31
  2.1.2 Libertarian Free Will ................................................................................. 37
  2.2 Nature of Freely Willed Acts........................................................................ 39
     2.2.1 Consciousness.......................................................................................... 39
     2.2.2 Alternative Possibilities........................................................................... 41
     2.2.3 Sense of Moral Responsibility................................................................. 43
     2.2.4 Control of One’s Actions........................................................................ 45
  2.3 Conclusion ........................................................................................................ 47

CHAPTER THREE: THE NEUROSCIENTIFIC ADVOCACY FOR DETERMINISM IN HUMAN ACTION .............................................................. 50
  3.0 Introduction...................................................................................................... 50
  3.1 Determinism ..................................................................................................... 50
  3.2 Neuroscientific determinism........................................................................... 53
     3.2.1 Libet’s experiments and their implications.............................................. 55
        3.2.1.1 The Experiments............................................................................... 56
        3.2.1.2 The Role of Consciousness in Human Action................................. 59
  3.3 Implications of Libet’s findings........................................................................ 63
  3.4 Conclusion ........................................................................................................ 67

CHAPTER FOUR: COMPATIBILITY OF LIBERTARIAN FREE WILL AND ... 70
  4.1 Introduction...................................................................................................... 70
  4.2.1 Libet Findings Do Not Threaten Free Will.................................................. 72
  4.2.2 The possibility of a free will in a deterministic world............................... 77
  4.3 Conclusion........................................................................................................ 84
OPERATIONAL DEFINITION OF TERMS

Determinism - The position that every event or state of affairs, including every human decision and action, is the inevitable and necessary consequence of antecedent state of affairs.

Indeterminism - The theory that the will is free and that deliberate choice and actions are not determined by or predictable from antecedent causes.

Compatibilism - The thesis that free will and determinism are compatible and that it is possible to believe both without being logically inconsistent.

Incompatibilism - The thesis that free will and determinism are completely at odds with each other and that any belief in both would be a contradiction. Incompatibilists are divided into determinists and indeterminists.

Neuroscience - The study of the nervous system, including the brain, spinal cord, and networks of sensory nerve cells called neurons. Neuroscientists focus on the brain and its impact on behavior and cognitive functions.

Readiness potential - The increase in the electrical activity of the brain that is thought to reflect the preparation of motor activity on a certain side of the body, for instance, when a person gets ready to move a leg or a hand.
ABSTRACT

The question of whether human actions are determined or not has been a perennial philosophical concern from ancient Greek philosophy to date. Each era since then has been looking at the problem from a different perspective inspired by the circumstances of the time. This research clarifies what having free will means and what this free will entails, and it also seeks to establish a case for freedom of the will and the validity of the concept of personal responsibility for every human action. It focuses on the recent advances in neuroscience which have led some neuroscientists to conclude that human beings do not have free will. In particular, it gives attention the Libetan experiments, interpretations of his findings and their implications for the free will debate. The study ultimately reconciles the deterministic position of neuroscience with the libertarian position on free will. It shows that human actions can be determined to a certain extent by nature, nurture and forces beyond human control, however, human conscious intention and control of one’s actions cannot be ruled out. To hold either the determinists’ position or the libertarians’ position as the only valid explanation for human action, the research establishes, would be erroneous since our actions are free but are at the same time governed by forces that we have no control over, in certain circumstances. Additionally, there is need to examine every instance of a given phenomenon before drawing general conclusions. This study finds fault in the neuroscientific overreliance on experimental data and drawing questionable inferences from their observations. It also finds fault with the libertarian ignorance on the possibility of a free action being influenced by forces external to the agent performing it. As its theoretical framework, the study adopts, firstly, the compatibilist theory of free will which asserts that human actions may be determined to a certain extent but not in their entirety. Secondly, the study employs the Humean scepticism of causality to gauge the validity of claims presented by both the Libertarians in support of free will and the neuroscientists in their use of induction to affirm the deterministic nature of our actions. This research is library based, and as such, it involves a logical analysis of the arguments advanced by those who advocate for a libertarian free will and arguments of those neuroscientists who advocate for determinism. It examines whether the evidence provided by both parties is convincing and strong enough to support their respective positions. The study further identifies the shortcomings that each of the opposing sides has and proposes ways to reconcile them. The research basically involves a consultation of literature that is relevant to the research.
CHAPTER ONE: INTRODUCTION

1.0 Background of the Study
The idea of being in control of how we act is an idea a lot of people share. It is a constant and fundamental feature of our thinking, and one that we can all recognize. Thinking of ourselves as consciously controlling our actions means that our own achievements or failures are attributed to us. But can we justify the claim that we are really in charge of our actions? The problem of whether we are ever in control of how we act and what this control involves is what philosophers describe as the free will problem. However obvious the idea of being in control of our actions might appear, there is nothing forthright about it. Whether we do have control over how we act, the nature of this control, and whether and why it matters that we have it –is one of the oldest and perennial problems in philosophy (Pink, 2004:1-2).

According to Kane (2011:4), the problem of free will rises when humans reach a certain higher stage of self-consciousness about how overwhelmingly the world may impact their behaviour in ways of which they were oblivious. We think of ourselves as free agents with the capacity of influencing the world in a number of ways. Open alternatives seem to lie before us; we reason, deliberate and make choices from among them. We have the feeling that it is "up to us" what we choose and how we act; and this means that we could have chosen or acted otherwise. This "up to us-ness" also implies that the origins or sources of our actions inhere in us and not in something else over which we have no control-
regardless of whether that something else is fate, God, the laws of nature, genetics or upbringing, or other humans.

The question arises, “is man free in the sense that he has some power to make a choice from a variety of alternatives and subsequently initiate action, or is he just the plaything of nature, determined in his very act?” If all events in the universe, including human thoughts and actions, are strictly determined by forces beyond their control, it follows that humans can neither act differently from the way they do nor really guide the course of events even in their own lives. The solution of this question regarding man’s freedom depends on the answers to a great many other questions which include those that are concerned with the nature of the person, man’s power of self-discipline, the status of morality and social policy and programs, among others (Titus, 1964:183).

In an attempt to solve the question of whether humans are free or rigidly determined, philosophers have come up with a number of explanations. Generally, three positions have been held; the deterministic position, the indeterministic (libertarian) position and the compatibilist position.

The deterministic position disavows the assertion that man is free. Determinism is justified in different ways; by presenting explanations that are either intrinsic to the nature itself of man, or instead by offering extrinsic reasons. For this reason, there are two forms of determinism: extrinsic and intrinsic (Mondin, 1985:105). There are different kinds of determinism that have been cited as potential threats to
our freedom. They include; logical determinism, theological determinism and causal determinism. Philosophers who have held this position include; Gottfried Leibniz *(Essays on the Goodness of God, the Freedom of Man and the Origin of Evil)*, Sigmund Freud *(Introductory Lectures)*, Baruch Spinoza *(The Ethics)* and Arthur Schopenhauer *(On the Freedom of the Will)*, among others.

The second position, the indeterministic solution, affirms the assumption that man is free. It denies that all events are governed by causal laws. To believe in free will is to believe that (at least) human choices are not determined by causal laws. If human choices are not subject to causal laws, then they are not inescapable or predictable. People who believe in absolute free will are called libertarians (Davis, 1993). Some of the major proponents of this position include; Augustine of Hippo *(On Free Choice of the Will)*, Thomas Aquinas *(Summa Theologica)* and William James *(The Will to Believe)*.

The third position holds that both those who deny all freedom and power of alternative choice, and those who deny determinism are taking false and extreme positions. The supporters of this third position say that it is not an “either-or” issue; we need not accept freedom alone or determinism alone. Determinism in the sense of general causation and freedom in the sense of choice between alternatives may be shown to be not only compatible but necessarily complementary (Titus, 1964:191).
According to Mondin (1985:103-104), ancient Greek philosophers had a hard time effectuating a satisfying inquiry into the problem because of three reasons, namely: that the Greek thought considered all things as subject to fate, an absolute will, superior to men and to gods and therefore men could not be held responsible for their actions; they also held that man was a part of nature and as such, he was governed by the laws of nature and had no chance of acting differently than he did; and lastly, they also considered man a strong subject of history, which they thought was a cyclical movement in which everything repeated itself within a certain period of time.

In the Medieval period, the problem took a new twist and focused on religious explanations to attempt to solve it. Freedom was mostly a question of man’s relationship with God and why God would make man free given the latter’s vulnerability to giving in to the demands of his imperfect nature (Mondin, 1985:104).

Further, Mondin (1985:104) presents man’s concern about free will to be more anthropocentric in the modern period. Man took consciousness of his autonomy and therefore freedom no longer constituted a problem for his rapport with God, but only for the rapport with other faculties and with society.

According to Haggard and Libet (2001:47), the problem of free will lies at the centre of modern scientific studies of consciousness. A series of experiments conducted by Benjamin Libet has led to the suggestion that conscious intentions
arise as a consequence of brain activity. This contrasts with the traditional conception of free will in which the mind has control over the body. Haggard further examined the relationship between intention and brain processes, concluding that conscious awareness of intention is related to the selection or choice of a specific action, and not to the earliest initiation of action processes. This means that the brain prepared the allegedly ‘free’ action considerably before the subject became aware that they intended to do it.

New investigation in neuroscience has claimed to identify networks of brain areas, including the pre-supplementary motor area, the anterior prefrontal cortex and the parietal cortex that produce voluntary action. These areas generate information for impending actions, and also cause the distinctive conscious experience of intending to act and then controlling one's own actions. Volition involves a series of judgments regarding whether or not to act, what action to execute and when to do it. Neuroscientific accounts of voluntary action may inform debates about the nature of personal responsibility (Haggard, 2008).

If these claims are granted, it would mean that a person’s brain initiates certain decisions before the person becomes conscious that he has made them. According to some advocates of neuroscientific determinism, consciousness of a decision may be a mere biochemical addendum, with no influence whatsoever on a person's actions. These developments raise a number of thought-provoking and important queries for the Libertarian accounts of free will. In particular, Libet’s experiments
raise challenging questions about the analysis of the concept of free will (Kane, 2011).

1.2 Statement of the Problem
Developments in neuroscience for the past 40 or more years are instigating a revisiting of the old philosophical debate: Does man have free will over his conduct, or do forces outside his control define his decisions and conduct? Findings of brain activity shortly before a person’s conscious awareness are giving more credit to the standpoint that determinism rightly belongs to the human condition. However, some contemporary intellectuals are conflicted in this viewpoint because for them, "free will" is a necessary component for self-determination and for accrediting personal responsibility to one's actions.

Recent findings in neuroscience imply that human actions are consequences of electrical activity of nerve cells in motor areas of the brain. The notion of a self-conscious agent as the source of voluntary actions seems incompatible with the neuroscientific view of the brain as a complex machine. This means that man cannot exclusively claim to act freely.

This research evaluates these claims of determinists, highlights the pros and cons of their arguments, and makes an attempt to reconcile them with libertarians who do not think that there is any element of determinism in human action.
1.3 Research Objectives
This study intends to:

1. Examine the libertarian justification for freely willed actions

2. Examine the neuroscientific claims for determinism in human action.

3. Establish a philosophical explanation for the existence of free will in a world in which all events, including the operations of the human brain, seem to be determined.

1.4 Research Questions
1. What conditions have libertarian philosophers held as necessary for humans to act without their actions being pre-determined?

2. How has neuroscience informed the free will problem in the contemporary age?

3. Is there any philosophical foundation for free will in the deterministic world of scientific developments in Neuroscience?
1.5 Justification and Significance of the Study
The research seeks to enhance a better understanding of free will and determinism in the contemporary society in which the traditional foundations of free will have been challenged. It investigates whether the conditions that have been long held as necessary for an agent to act freely can still be applicable in light of the new challenge posed by neuroscientists.

The study also brings out the importance of a philosophical approach in matters viewed to be in the domain of science. It enhances a critical examination of reality even when science seems to have an upper hand in explaining phenomena.

This study is significant because it offers a platform to re-evaluate the foundations and assumptions upon which we base our ethical views on personal responsibility, reward or punishment for human actions. If human actions are not consciously willed, then on what grounds can we be held responsible for our actions? It also calls for a critical and extensive examination of empirical data from experiments in order to avoid making erroneous conclusions especially in the empirical sciences.

1.6 Scope of the Study
The study is interested in the perennial problem of free will and determinism. However, the research limits itself to the recent findings in Neuroscience that leads some neuroscientists to claim that human actions are determined, contrary to what libertarians advocate. It evaluates the arguments presented in support of both positions and eventually tries to find a middle ground for the two positions.
1.7 Assumptions of the Study

This study assumes that:

1. There are certain conditions that are essential for human actions to be considered voluntarily willed acts.

2. Recent findings in neuroscience imply that human actions are initiated unconsciously in the brain and this has led some proponents of determinism to claim that our actions are determined.

3. It is possible for our actions to be considered free or voluntary while at the same time being influenced by forces or events over which we do not have control.
1.8 Literature Review
This section presents literature related to the problem of free will and the neuroscientific influence in the contemporary age. The first part presents opinions by different philosophers on the conditions that indicate freely willed and done human actions. The second section deals with the neuroscientific arguments for determinism. Lastly; the third part examines arguments that have been made to support the case for free will even in the face of contemporary neuroscientific determinism (arguments for compatibility).

1.8.1 Libertarian Views on Conditions that Characterise Freely Done Actions
In order to understand the nature of freedom, it is essential first of all to establish the way in which the free act advances itself. This is important because an examination of the deterministic and indeterministic claims requires an extensive knowledge of what having a free will means and the conditions that make an act to be freely done or be determined.

Saint Thomas Aquinas and many other authors distinguish three principal moments in the free act, namely; deliberation, judgment and election. Deliberation is the stage of consideration, research and inquiry about the object of the acquisition or the action to be performed. Secondly, judgment is the phase of evaluation and thirdly, election denotes the phase of decision-making. He adds that the free act requires, to begin with, that which is needed to be done is identified. This therefore implies an attentive investigation of the action that is wished to be performed or the objective that is wished to be reached (Mondin, 1985:114-115).
Saint Thomas Aquinas says that the free act which consummates itself in choice is a complex act and a result of a dialogue between the intellect (cognitive power) and the will (appetitive power). On the part of the cognitive power, guidance is required by which we judge one thing to be favoured to another. On the other hand, the appetite should assent the judgment of counsel. Saint Thomas also holds that the free act belongs significantly to the will, while also dependent essentially on the intellect (Mondin, 1985:115).

Kane (2011:6) identifies two features that portray freely willed human actions. The first is the existence of an assortment of possible alternatives and secondly, the belief that the origin or foundation of our choices and actions is in us and not in anyone or anything else over which we have do not have control. In his point of view, most modern arguments for the incompatibility of free will and determinism have ensued from the feature that entails an agent to act on his or her own free will only if the agent had other possibilities or could have done otherwise. The incompatibilists argue that the presence of alternative possibilities is an essential condition for acting freely and therefore determinism is not compatible with free will.

Traditionally, compatibilists have described freedom in terms of ‘can,’ ‘power’ and ‘ability’. To be free, most of them maintain, means to have the power or ability to do what we will (desire or choose) to do. It also makes reference to the absence of constraints or impediments preventing us from doing what we will,
desire or choose. These constrictions or impediments include; physical restraints, lack of opportunity, duress or coercion, physical or mental impairment, among others (Kane, 2011:11).

According to Titus (1964:194), one of the indicators that we have free will, is our immediate consciousness of freedom. He says that practically all humans have a direct and distinct consciousness of freedom. They believe they are able to choose between alternative courses of action. After they have acted, they usually feel that they could have chosen otherwise than they did. Further, he argues that if we actually have some freedom, then it is easy to understand how consciousness of freedom arises. However, if we are not free in any sense, then it is difficult to understand how this consciousness of freedom comes about.

On the contrary, Wegner proposes an argument that disagrees with Titus’ assertion. According to Wegner (2002:2), conscious will is an illusion in the sense that the experience of consciously willing an action is not a direct sign that the conscious thought has caused the action. He points out that the mechanisms behind the experience of will are themselves a fundamental subject of scientific investigation and therefore we should be able to scrutinize and understand what creates the experience of will and what makes it go away. According to him, the assumption that the experience of consciously willing an action and the causation of the action by the person’s conscious mind are the same thing is the cause of the illusion of conscious will.
This means that our awareness of an action does not necessarily mean that we are responsible for it. Our experiences of willing an action do not imply that we consciously chose the action from among alternatives and performed it. The experience only tells us that we have the urge to do something. We do not have evidence to prove that the conscious will is the one that initiates the action.

Having a sense of responsibility is an pointer to the freedom of human actions according to Titus (1964). This sense of personal responsibility expresses itself in our feeling of obligation or the sense of ‘ought’ and it is meaningless if the power of choice is denied. After some action we say, “I could not have done otherwise,” but after some other actions we say, “I could have done the other thing.” Moreover, sometimes we have a keen feeling of blame or even of guilt and remorse. We experience a sense of obligation and we need to explain it, since its existence cannot be denied (Titus, 1964).

Campbell (2013:36-37) presents two conditions that he thinks are fundamental in determining the free nature of our actions. The first condition is that the act needs be self-caused or self-determined. The agent must not just be a cause but the sole cause of that for which they are held morally responsible. If an entity other than the self has also a causal effect upon the act, then one cannot be said to take responsibility for that act. If in respect of it we hold the self responsible at all, it can only be for some feature of the act of which the self is the only cause.
However, this condition does not sufficiently warrant the freedom of human actions. It is possible to think of an act in which the agent is the cause, but which is at the same time an action imposed by the agent’s nature. It is thus important that the agent’s power of alternative action would appear to be an indispensable condition for his liability to moral praise or blame (Campbell, 2013:37).

Haggard (2008:934-946) compares voluntary actions with reflex actions. According to him, voluntary actions involve the cerebral cortex, whereas some reflexes are purely spinal. Volition matures late in individual development, whereas reflexes can be existent at or before birth. Haggard goes on to say that a voluntary action involves two distinct subjective experiences that are by and large absent from reflexes. These are; the experience of intention (planning to do or being about to do something) and the experience of agency, which is the subsequent feeling that one’s action has indeed caused a particular external event.

According to Caruso (2013:2), compatibilists and libertarians respond to the problem of free will in different ways. The libertarians reject determinism and support a counter-causal conception of free will so as to save what they believe are obligatory conditions for free will, that is, the ability to do otherwise in precisely the same set of conditions and the idea that we remain, in some significant sense, the ultimate source or originator of action. They believe that if determinism were true and every human action is causally necessitated by circumstances beyond the
agent’s control, we cannot be said to have a free will and consequently, we cannot be held morally responsible for our actions.

Compatibilists, on the other hand, set forth to defend a less ambitious system of free will, one which can be reconciled with the acceptance of determinism. They hold that what is of utmost importance is not the fallaciousness of determinism, nor that our actions are uncaused, but that our actions are voluntary, free from constraint and compulsion, and caused in the appropriate way (Caruso, 2013:2).

1.8.2 Neuroscientific Advocacy for Determinism
The question of whether or not we have free will has in the past forty years taken a new turn following advances in the study of the human brain. Researchers have been able to monitor the human brain at work and they have come up with different observations concerning the agency of our actions. The following is the second section of the literature review and it presents the neuroscientific arguments for determinism in human action.

Benjamin Libet, a pioneer of these researches, took an experimental approach to the problem of free will in the early 1980s. He conducted a series of experiments in which he monitored the electrical activity of motor brain areas of the brain as participants in the experiment were asked to perform actions such as flexing their wrists at moments of their own choosing (Schlegel, Alexander, Sinnott-Armstrong, Roskies, Peter, and Wheatley, 2013).
These experiments resulted in Libet’s conclusion that freely voluntary acts are preceded by a definite electrical charge in the brain (the readiness potential) that arises a short time before the act. Human subjects become aware of the intention to act shortly after the readiness potential starts and shortly before the motor act. The initiation of the free voluntary act seems to initiate in the brain unconsciously, well before the individual consciously knows that he or she wants to act. (Russell and Deery, 2013:473-478).

In the experiments, each readiness potential was attained from an averaged electrical recording in forty trials. In each of these trials, the subject executed the sudden flick of the wrist whenever he or she wanted to do so. After each of these trials, the subject recounted the times they had their first awareness of the wish to act. Libet established that the unconscious brain activity leading up to the conscious choice by the subject to flick his wrist began approximately half a second before the subject consciously felt that he had decided to move (Russell and Deery, 2013:473-478).

In another experiment to test the accuracy of these tests, the subject remained relaxed and did not execute any voluntary act. In its place, a weak electrical stimulus was delivered to the skin of the same hand. The stimulus was applied at random times in the different trials. The experimental observers identified the actual time for each stimulus. The subject did not know this actual time but was
asked to report the clock-time at which they felt each stimulus. The subjects accomplished this with a tiny margin of error (Russell and Deery, 2013).

How the brain deals with voluntary acts is an issue that is of significance to the role of conscious will in human actions and, beyond that, to the question of whether we have a free will. There has been a common assumption that in a voluntary act, the conscious will to act would appear before or at the start of the brain activities. If this were true, the voluntary act would be initiated and specified by the conscious mind. However, there is evidence that the specific brain activities leading to a voluntary act begin before the conscious will to act, in other words, before the person is aware that he intends to act. The voluntary process is therefore initiated unconsciously shortly before the subject becomes aware of his or her will or intention to perform the act (Libet, 2004:123).

According to Russell and Deery (2013:479), we should, at this point, consider the likelihood that the conscious veto itself may have had its origin in preceding unconscious processes, just as is the case for the development and appearance of the conscious will. If the veto itself were to be initiated and developed unconsciously, the decision to veto would then become an unconscious choice of which we become conscious, rather than a consciously causal event.

Moreover, they (Russell and Deery:479-480) reject the idea that an unconscious initiation of a veto choice would nonetheless be a genuine choice made by the agent and could still be regarded as a free will process. As such, an individual
would not consciously control their actions, but would only become aware of an unconsciously initiated choice. They would have no direct conscious control over the nature of any preceding unconscious processes.

According to Mele (2006:34), Libet recommends that conscious volitional control may operate not to initiate the volitional process but rather to select and control it, either by sanctioning or triggering the final motor outcome of the unconsciously initiated process or by vetoing the progression to actual motor activation.

1.8.3 Compatibilism of Neuroscientific Determinism and Free Will.
The fourth part of the literature review presents arguments advanced to support the view that human action can still be a result of conscious choices made by humans even in the face of neuroscientific claims of determinism.

According to Glannon (2009:1-6), some cognitive neuroscientists and psychologists argue that our conscious mental conditions and actions can be described entirely in terms of unconscious mechanical processes in the brain. This submits that our belief in free will is an illusion and that we cannot be held responsible for our actions. However, he cautions against such inferences and says that neuroscience as such does not threaten free and responsible agency. The real threat to free will, according to him, is not standard brain function but brain dysfunction that mars or undermines our capacity for agency. He says that claims about neuroscientific determinism and mechanisms stripping us of authorship of our actions and rendering our mental states epiphenomenal presumably are based
only on empirical evidence, mostly from neuroimaging. Functional brain imaging experiments conducted by neuroscientists and cognitive psychologists show connections between brain activity and some cognitive and affective mental states.

Although there is no perfect conception of volition or the will, we have intuitive ideas that characterize the will, agency and voluntary behaviour. Neuroscientific findings from a number of strands of research bear upon human intuitive notions of the will and make available some insight into the neural circuits facilitating behaviours that we identify as related to will and volition. Although some researchers contend that neuroscience will destabilize our views about free will, to date no outcomes have fundamentally succeeded in disrupting our common-sensical beliefs. Nonetheless, the picture emerging from neuroscience does raise new questions, and ultimately may put pressure on some intuitive notions about what is necessary for free will (Roskies, 2010).

Correlation, though, should not be confused with causation. Images of increased or decreased brain activity are not similar to events and processes happening at the neuronal level. Additionally, decisions and actions are more than just a function of what the agent needs to traverse in and adapt to the world, which involves a more temporally extended process. Mental states materialize from the brain so as to provide human subjects with an exact map of the natural and social environment, a map that brain processes cannot offer on their own (Glannon 2009:1-6).
According to Tse (2013:20), will is the capacity to choose or decide to act. But there are actions that are implemented in the world and actions that are implemented internally. External actions are limited to muscular actions. He says that, if it wants to do anything in the world, whether to locomote or move objects, a brain can only contract muscles. Internal actions however are more varied and require no muscular contraction. For him, shifting attention from reading a page in a book to the sensation of the chair a reader is seated on is an example of an internally willed action. He goes on to assert that whether effort is volitionally applied in order to implement a decision or plan, whether muscularly or in terms of subsequent mental operations, we can say that the effort is a willed effort.

Spence (2009:9) argues that one way of responding to Libet’s work is to say that his findings are valid but that they only describe a special case: they apply solely to the performance of spontaneous acts, which are arbitrary and unimportant. This line of argument holds that in real life when we need to perform a complex task or something that is truly important to us, we don’t just do the first thing that comes into our minds. Instead, we deliberate and think things over. So, even if the action that eventually emerges is itself initiated by something that ‘goes on’ in our brains, something that occurs prior to our awareness, this is not the challenge to freedom that it might at first have seemed because we have made up our minds already during all of those earlier periods of deliberations.
Tse (2013:20) shares Spence’s view that the idea of will is not an event. He says that the idea of will, whether free or not is not monolithic. Will appears not to be a thing or event but a durationally extended process. For example, certain areas of the brain might specify a problem or a need that requires possible solutions; other areas of the brain might generate multiple possible solutions; others might evaluate possible solutions on the basis of various criteria while playing out the consequences of a given possible choice internally; others might select the optimal option; others might evoke the motivation and appropriate emotional and psychological states needed to implement the chosen plan; and still other areas might then implement a motoric plan to enact the propositional plan.

Contemporary neuroscience leaves wide-open the possibility that conscious will is causally efficacious. Three arguments are presented to support this claim. To begin with, conscious will has the capacity of exercising a ‘veto power’ over unconsciously initiated potential actions. Secondly, the conscious will can form general strategies of action that impact subsequent behaviours and thirdly, the conscious will exerts a direct cause on our specific actions in normal cases of human behaviour that are not well captured in a laboratory environment. These arguments suggest that consciousness has a central causal role to play in producing or modifying our behaviour. The most evident way that conscious will plays a causal role in behaviour consist in developing general ends or plans for behaviour (Morris, 2009:58).
Dennet (2004) argues that Libet advances the view that the self is best understood as being relegated to a specific sub-region of the brain—that is, the part in which the conscious awareness is generally assumed to occur. According to Dennet, this means that a subject is separate from whatever unconscious processes that might be operating in the brain’s background. For him, Libet’s experiments are troubling for this view because they apparently demonstrate that things distinct from our true self (the unconscious processes) are calling the shots when it comes to what we do. He adds that this notion of the true self being limited to an isolated control centre within the brain reflects the common-sense understanding of ourselves and is accepted by Libet.

Dennet believes that he can eradicate the threat to free will posed by the Libet experiments. He comprehends the self as an entity that is spread across the brain and consists of both conscious and unconscious processes within the brain that are responsible for causing behaviour. It is therefore not correct to assume that this unconscious activity is a foreign cause of one’s behaviour. Under his extended understanding of the self, the unconscious brain activity that initiates our actions are as much a part of the self as any choices of which we are consciously aware (Morris, 2009:56-73).

1.8.4 Gaps in Literature
In the literature that has been examined in this study, the advocates of libertarian free will present a number of conditions that draw the line between a free act and an act that is determined. They have not provided a scenario in which an action
can be said to be voluntary if there is an element of determinism in it. For instance, a student has the option of attending lectures or doing something else in the university. If the student chooses one option over the other after deliberation and weighing the options, a libertarian will say that this is a free act and therefore the student is morally responsible for it. However, the two or more alternatives that presented themselves to the student may not be as free as the libertarians may want to think. Every option has its consequences and it is this fact that may have compelled the student to make a choice. Failure to attend classes may lead to poor grades, disciplinary action or some other unpleasant consequence which may inform the student’s decision. But ultimately, the student can evaluate these options and freely make a choice that he can be held responsible for.

Consciousness of an agent when performing an action is one of the conditions that have been presented as necessary for considering an action as voluntary and therefore the agent is deemed responsible for the action. However, the Libetan conclusions seem to contradict these long-held assumptions by libertarian philosophers since Libet argues that human actions are initiated unconsciously in the brain and that the agent can gain control of the action after they have become conscious of it some moments after its initiation. The incompatibilist position that there should be conscious deliberation before the initiation of an action for it to be considered freely done seems to disagree with Libet’s conclusions. This therefore calls for a revisiting of the role of consciousness in human actions and a closer
examination of Libet’s interpretation of the data from his experiments to establish whether he is justified in drawing such conclusions.

Further, there is a disagreement on the nature of the conscious veto; whether it plays the controlling role that Libet gives it, or if it is an illusion that we have when we act as Wegner sees it. Libet’s explanation is wanting because he does not give a clear answer on how this veto comes to be. Those who think that Libet is wrong in describing the role of consciousness in human actions, for instance, Wegner, also fail to offer convincing explanations for the argument that the conscious feeling is irrelevant in establishing if our acts are free or determined.

This study looks into the arguments presented by both sides and evaluates the strengths and shortcomings of each.

Further, some of the compatibilists who have attempted to reconcile the neuroscientific claims for determinism with free will have misinterpreted Libet’s presentation of his work. For instance, Dennet thinks that Libet alienates the self from the unconscious processes that initiate human action. He (Dennet) goes on to provide arguments to critique the findings of Libet on this background. The study tries to avoid the drawing of assumptions or conclusions that are not warranted or not based on the findings of Libet’s experiments.
1.8.5 Theoretical Framework
The compatibilist theory of free will provides a general framework on which our evaluation of the claims of incompatibility by both the Libertarians and determinists lies. The theory presents objective conditions that are necessary for judging an action voluntary or determined. It also justifies the voluntary nature of actions that may appear to be determined by describing the limits within which an action can be free while at the same time determined by forces outside the agent’s control.

This theory, however, only gives us general tenets by which our actions should be judged. It does not provide adequate solutions to the neuroscience-free will conundrum. This leads the research to also adopt the Humean Scepticism in which our general understanding of things based on experience is evaluated. This means that we examine every causal claim raised by philosophers and neuroscientists with a critical mind and seek to establish if there really is a certain connection between the two events or phenomena they are trying to link. If the link can be established, then we can grant the assertions that are presented, but if there is not a clear link, then our judgment should be withheld until certainty is achieved.

The compatibilist theory holds that free will is compatible with causal determinism. Proponents of this theory hold that it is possible to believe both free will and determinism without risking being logically inconsistent. They feel that there is a causal or deterministic connection between our wills and actions, and as long as our own will is included in that causal chain, we are free (Kane, 2011).
This position has been championed by Thomas Hobbes (in the work, *On Liberty and Necessity*), David Hume (in his works *A Treatise of Human Nature* and *Enquiry Concerning Human Understanding*), and P.F Strawson (in the work *Freedom and Resentment*) among others. This study adopts the Hobbesian theory of free will that equates human actions to an unimpeded river that flows downhill but necessarily stays in a channel that limits it. The water is at liberty to flow within the channel but it has to be within the confines of the channel.

According to Hobbes, Bramhall, & Chappell (1999), someone can be self-determining if conditions beyond his control do not prevent him from performing an action that he wills or desires. This power to do what one wills is understood to refer to freedom and it is this freedom that is compatible with determinism. A person may be free to do what he or she wills but these desires or intentions that the person has have been necessitated by antecedent causes or circumstances.

This means that actions that are considered voluntary are free because they flow from the will of the agents. However, they are necessary because they are an aftermath of a series of causes and effects. Therefore, this implies that freedom does not only consist of the absence of physical restraint, but also these actions must be willed by the agent or subject that performs them.

Hobbes reasons that the will cannot be thought to be free in the sense of being undetermined and capable of independent self-determination. The so-called will can only be understood and explained if it is understood as a volitional process.
which is determined by its antecedent causes. In this view, man is free as far as his ability to act according to his will is concerned. He is therefore not free to determine his own will. The determination of his will depends on the antecedent factors, which are its necessary and sufficient causes (Van Den-Eden, 1979:187).

Hobbes adds that free will is compatible with determinism in the sense that our will triggered our actions, even though the willed act was the consequence of antecedent causes. Free acts are those that are initiated by the agent’s willings and yearnings. An agent can be held responsible for their actions because it was their desire and willing that were the determining causes of the action in question. However, if an action is the effect of violence or constraint of any kind, even though it may be necessitated or caused, it is not the consequence of the agent’s will and therefore it cannot be attributed to him.

David Hume is accredited with coming up with the problem of induction-our knowledge of things though observation of a few instances of a thing and then making general conclusions based on these few observations. Human nature, he thinks, is such that we regularly base our beliefs on induction and as such, we have a habit of linking events that have close resemblance and contiguity in time or place. However, these beliefs cannot be justified when we closely investigate them.

Reason tells us that our beliefs resulting from induction are consequences of a human mind’s habit of associating or connecting events that happen in close
proximity to one another and in a regular basis. This means that we usually develop a habit of linking events that happen close to each other, for instance, in every instance of fire, we experience heat and from these experiences, we conclude that fire is a source of heat, or that heat emanates from fire. Hume, on the contrary, insists that we cannot make such sweeping conclusions. This is because what we can certainly claim to have experiences are a series of events in succession but not one event being caused by the other. We can be sure of the proximity of the events but we cannot be sure of the causal relationship because we do not have experience of it.

This research, in its attempt to reconcile the deterministic position of neuroscientists and the libertarians on free will, is best served by the Hobbesian theory of compatibilism and the Humean critique of causality. The compatibilist theory acknowledges that human actions are not uncaused since there are chains of events and causes that inform them, and this would to a certain extent agree with the determinists that the human brain’s mechanical operations cannot be excluded from the process of decision making and initiation of an action. Additionally, the ability of an agent to consciously control the course of their actions and be held morally responsible for them is a common ground held by both the libertarians and the Hobbesian theory of free will. Even though the actions are determined by prior events, the agent can deliberate and make choices on how to control them and hence be held accountable for them.
Furthermore, the Humean theory gives the research a platform upon which the data drawn from the neuroscientific experiments can be said to provide valid proof for their conclusions. It examines whether there is really any justification for concluding that unconscious brain processes observed in the experiments are the prime causes of our actions and that we are determined in this way. Hume’s scepticism also serves to critically examine various assertions by the Libertarians that certain conditions must be there for an action to be considered voluntary. The question raised here is, “does the voluntary or free act necessarily require certain conditions ascribed to it by the libertarians, or is it possible to be free even in the absence of such conditions?”
1.9 Research Methodology
The research is basically library based. It seeks to gather appropriate information from the literature used. The study is involved in a theoretical analysis and of publications that are relevant to the problem of free will and determinism. These materials include; books, research and experiment reports. These sources have been complimented by secondary sources such as commentaries on the original works of philosophers and neuroscientists, and journal articles. The method has focused on the libertarian, the deterministic and the compatibilist perspectives of the study.

The interpretive method of research has been used to study the findings of neuroscience’s experiments. Interpretivism is a qualitative method of research which claims that reality can be grasped through its subjective interpretation and intervention. According to interpretivists, studying of phenomena in its natural environment is very crucial to the interpretivist philosophy.

Additionally, analytic research has been conducted to evaluate the arguments for and against free will and the possibility of a synthesis of the two opposing sides. An analysis of the data arrived at from the interpretive conclusions of the Neuroscientific observations has been done to determine whether the deterministic claims for the freedom of man hold or human beings can still have freedom of the will in a deterministic world. Moreover, data that attempts to reconcile scientific determinism with the libertarian views on free will has been examined and critiqued in this research so as to find a solution that has a rational justification.
CHAPTER TWO: LIBERTARIAN FREE WILL

2.0 Introduction
Philosophers since the Ancient Greek era have always been concerned with whether we can have free will, and if so, what having this free will entails. Generally, there have been certain conditions that have been granted by libertarian philosophers as necessary for categorizing an action as freely or voluntarily executed. This chapter investigates what it means to have a free will and under what circumstances we can hold our actions to be free, according to the libertarians.

2.1 Free Will
The notion of freedom popular in philosophical discussions is usually distinguished from a number of other freedom concepts, including religious and political freedoms. Free will is also commonly treated as different from some other concepts related to human agency, like autonomy and authenticity. Much of the tradition has taken free will to be a sort of power or ability to make decisions that an agent can be held morally responsible for. However, philosophers have also occasionally argued that free will should be necessary for a variety of other things, including moral values, originality and self-governance (Fischer, 2007:1).

Kane (2005:2) argues that nothing could be more essential than freedom to the contemporary age. Everywhere in the world, human beings clamour for freedom; and the inclination (in spite of frequent violent resistance to it) is towards societies that are freer. But what do we need from our search for freedom? The modest but
insufficient answer is that, being freer is being able to fulfil more of our desires. In a free social order, we can purchase what we desire and travel where we please. We can pick what movies to watch, what books to read and whom to vote for in politics, among other things. However, these freedoms are what we may refer to as surface freedoms. Free will goes deeper than these commonplace freedoms.

It may occur to one that, to some extent, we live in a world in which we are free to choose but we may be influenced into making many of them by advertising, television, salespersons, marketers, and sometimes by our friends, parents, relatives, rivals or enemies. One indication of how free will is significant to us is that we feel revulsion at such manipulation and end up feeling demeaned by it when we find out that it has been done to us. we realize that we may have thought we were our own persons due to the fact that we were making choices in harmony with our own desires and purposes, but all along our desires and purposes had been influenced by others who wanted us to do exactly as we did. Such manipulation leads us to be aware of the fact that we were not our own persons when making the choices, and as such, we were not free (Kane, 2005:2-3).

Basically, there are two types of freedoms pertinent to our discussion of philosophy. Different authors ascribe different labels to these freedoms, but what is important is the distinction drawn and not the terminology. There is circumstantial freedom which is characterised by the ability and the opportunity to perform any kind of action one chooses. Circumstantial freedom is a negative
condition. This means that we are free from external forces, obstacles, and natural constraints that restrict or induce our actions. In this case, you would not be at liberty to go to school if you were tied up or if you were being held hostage (external forces). Similarly, you are not free to leap eighty feet in the air (a natural limitation). The fact that we have circumstantial freedom does not do much to enlighten us about how our choices are caused, for instance, bees constructing a honeycomb have circumstantial freedom, nevertheless, their activity is compelled by blind instinct (Lawhead, 2010:264-265).

The second kind of freedom, metaphysical freedom, depends on the nature of the universe we live in and on what is necessarily true about human nature. This freedom is similar to what we usually call free will. This is a concept that makes reference to the power of the self to make a choice from among genuine alternatives. Metaphysical freedom relates to our internal condition but not to the external circumstances. This points to the assumption that the self is the creative and originating cause of a decision or action. If we have metaphysical freedom, then our capacity to initiate a specific action is not merely the consequence of external, influential causes acting on us. If we have this freedom, then it is possible that we could have made different choices in the past than the ones we elected. Therefore, if we have metaphysical freedom (free will), then the given conditions and our psychological makeup preceding a decision are not adequate to make a specific choice essential or inevitable. External circumstances and our personality may exert some influence over our decisions. However, in the final analysis, any
alternative we act on is established by our free and spontaneous choice. Metaphysical freedom grants the agent an opportunity to make undetermined choices within the confines of its external limitations (Lawhead, 2010:266).

According to Pereboom (2009:307-338), the traditional conception of free will is that, being free is basically a matter of doing what one intends to do. However, the conception of agents who do what they want to is not a clear one. Nevertheless, this notion apprehends part of what is implicit in the idea of an agent who acts freely. We do not consider that animals have freedom of the will, though we recognise that an animal is free to run in whichever direction it wants. Therefore, having the freedom to do what one wants cannot be a sufficient condition for having a free will, neither is it a necessary condition. To deprive someone of their freedom to act does not inevitably undermine their freedom of the will. When an individual is aware of certain things he is not free to do, it affects his desires and limits the range of choices they can make.

We naturally take ourselves to be free agents, capable of acting in different ways by consciously choosing and deciding to follow different courses of action. Indeed, our belief in freedom of the will lies at the base of our self-conception and underlies many of our moral, legal and theological attitudes. When we think of free will we usually think of a kind of personal power to originate choices and decisions, and consequently, action. Although we may sometimes make exceptions for certain subclasses of human behaviour, the common assumption remains that
most ordinary voluntary actions are freely chosen. A less prevalent and more far-reaching view, however, argues that our finest scientific theories have the implication that factors beyond our control yield all of the actions we execute and that due to this, we do not have the kind of free will that we need for genuine or ultimate responsibility (Caruso, 2012:1).

The free will concept can be described in the following way. Generally, humans who have attained the age of reason, and who do not have severe mental or emotional disabilities, by nature have a free will with respect to their attitudes and to actions which are within their control, which they are able to deliberate about. This therefore means that they can usually make choices from among many different actions which are possible for them, which they can reflect about, at least momentarily before they execute them (Cowburn, 2008:17-18).

The problem of free will rotates around the strain in reconciling our first-person folk-psychological account of ourselves with our scientific conception of the universe. The ultimate problem here is that we are confronted with two separate images of ourselves-in-the world, with each competing for our allegiance, and each describing to us something different about the possibility of human freedom. According to the one standpoint, as persons or agents, we are free to make certain choices and perform certain actions. This everyday understanding of human action attributes to humans a high degree of autonomy. It communicates to us that when we make a conscious choice or perform a voluntary action, alternative possibilities
lie open before us, and one of these options is actualised by what we do. According to this standpoint, when an agent is confronted with two or more incompatible courses of action they engage in a process of deliberation, choose among the alternative possibilities and then act or not on the basis of that choice (Caruso, 2012:6-8).

Baumeister, Mele, & Vohs (2010:2) describe free will as the notion that we make choices and develop thoughts independent of anything in the least resemblance of a physical process. Free will, they argue, is closely linked to the idea of the soul— the notion that ‘you’ and your thoughts and feelings, derive from an entity that is separate and distinct from the physiological mechanisms that constitute your body. From this perspective, your choices are not instigated by physical events, but instead they materialise completely formed from somewhere indescribable and outside the purview of physical descriptions. This would imply that free will cannot have evolved by natural selection as that would place it directly in a stream of causally connected events.

Freedom can take on several basically different meanings, some of which apply to natural, value-free situations. Physicists, for instance, speak of ‘degrees of freedom’ by which they mean the number of theoretically possible independent modes of change a physical object can take on such as a change in the direction of motion of a gas molecule, upward or downward, backward or forward, and rightward or leftward. This meaning of freedom is not the opposite of
determinism. When philosophers speak of ‘freedom of the will,’ they mean an unfettered human choice of volitions and refer to the concept that ascribes to persons the capacity autonomously among alternative actions (Stent, 2002:125).

Stent (2002:125) adds that his ascription of autonomy to the will does not imply that volition is totally immune to causal influences by the person’s physiology, heredity, and past experience, or by other persons, or the natural world. What freedom of the will does imply is that, such heteronymous, deterministic influences on a person’s will notwithstanding, there remains a substantial residue of independence in them, by virtue of which the rational faculty of persons remains the final arbiter of what the person actually wills.

Further, Stent (2002:126) acknowledges that freedom of the will and freedom of action is not one and the same thing. Freedom of the will refers to the presence of an autonomous volition to perform an action while the latter refers to an agent’s capacity to actually perform the action.

2.1.2 Libertarian Free Will

Fischer (2007:3) argues that libertarianism is the opinion that we have free will and that it is incompatible with determinism. Libertarians accept as true that a free will that is incompatible with determinism is a prerequisite for us to be truly morally responsible for our actions, so that, genuine moral responsibility, as well as free will, is incompatible with determinism. They believe that genuine free will could not be in existence in a realm that was completely determined by fate or
God, the laws of logic or physics, heredity and environment, psychological or social conditioning, among others.

While holding to our common sense belief in free will, the libertarians also maintain the incompatibility of determinism and human freedom. They believe in the existence of a traditional antideterminist (or incompatibilist) free will. They maintain that given the same antecedent conditions at a particular time, $t$, and the same laws of nature at $t$, an agent remains undetermined and has the power to choose from branching paths that are metaphysically open. This means that, keeping all the laws and antecedent conditions the same, the agent could have done otherwise than they did at the time $t$. They were not causally necessitated to do the thing they did (Caruso, 2012:15-16).

This position however has been criticised by many thinkers, philosophers and scientists who believe that such an idea of free will, though it may still be held by many ordinary people, is old-fashioned and incoherent and that it should have no place in the contemporary scientific picture of the world. Compatibilists, for instance, argue that despite appearances to the contrary, determinism does not certainly conflict with free will at all. They claim that all the freedoms we are acquainted with and desire in ordinary life, are actually compatible with determinism.

Cornman, Lehrer and Pappas (1992:98) says that, according to the determinist, whenever we act, it is not in our power not to act, and whenever we do not act, it is
not in our power to act. The libertarians hold contrary views. They maintain that
sometimes when we act, it is in our power not to act; and sometimes when we do
not act, and it is in our power to act. Putting it in a different way, sometimes it is
up to us whether or not we perform the actions we do. When this is true, then our
actions are free actions. Thus, to say that an action is free is to say that we could
have done otherwise, or that it was in our power to do otherwise.

2.2 Nature of Freely Willed Acts
This subsection discusses the conditions that have been long held by libertarians as
necessary for categorizing an act as freely done.

2.2.1 Consciousness
Caruso (2012:99-100) argues that the debate over free will typically focuses on
whether or not the individual is an autonomous agent who, at least some of the
time, is able to choose how to act from among multiple possible options. But does
it make sense to allow for free will to be exercised unconsciously? When we say
that an action is free, we typically mean that it was the result of a voluntary choice,
or consciously willed. Conscious will is seen as an essential aspect of free will.
This is supported by the fact that we do not hold people responsible for actions
they did not consciously will or intend to do. For instance, we do not hold people
responsible for actions or actions they performed while sleep walking. If
consciousness was not required for free will, we would have to allow for the
possibility of a fully free, autonomous, and responsible sleep walker, yet to do so
would be to depart dramatically from our ordinary understanding of free will.
Although minimal awareness may still be present in cases of sleep walking, the kind of consciousness we typically associate with control, authentic agency, and self-determination is missing.

Nowadays, the main threat to free will comes, not from abstract worries over determinism or the conceptual analysis of concepts, but from scientific discoveries in the behavioural, cognitive and neurosciences that suggest that conscious will is an illusion (Caruso, 2012:98).

Some modern cognitive scientists have reasoned that consciousness is only a comforting illusion. Volition and voluntary movement have recently been relegated to a similar status. The argument is that, although we may have the illusion of being free and fully aware when we make a decision to act in a certain way, this is contradicted by empirical evidence. Even so small a matter as a choice to move a finger is said to be outside our conscious control, determined by unconscious brain processes. The illusion of having triggered the action is useful for us a somatic marker in memory, and may actually be comforting, but it is, after all, an illusion (Baumeister, et.al, 2010:8-9).

According to Libet, Sinnott-Armstrong, & Nadel (2011:119), acts of volition are regularly accompanied by a sense of conscious effort or intention. That we feel the conscious effort is not in doubt. What is not very clear is whether the process behind the conscious experience directly leads to the performance of the actions, in a way that is not accomplished by unconscious processes just as successfully.
Further, Lawhead (2010:291) argues that our choices and actions are habitually preceded by a period of consideration during which evidence is scrutinised, the pros and cons of each alternative are considered, and the possible consequences of an action are considered. As such, we experience the fact that the decision is not already latent in the causes acting on us; instead, we have a distinctive sense that we are actively determining what the verdict will be. Contrary to what the determinists claim, when we deliberate we do not simply act like a metal ball suspended between two opposing magnetic fields. Rather than passively anticipating the result of the confrontation between our conflicting motives, goals, or desires, we regularly find ourselves actively choosing which one will triumph.

2.2.2 Alternative Possibilities
A prevailing role in almost all recent investigations into the free will problem has been played by a principle that Frankfurt (1969:829-830) refers to as the principle of alternative possibilities (PAP). This principle states that an agent is morally responsible for what they do only if they could have done otherwise. Its exact meaning is a matter of controversy, particularly with reference to whether someone who accepts it is thereby committed to accept as true that moral responsibility and determinism are incompatible. Additionally, he says that, no one seems inclined to contradict or even to question that that the principle of alternative possibilities (construed in some way or another), is true. People whose accounts of free will or of moral responsibility are fundamentally at odds
ultimately find in it a firm and fitting common ground upon which they can profitably take their opposing viewpoints.

Griffith (2013:38) asserts that, when we assume that someone could have done otherwise, we are looking at someone’s action and saying that they had the ability to do something else instead. Suppose I went for a walk yesterday. Could I have done otherwise? Could I have stayed home to write, or to read? Or gone jogging? Or done something else? To say that I could have done otherwise is just to say that although I did in fact go for a walk, going for that walk was in fact avoidable.

Choi and University of California, Santa Barbara (2007:3), present a natural picture of the kind of control libertarians require of our free acts. They argue that from the perspective of the present moment (when we are deliberating on what to do next), the future appears to us to be a ‘garden of forking paths’ where each path presents a distinct possible extension of the present into the future. As a libertarian conceives of the matter, these paths present genuine alternative possibilities in the sense that it is undetermined by the laws of nature and the total state of the world at the present which of these paths become actual. When an agent is free with respect to a given action at a time, one is able at that time to take more than one of the paths before them. Additionally, one has control over which one of these is actualised.

According to the libertarian, this conventional sort of understanding that our actions are freely chosen and that we had the option to do otherwise provides
convincing counter instances to the determinist’s assertion that our actions are determined and therefore, unavoidable. However, the determinist contends that, in those situations in which we face several alternatives and have the feeling that we are freely selecting from among them, there is always one motivating cause within our present psychological condition that compels us due to the fact that it is the strongest one. For example, you may be undecided between going to watch a movie or a concert. If you choose to see the movie, the determinist would argue that you did it because your psychological state led you to it, that is, the urge to see the movie was stronger than that of going to the concert. This means that people will always act upon their strongest desire. Contrary to this claim, the libertarian may argue that at times we can choose to override our desires. An alcoholic would be strongly compelled to drink but through sheer will power, they can learn to control that impulse or even get rid of it. Part of the process of moral development is learning to regulate some cravings and the fact that this process takes time and effort proposes that we are not automated to behave in one particular way (Lawhead, 2010:290).

2.2.3 Sense of Moral Responsibility
According to Watson (2003), the belief in free will presumes for human beings a special and puzzling status in the natural world, one that is central to our moral outlook. A convincing treatment of the free will problem must give an account of the values in question, as well as of this presumed status. For this reason, free will becomes as much a problem in moral philosophy as in metaphysics. The belief that
free will is necessary for moral responsibility has led some incompatibilists to go on and argue that determinism threatens moral responsibility. This is because they believe that if we are unable to do otherwise, we cannot properly be held morally responsible for what we do.

One of the main reasons we care about whether we have free will is that we care about moral responsibility. We care about whether we are blameworthy or praise worthy for our choices and actions. Most people agree that moral responsibility requires some sort of free will. It does not seem appropriate to blame or praise someone if he was not free to act as he did (Griffith, 2013:32).

Campbell (2013:36-37) seems to agree with Griffith’s assertion when he says that we consider a person morally responsible for an action then they become legitimate object of moral praise or blame in respect of it. This means that the person cannot be a genuine object of approval or blame for an action unless, in willing the act, he is in some sense, a free agent. Any threat to freedom, therefore, is a hazard to moral responsibility. Campbell discusses two conditions in respect of freedom which must attach to an action in order to make it an act for which the agent can be held morally responsible. These conditions are that: the agent must be the sole cause of the act and the agent could exercise his causality in alternate ways.

With respect to the first condition, the agent must not be merely a cause but the sole cause of that for which he is deemed morally responsible. If an entity other
that the self has also a causal influence upon an act, then that act is not one for which we can say without qualification that the self is morally responsible. However, this condition is not adequate. Campbell (2013:37) adds that we can consider an act of which the individual is the only cause, but it is at the same time compelled by the nature of the agent. We might occasionally hold a person morally responsible for an action, even when we believe that he or she, being what he or she is now, virtually could not do otherwise. Nevertheless, underlying that judgment is always the supposition that, the person has come to be what he or she is now, in virtue of past actions of will in which he was confronted by real alternatives, and by genuinely open possibilities. It is in respect of these past acts that we at present lay praise or blame on the agent.

On the issue of the relationship between free will and moral responsibility, there is an elementary divide between compatibilists and incompatibilists. Compatibilists trust that free will and moral responsibility are compatible with the truth of causal determinism. By contrast, incompatibilists believe that free will and moral responsibility are incompatible with causal determinism. According to incompatibilists, if our actions are causally determined, then we cannot act freely and cannot be morally responsible for what we do (Palmer, 2014:3).

2.2.4 Control of One’s Actions
According to Beebee (2013), compatibilists and incompatibilists commonly agree that being in control of one’s own actions is an essential condition of that action being executed freely.
One is often called upon, in deliberations of determinism, to cast one’s mind back to a time before there were humans, or even wasps, bees or even organic molecules on this world. If determinism holds true, it is pointed out; the total state of affairs back then has determined every ensuing event up to the present and into the future. Apparently, if this is the case, then all of an agent’s deeds are determined by events in the past over which one undoubtedly has no control, therefore, one does not really control any of their deeds. He or she is controlled by the past or by current events caused by occasions in the past and away from one’s control. Moreover, at best, the person has the illusion of control. One is in fact totally controlled by external influences, locked into a life story that was written at the beginning of creation (Dennet, 1984, 55).

Dennet (1984:56) adds that what people fear- or at any rate a very significant part of what people fear- in determinism- is the prospect that determinism would rule out control or be out of control or be controlled by something or someone else-like a marionette or puppet. We need to be in control, and control both ourselves and our destinies.

An agent that has free will may only be held accountable for things that are related to them in such a way that they fall, so to speak, within the sphere of influence of their will. Free will in this case is understood as the capability or set of capacities needed to accomplish the control condition for moral responsibility. This means that an agent acts freely if and when they control their actions in the way needed
for them to become morally praiseworthy or blameworthy for that act. If there is lack of free will, then no person has the kind of control needed we need for moral responsibility (Timpe, 2012:108).

Further, Beebee (2013:26) argues that determinism raises a *prima facie* concern about control. How can one be in control of their own actions if they are completely determined to act as they do by their genetic makeup, their nurture, their environment and other factors- things over which they manifestly don’t have any control? Beebee answers this question by making reference to Hume’s understanding of what it means to be in control of one’s actions. Hume argues that, by liberty, we can only mean a power of acting or not acting at all, according to the determinations of the will. This implies that if we decide to stay at rest, we may; if we decide to move, we also may. Hume goes on to say that this liberty is universally allowed to belong to every person who is not a prisoner and in shackles. According to Hume, freedom is established by the fact that we are in control of our acts, in the sense that what we do is sensitive or responsive to our choices, intentions and decisions.

**2.3 Conclusion**
The chapter has presented various philosophical views on what it means to have a free will, how it is understood by libertarians and what they think characterizes a freely-done action. Consciousness, the presence of alternative possibilities, a sense of moral responsibility and control of one’s actions are some of the
conditions that libertarians advance for their defence of free will. These conditions have been discussed as well in this second chapter.

The libertarian thinks that an act is categorised as freely willed if there are alternative choices that can be made after a process of conscious and deliberate examination before performance of the chosen act. For this to happen, the subject should not be influenced by the laws of physics, logic, heredity, environment or any other form of conditioning.

However, one may be inclined to reject this position and agree with Stent (2012) who asserts that human actions are not immune to causal influences. In as much as the libertarian wants the agent to be entirely undetermined, there are instances in which the latter can perform a free act and be held responsible for it even when the action may have been necessitated by his nature. For instance, if the person came to be in the position he is in due to past acts of will in which he had alternatives and open possibilities but chose wrongly.

The claim that our consciousness or awareness of being the sources of our actions is merely a comforting illusion does not hold. Those who hold this claim, according to Baumeister, base their arguments on empirical evidence from experiments. The problem with this claim is that it is solely based on observation of experiments, but there is much more to consciousness than electrical activity in the brain. The experiments only give a mechanical picture of how the brain
operates and if anyone was to draw conclusions from empirical evidence only, then they would be erring.

Further, the denial of consciousness in human action would consequently rule out the need for deliberation and choice from among alternative possibilities. To make a choice, there must be consciousness involved. This study, therefore, considers consciousness, the availability of alternatives, and conscious control to be important in the voluntary act.
CHAPTER THREE: THE NEUROSCIENTIFIC ADVOCACY FOR DETERMINISM IN HUMAN ACTION

3.0 Introduction
The previous chapter has presented the libertarian views on the nature of the free act. According to the libertarians, we have free will unimpeded by nature or other factors beyond human control. This chapter discusses the deterministic account of free will and focuses on the neuroscientific developments which have been viewed by some proponents of determinism as indication that we do not have free will. It focuses on the experiments done by neuroscientists, especially Benjamin Libet and the interpretation of their findings.

3.1 Determinism
Attempts to explain the nature of human action has been a perennial philosophical quest. How we can choose and act freely, be held responsible for our actions and sometimes be absolved of blame for some of our actions has always been a major concern for philosophers. What challenges the free will proponents most is the claim that we are determined in our actions, that every action is an effect of a prior cause. This means that any action that a person performs at a given time is the only one that they could have performed at that time.

Philosophers who assert that human actions are determined do so because they believe in universal causation. Universal causation is the thesis that all events are the necessary outcome of previous causes. Determinism is the claim that universal causation is true. If universal causation were true and if it were possible to have
complete knowledge of the universe at the present moment, then we could predict not only the state of the universe in the next moment but also everything that will happen in the future. Our choices, desires, beliefs, and actions are themselves events, and for the determinist, they are the necessary consequences of preceding causes. The determinist may disagree as to which type of cause is significant in generating our behaviour, but what they all agree on is that all events that happen in nature and in human behaviour are the inevitable consequence of the causal order (Lawhead, 2010:267).

Lawhead (2010:277) argues that the determinists say that every event is one hundred percent determined by prior causes. Most defenders of free will would acknowledge that we have certain psychological tendencies and would agree that the way we were raised has an influence on us.

Berofsky (2012:9) gives the following description of the deterministic account of free will. All events, including human actions and decisions, can be sufficiently explained in terms of universal (non-probabilistic) laws. Determinism is also expressed in terms of causation. A sufficient cause of an action is comprised of multiple causal factors in whose collective presence that sort of action invariably takes place. The idea of a universal force controlling the outcome of all that happens is ancient and has taken various forms such as fate, destiny, God, and many others.
According to Kane (2005:5), the theories of determinism we embrace have taken many historical forms. Philosophers have speculated at different times whether their elections and actions might be determined by fate or God, laws of physics or logic, heredity and environment, unconscious motives or psychological or social conditioning, and many other factors. However, there is a principal idea that runs through all the historical creeds of determinism that discloses why they are a threat to free will—whether these doctrines are theological, fatalistic, physical, psychological, logical or social. The fundamental assumption in these deterministic assertions is that an occurrence is determined when there are circumstances obtaining previously whose occurrence is a sufficient condition for the manifestation of the event. This means that, if the earlier determining conditions are established, then the determined event will without doubt occur. All doctrines of determinism indicate that every event, or at least every human choice and action, is influenced by some determining conditions.

The main idea here is that if one is already determined to act in the way that they do, it would necessarily follow that they do not act freely, and this is because there is nothing else they could have done. In other words, they could not have possibly done anything different than what they actually did. If being entirely determined to conduct oneself in a certain way dispossesses one of the ability to do otherwise and if the ability to do otherwise is obligatory for acting freely, then being so determined is incompatible with acting freely (Beebee, 2013:3).
3.2 Neuroscientific determinism

Baggini (2015:15) observes that the cause of scientific scepticism about free will is not determinism but materialism. This is the doctrine that all things are made from physical matter. Particularly, these skeptics think that our desires, beliefs and thoughts do not inform human actions, but that these actions are products of physical processes like the movement of neurons.

The free will and determinism problem has not only been a concern for philosophers but also for other scholars outside the field of philosophy. In recent times, most scientists have argued for the deterministic nature of human action, including some scientists in the neuroscientific community. Neuroscience has shifted the debate on free will from an external to an internal perspective, from matters external to the human to their internal brain processes and their role in human actions and free agency.

The brain is the physical organ for conscious and unconscious mental functions. The role that it plays in human life is unquestionable. Our knowledge of conscious experience or lack thereof cannot be understood without the inclusion of brain activities. Libet (2004:7-8) argues that the most convincing piece of evidence that the brain is of utmost importance in human operations than any other bodily structure can be demonstrated by the severing of the spinal cord which joins the brain and other body parts. When this happens, the person remains the same conscious person he was before the severing of the cord. He, however, loses all control of bodily movements from the neck down, including breathing movements
and sensations that are carried by spinal nerves to the body. The person remains aware of the important sensations arising with intact nerve connections to the head and if the brain is functional, the person retains awareness of his thoughts and feelings.

On the contrary, if the brain gets damaged, there can be loss of conscious functions, or even a permanent loss of consciousness. It is the loss of brain function that defines the end of conscious human life, which is death. This is the case even when other body parts like the heart, spinal cord and liver are functional (Libet, 2004:8).

According to Glannon (2015:1-6), neuroscience plays a critical role in the psychological conception of free will due to the brain’s capacity to represent different courses and results of action and to generate and sustain the mental capacities that enable decisions and actions. Neuroscientific findings since the 1980s have pushed for a shift in our focus of free will from external factors associated with natural laws and events in the past to internal factors associated with the relation between our brains and minds. Neuroscientists have claimed that the mental processes on the basis of which we explain human actions may be determined by or reducible to biological processes.

This means that the assumption that we have a conscious control of our actions and thought patterns would be faulty, and as such, our claim to having a free will would not be valid. Further, there would be no difference between a drunk driver
who runs over a pedestrian and one who accidentally kills a pedestrian due to an unforeseeable seizure while driving. Still, we would not fault murderers, thieves or terrorists for their actions because there was no chance that they could have done otherwise than they did.

Beebee (2013:172) asserts that contemporary neuroscientific advances have been claimed to make the predictableness of human decisions a reality rather than only a possibility. We would be able to predict human actions that have ordinarily been difficult to predict. This would be necessitated by having facts about the states of people’s brains. We frequently make predictions while ignorant of someone’s psychological conditions and figuring out what individuals with those kinds of beliefs and desires naturally do. However, if the neuroscientific assertions hold, this predictability based on brain conditions is a serious threat to the freedom of the will.

3.2.1 Libet’s experiments and their implications.
Libet (2004) asserts that scientists, just like philosophers, have for a long time speculated about the interconnection of the brain and the mind. However, their success have been limited until when neuroscientists attempted direct experimental studies of how cerebral nerve cell activities are involved in the production or appearance of conscious subjective experiences.

To seek an answer to the question of whether we have a free will, Libet diverted from the prevalent philosophical speculation to an empirical approach. He was
convinced that our conscious experiences and our brain are interrelated. He produced data that supported the deterministic view of free will.

### 3.2.1.1 The Experiments

Libet and his colleagues think that ‘voluntary acts’ refer to the will to act endogenously; that means, there is no external compulsion to act; and most importantly, the subject should feel as if they are responsible for their actions and have power to control when to act as well as when not to act.

According to Chalmers, Hameroff, Kaszniak, and Tucson Conference (1999:341), Benjamin Libet and colleagues performed a series of experiments on patients undergoing neurosurgical procedures under local anaesthesia. In this state, the subjects’ brains were exposed and accessible while they were conscious and could communicate clearly. These scientists took advantage of this situation to perform studies that have reignited the debate on free will and determinism. This time however, there is empirical evidence for the latter.

According to Libet (1993:270), the subjects engaged in the experiments agreed to conform to a number of instructions from the experimenter, one of which was an expectation that the subject was going to execute the prescribed motor act at some time after the commencement of each trial. Another condition was that he or she was supposed to pay close contemplative attention to the moment of the onset of
the urge, desire or decision to perform each act and to correlated spatial position of 
a revolving spot on a clock face (indicating clock time).

The subjects in the Libet experiments were asked to accomplish some simple 
motor action such as flexing their wrists at their moment of choice but within an 
indicated period of time (for instance, 20 minutes), and that this act should be spontaneous. At the same period they needed to monitor their agentive experiences, and to recognize the time at which they were initially aware of the decision or urge or intention to execute the action. They did this by looking at a clock face with a dial that rotated quickly. The clock had to be faster than the standard clock so as to accommodate time differences in the hundreds of milliseconds. While the test subjects were acting and monitoring their urges, Libet observed their neural activity using an electroencephalogram (Bayne, 2011:2).

The test subjects were each asked to sit in front of a timer and an electroencephalogram was attached to each one of their scalps The subjects in the experiment were instructed to carry out simple motor activities, like pressing a button, flexing wrists in a given time frame and were not limited in the number of times they could perform these simple tasks. They did not pre-plan when to act, rather, they should let the act appear ‘on its own.’ They had to take note of the time in which they became aware of their intention to act. When they pressed the button or flexed their wrists, the time of this action was also recorded electronically. The researchers then compared the time the subject intended to act
and the recorded time of the actual performance of the action and discovered that the time the subjects indicated awareness of the wish to act preceded the actual performance of the action by milliseconds (Libet, 2004).

The test subjects performed the actions at any time they felt the urge or wish to perform them and they were not limited to a certain time line in which to flex their wrists or press a button. This freedom to act was not present in earlier experiments where the subjects were instructed to act within time intervals of thirty seconds. These voluntary acts done by the subjects in the Libet experiments were performed capriciously, free from any external restrictions or limitations (Libet, 1993:529-532).

Libet (2004) observed that the brain was evidently the source of the voluntary acts well before the activation of the muscle that produced the movement. The researchers discovered electrical activity in the secondary motor cortex approximately five hundred milliseconds before the subjects performed the actions. This means that the acts by the subjects had been preceded by a slow electric charge recordable at the scalp. This was referred to as the ‘readiness potential’. The ‘readiness potential’ (RP) is a well-established gradual increase in electrical activity in the motor areas of the brain which precedes voluntary actions.

The experimenters observed that the subject’s conscious awareness to act appeared about 200 milliseconds prior to the movement, while the readiness potential arose much earlier, typically about 500 milliseconds before the movement. The fact that
the alteration in brain potential preceded the conscious decision to act was taken by Libet and his colleagues to indicate that our conscious decision to act is not the exact cause of the action. They determined that our conscious will is too slow to make things happen and that volitional acts necessarily result from unconscious brain processes, and not our conscious willing. This in turn destined that our intuitive notion of conscious will as the foundation of our actions is an illusion (Libet, 1993).

3.2.1.2 The Role of Consciousness in Human Action

Libet (2004:141-142) investigates whether consciousness has a role in the performance of the voluntary act. Although the free voluntary act appears to begin in the brain unconsciously well before the subject is aware of their intention to act, there is enough time in which the conscious function might affect the final outcome of the volitional process. The conscious function has the possibility of stopping or vetoing the final progress of the volitional process. Conscious will could thus affect the outcome of the volitional process even though the latter was initiated by unconscious brain processes. Conscious will might block or veto the process, so that no act occurs. Vetoing of an urge to act is a common experience for everyone. It occurs especially when the projected act is regarded as socially unacceptable, or not in accord with one’s overall personality or values.

Additionally, the neuroscientific researchers did not have any reservation about a conscious veto’s existence. The test subjects from time to time reported that a
conscious will or urge to act appeared but they inhibited or vetoed it. Due to absence of the muscles electrical signal when being activated, there was no trigger to start a recording of any readiness potential that may have come before the veto. However, they were able to demonstrate that test subjects could veto an act planned for performance at a prearranged time. There was discovery of a readiness potential prior to the execution of the action and this meant that the subject was getting ready to act, even though he or she vetoed the act (Sutherland, et.al. 2004:52).

According to Libet (2004), these findings led the researchers to conclude that even though the conscious veto does not initiate an act, it can control the outcome or actual performance of the act. It could permit the action to proceed or it could veto it so that no action occurs. Permitting the volitional process to continue, towards producing the motor act, could also involve the conscious will. The conscious will can actively enable the progression of the voluntary process to action.

Concerning the source of the conscious veto, Libet (2004:145-146) scrutinizes the opinion that it emanates from an unconscious brain process. Champions of this viewpoint would argue that if at all the veto were to be instigated and developed unconsciously, then the veto decision would definitely be an unconscious decision that we become conscious of, rather than an experience that is consciously caused. Some scholars have suggested that even an unconscious instigation of a veto
choice would nevertheless be a genuine choice made by the individual that could still be viewed as a free will process.

Against this position, Libet argues that if that was the situation, the person would not have any conscious control of their actions. They would simply be aware of an act that was unconsciously initiated. Moreover, they would not have a direct conscious control over any preceding unconscious process. Having a free will points towards the fact that a person can be held responsible for actions that they commit consciously. We cannot hold persons responsible for actions that they did not consciously perform and over which they could not have control. For instance, actions by a person during an epileptic seizure are not look upon as freely willed actions. Why then would unconsciously initiated and controlled acts be regarded as free acts (Libet, 2004:145-146)?

The conscious veto may not need or be the direct result of preceding unconscious processes. The conscious veto is a control version, different from simply becoming aware of the intent to act. There is no evidence against the possibility that the control process may appear without specific development by prior unconscious processes. An individual’s consciousness of the decision to veto implies that they are aware of the event (Libet, et.al. 2011:5).

According to Baumeister, et.al. (2010:8-9), not all modern cognitive scientists are convinced by this explanation of the role that conscious will plays in human action. Some think that consciousness is a mere illusion. We may have the illusion
of being free and fully aware when we make a decision to act in a certain way, but this has been contradicted by empirical evidence. Even a small matter such as moving our fingers are outside our control as they are determined by our unconscious brain processes. Brain activity, inaccessible to conscious awareness, always comes before actions of all kinds, including what we refer to as voluntary action. Even a decision to act or not to act has to be preceded by a brain signal and therefore we cannot claim to be free. Our awareness of such a decision comes too late to influence the choice we make. The action has already been instigated by the brain and our consciousness is only informed of this choice after the fact. What the Libet experiments demonstrate is that consciousness merely catches up with an action or a stimulus sometime after it has already been processed by the brain. Some thinkers have used this outcome to conclude that unconscious processes had already made the decision and initiated the motion, sometime before the subjects experienced the misconception of having a conscious intention to act in such a manner. Awareness appears to follow a physical brain affair.

According to Norretranders (1997:319), our actions are completely unconscious. We may think that we make conscious decisions but we are usually misled. This is because the brain has been active moments before a decision is made to do a certain act. The origin of this action is not our consciousness but the unconscious brain processes. Consciousness gives us the illusion that we can make decisions freely after deliberating on them but this is no more than a ripple on the surface or a puppet, claiming to control things that it cannot determine in reality.
Wegner (2002) assumes that Libet and his fellow researchers have a mistaken understanding about the part of consciousness in human actions. Libet asserts that all actions are principally caused in the same manner. If some actions are caused without conscious intentions to perform them, then even those that were thought of as voluntary actions were bereft of any conscious involvement by the agent. Concerning the conscious feeling that we have we perform actions; Wegner argues that the conscious feelings that we have only serve the purpose of giving us a sense of responsibility for our actions.

### 3.3 Implications of Libet’s findings

Libet shattered foundations on which the traditional concept of free will was built. He did not agree with the libertarians that our voluntary actions are initiated consciously and that we have a variety of alternatives to choose from before we initiate the action of our choice.

These experiments gave Libet and his colleagues the chance to consider the question of conscious free will. Specifically, the experiments allowed the researchers to explore which event was cause and which event was the effect. If the instant of conscious intention comes before the onset of the readiness potential, then the notion of conscious free will would be acceptable, and this would mean that the conscious mental state could be responsible for initiating the subsequent neural preparation to act or move. If, on the other hand, the conscious mental state was preceded by the onset of the readiness potential, then, conscious free will would be an illusion. The conscious mental state would be an effect of brain
activity rather than its cause. These experiments showed the latter pattern; that the conscious intention emerged moments after the onset of the readiness potential. This implies that if free will exists, then it would not possibly be the source of voluntary acts (Libet, 2004).

If the cerebral process that initiates a free voluntary act is an unconscious one, the feeling of initiating the process becomes paradoxical. Our awareness of the urge to act precedes the motor act itself and this could lead us into thinking that we had consciously initiated the process. However, this feeling is not a valid one since we are unaware that the process is initiated unconsciously (Libet, 2004:144).

It is on the basis of the findings on his research that Libet (2004:149) implies that the role of conscious will is not to initiate a voluntary process. However, it can control whether or not an act takes place. The unconscious initiatives for voluntary actions may be said to be ‘burbling up’ in the brain and the conscious will then chooses which of them may be initiated and which ones may be vetoed. This role of free will, he added, is not contradictory to commonly held ethical and religious strictures. The ability to be in control of one’s actions is one of the conditions that libertarians hold as necessary for an act to be categorised as freely done.

Thus, Libet ended up disapproving the traditional notion of free will but managed to salvage some of its important attributes such as the attribution of actions to subjects that perform them, free choice and personal responsibility (Haggard & Libet, 2001).
On the contrary, this new concept of free will would go against certain religious beliefs. If we experience a conscious wish to act in a socially unacceptable way, should we be held guilty or sinful for that urge even if the urge has been vetoed and the action not performed? Some religious systems would answer ‘yes’. Our new understanding of free will would not agree with this assertion since these urges would be conceived and developed unconsciously in the brain. These urges could not be controlled then because our conscious will was not aware of these processes yet. Only its final consummation in a motor act could be consciously controlled. Libet (2004:150-151) concludes that this religious position would virtually make all individuals sinners.

Further, Libet argues that a person could have control of their actions once they became aware of the intention to initiate them. This may seem to agree with the libertarian position that the agent should be able to have control of their actions. However, it goes against the requirement that there is need for an act to be chosen from a variety of others. The agent should be able to deliberate on the available options and choose one. According to Libet, the agent becomes aware of the intention to commit a certain action that the brain has already chosen unconsciously. This means that the person has only two options; to go ahead and initiate the act or to veto the urge and refrain from acting. In such a situation, the libertarian would say that the agent is not free because they were not consciously involved in the process of choosing which action to perform and why it was chosen and not any other.
Libet, et.al. (2011:7) confesses that he has not addressed some issues concerning the nature of free will. In his findings, there is only some knowledge of how free will may operate but there is no explanation as to whether our consciously willed acts are completely determined by natural laws that govern the activities of nerve cells in the brain, or whether free voluntary acts and the conscious decisions to perform them, can proceed to some degree independently of natural determinism.

Both of these alternative possibilities are unproven theories. Determinism has worked well for the physical world that we can observe. This has led scientists to formulate laws of nature and anything that happens contrary to these laws is seen as absurd. These laws, says Libet, were derived from observation of physical objects, not subjective mental phenomena. The latter cannot be observed directly like the former because they are inner experiences of the individual who has them. There has been no evidence, or a proposed experiment design that convincingly demonstrates the validity of natural law determinism as the instrument of free will (Libet, et.al. 2011:8).

Additionally, complete knowledge of the physical makeup and nerve cell activities would not result in any description of subjective experience. We would only see cellular structures, their interconnections and the production of nerve impulses and their electrophysiological events, as well as the metabolic chemical changes. The assumption that a deterministic nature of the physically observable world can
account for subjective conscious functions and events is speculative belief, not scientifically proven (Libet, 2004:153).

3.4 Conclusion
This chapter has explained what the meaning of determinism is and how neuroscience has revolutionised the conception of the free will and determinism debate. It has given a description of the experiments performed by Benjamin Libet and his colleagues in their attempt to explain how human actions are carried out and the role the consciousness plays in the process of acting and what the implications of these experiments are for libertarian free will.

The main theme of this chapter is that, according to Libet, voluntary actions are initiated unconsciously in the brain, about 500 milliseconds before their actualization. The agent becomes aware of the intent to act 200 milliseconds before the act was done. This means that the urge to act is not a result of conscious deliberation by the agent but rather an outcome of mechanical processes in the brain. Consciousness comes into play moments before the actualization of the intended action and it is here that the agent can choose to go ahead and actualise his urge to act or choose to abandon the action all together. Libet argued that he did not deny that we have free will. However, he changed its meaning from the traditional conception that is still held by Libertarians. He redefines the role of consciousness and the moment in which we take control of our urge to act in a certain way. On the contrary, some of his peers do not think that we can have a free will under such conditions. They argue that our feeling of consciousness was
illusionary and that we are determined in our every action. Further, we would not argue that we have a free will if we cannot deliberate and make a choice from among different options.

This chapter makes it clear that if we stick to the traditional libertarian conception of free will, the neuroscientific findings will make free will to be totally deterministic, and as such, we will not claim to be free. Our actions will be completely determined by the mechanical operations of the brain.

Libet argues that the unconscious brain activity is the source of voluntary action. We can say for certain in this case that the agent has freedom of action since their consciousness can go ahead with performance of an action or veto it. The person cannot consciously examine alternatives and choose from among them but can control the action.

Libet does not account for the feeling that we have of prior deliberation and choice and this is an experience that cannot be wished away. It cannot be a mere biochemical reaction in our brains. There is need to account for this feeling. What he manages to do is to describe the consciousness that we have when deciding to go ahead with an already planned action or to abandon it.

Conscious mental events are not reducible to knowledge of the activities of nerve cells. One could observe nerve cell activities and their interconnections but he would not observe any consciousness. The only information we get about
consciousness is from the subject who experiences it and as such, the information from the subject may not be objective and accurate.

The next chapter looks into the arguments presented by the proponents of the compatibilist theory of free will. They try to find a common ground between the free will and determinism and therefore declare that the seeming contradiction between the two opposing sides is illusionary.
CHAPTER FOUR: COMPATIBILITY OF LIBERTARIAN FREE WILL AND NEUROSCIENTIFIC DETERMINISM

4.1 Introduction
This chapter attempts to analyse the arguments presented in support of Libertarian free will and its opposition to the deterministic nature of human actions presented in the neuroscientific world. Moreover, the chapter looks into critiques of the Libetan experiments and their conclusions. It looks into arguments that have been presented to suggest that both the Libertarian and deterministic position are two extremes which can be reconciled and a common ground found. The researcher further identifies the shortcomings of the two conflicting positions and proposes a common ground.

4.2 Compatibility of Free will and Determinism
One particularly significant issue for contemporary philosophers interested in the free will debate is whether we could have a free will in a deterministic world. This is referred to as the compatibility question. There is a long-standing custom of dividing up the conceptual terrain in light of the main answers to the compatibility conundrum. Conventionally, incompatibilists are those who think that free will is not compatible with the world being deterministic. Compatibilists, conveniently enough, hold that free will is compatible with the universe being deterministic (Fischer, 2007:3).
The opinion that there is indeed no conflict between determinism and free will (that free will and determinism are compatible) is known as compatibilism. It was held by some philosophers, like the stoics, Thomas Hobbes, John Locke, David Hume and Stuart Mill among others (Kane, 2005).

Libet, Sinnott-Armstrong, and Nadel (2011: xi) argue that traditional philosophers often make the assumption that the main challenge to our claim to be free and morally responsible often comes from determinism. If our choices and actions are determined, we cannot be able to do otherwise and therefore, we do not have free will. However, compatibilists claim that we can be both free and determined at the same time.

According to Lawhead (2010:288), the determinists make a superfluous generalization based on an inadequate amount of proof. They may succeed in demonstrating that our genetic makeup, our biochemical condition, or our past experiences have an impact on our behaviour and choices. There is, however, a difference between being predisposed by previous causes and being completely determined by them. Influences may generate certain inclinations, but their consequences are neither inevitable nor perfectly predictable. The presence of a determining cause, however, yields the effect and makes it predictable. For instance, if someone had a religious upbringing as a child, it would be expected that this religious background had an influence on their present values and beliefs. Nonetheless, since many people break away from their paternal belief systems, it
would be safe to infer that we are not entirely determined by prior events, but only influenced to a certain extent.

4.2.1 Libet Findings Do Not Threaten Free Will
Benjamin Libet’s experimental studies on human subjects relating the brain’s activities to the initiation of conscious experience, volition, and willed action have been much discussed by philosophers and scientists and subsequently influenced research on the subject. Mele evaluates the findings of these experiments and did not think that they pose a grave threat to the affirmation of having a free will (Kane, 2011).

Libet (2004:5) argues that conscious mental processes cannot be reducible to or explicable by our knowledge of nerve cell activities. A researcher could look into the brain and observe the nerve cell interconnections and neural messages moving about by immense profusion. However, one would not really experience any conscious mental subjective phenomena. Only a report by the person who is experiencing such phenomena could tell you about them. Yet, unless scientists can find a way to acquire valid introspective information, they can, at no time, investigate the profoundly vital question of how our conscious mind is related to our brain.

One of the critiques to the Libet findings raises problems with the nature of human judgment and of the test subjects in particular. Haggard and Libet (2001:49) argue that people are by and large poor at making judgments on the synchrony of two
events occurring in different modalities. In specific, events in an attended stream seem to occur earlier than simultaneous events in an unattended stream. The test subjects in the Libet experiments divided their attention between the external clock and their own internal states in order to make judgment on the time they got the urge to act. In this case, the moment they indicated as the onset of a conscious intention should be treated with caution. It may mislead us into making unwarranted conclusions about the nature of a freely willed act and the role of consciousness in human actions.

According to Haggard (2008:934-446), the feeling of having voluntary control over our actions is common in humans and it is so fundamental that social constraints on it, such as imprisonment, and prohibition of certain actions are carefully justified and heavily regulated. Despite this importance, it is usually difficult to account (even with the help of experiments) for what makes a particular action to be categorised as a voluntary act.

Dehaene (2011) thinks that the Libet experiments did not address real-world decisions with a lot of significance, and as such, there were no long term rewards or expectations and did not involve complex reasoning. These experiments have only a little importance for the individual and are experienced as random rather than being based on in-depth trial to trial reasoning.

According to Bayne (2011:4-5), there is need to differentiate between automatic and willed actions. Automatic actions flow directly from the agent’s standing
intentions and routines. Most of our daily actions like washing dishes, answering the telephone and others are automatic. Our awareness of several features of our environment together with over-learned action schemas activates the appropriate intentions with only the minimal participation of conscious deliberation by the agent. Willed actions, in contrast, require the acts of choice and decision. Some theorists argue that the Libet experiments characterize automatic actions. The decision to flex one’s wrist can be thought of as an automatic component of a complex action. This complex action originates when the experiment starts and the test subject chooses to flex their wrist at a certain point in the next thirty seconds. Having consciously decided to comply with the experimental instruction, the subject offloads the execution of the motor response to automatic processes, with the result that the Libet action is unconsciously initiated.

Baumeister, et.al. (2010:12) notes that the subjects in the Libet’s experiments sit in a room and the only thing they have to do is move a finger, this is their sole focus of attention. It is very boring task and it is not easy to sustain interest in it and as such, there is a lot of subjective anticipation for each decision to move. The readiness potential that is generated is not actually a motor command signal. It is rather a preparatory wave that precedes any major self-initiated action. Libet’s experiments showed that the brain anticipated this decision and therefore, it should not be taken as relevant to the question of conscious efficacy or free will.
Additionally, Batthyany (2009) thinks that Libet does not differentiate between active and passive actions. Passive actions do not need consciousness to be initiated; in fact, they are spontaneous and lack any conscious pre-planning. The subjects in the experiments were instructed to wait until they felt the urge to move their limbs. They were not allowed to plan or for the actions or even deliberate about when to initiate them. In this situation, the events that would be attributed to them would be determined by something other than the conscious will. This makes Libet’s findings wholly dependent on passive events.

According to Gillet (2001:12-14), our conscious acts are not the kind of things that can be dated or reported as events. For instance, one may come to think of a hero they have held in high regard but find it hard to point to the exact moment they came to have such thoughts. Even if the conscious acts are reportable and discursive, Libet would still have to show that the timing of the report was accurate regarding when the person became aware that they had the urge to act. To do this, he would need to have a criterion for determining the accuracy of the subjective reports submitted by the subjects, but this is not so. Therefore, if there are cerebral events going on before the subject is aware of forming the intention to act, that does not guarantee the conclusion that the mental preliminaries to the act are preceded by cerebral preliminaries- it only implies that the reportable intention to act does not arise without any mental or cerebral preparation. It is therefore not wise to use the subjective reports of the subjects as key in the explanation of human action.
To say that there is brain activity prior to the subjects conscious awareness does not necessarily license the conclusion that the act was initiated by the brain. Even if there was some evidence to imply a high causal relationship between the brain activities and the initiation of the actions, it would still not be enough to draw such a conclusive assertion without looking at alternative explanations that may prove tenable. Just because the subject becomes conscious a few moments after the observation of brain activity does not mean that the brain is the cause of the action implemented.

Upon an examination of the Libetan findings and his subsequent conclusion, one would realize that Libet makes a mistake to draw general conclusions regarding the nature of human actions based on observation of only a few subjects. Further, the experiments were based on performance of specific tasks (flexing the wrist) and to take this action as a representative of every voluntary act would be fallacious because it is performed under specific guidelines and in a controlled environment. We cannot say the same for every other human action.

Additionally, one may disagree with Libet’s assertion concerning the role of consciousness in human actions. Libet thinks that the unconscious brain produces our voluntary acts and this may be interpreted to mean that these acts are products of a mechanical process. If consciousness emerges after these voluntary acts are set in motion, then it would be safe to say that the conscious feeling of being in
control is a mere fantasy and therefore Libet is mistaken in giving the conscious will a role in human actions.

Moreover, if the claims that our choices, beliefs and actions were determined before we got to perform or veto them, it would be impossible to alter the sequence of events in the world, and as such, prediction of a person’s next course of action would be easy. This is because the person would not be able to act otherwise. The only thing he would be able to do is to abandon the action altogether and wait for the brain to initiate a new act or go ahead with the already planned action. However, the predictability of the next course of action of a person is usually not accurate even when we know habits and tendencies of a person. This is because there is always a chance of the person doing something that was not expected after evaluating his options.

Further, a criterion to establish the accuracy of the subjective data received from the test subjects in the experiments needs to be established if we are to agree with their timing of the onset of conscious experience. In the absence of such a formula, we may end up taking as fact flawed information from the subjects because each of them has an experience of their own. Libet does not have this criterion

4.2.2 The possibility of a free will in a deterministic world

According to Haggard and Libet (2001), Libet disproves the traditional concept of free will but manages to salvage some of its important consequences like attribution of actions to agents, free choice and personal responsibility. He notes
that, while actions appear not to be freely initiated, they may be freely stopped. He thinks that there is ample time between the instant a person became aware of the intention to act and movement onset for a conscious veto to operate.

If one was to agree that these experiments were accurate and represented the reality of our decision making-processes, then it would be inevitable to conclude that our brains usually decide to perform an action before we become aware of it. What appears to be our conscious decision making is more like a notification of the unconscious decision that we have made. Hence, this subjective experience by the subjects as well as the interpretation that Libet makes from his observations can be put to question.

Bayne (2011:6) disagrees with the conception of the subjects’ actions as automatic. Unlike standard examples of automatic actions, the subjects in the experiments were required to attend to their own agency and report the instance they felt the urge to act. These actions may not be the ideal examples of fully spontaneous agency that Libet took them to be. Even though they may have involved an act of will, they did not involve deliberation, at least not immediately prior to the actions’ initiation.

Most of us feel that we have a kind of free will, at least for some of our actions, within certain limits that may be imposed by our brain’s status and by our environment. Our intuitive feelings about the phenomenon of free will form a fundamental basis for our views about human nature. A theory that simply
interprets the phenomenon of free will as an illusion and denies the validity of this phenomenon is less convincing than a theory that accepts or accommodates the phenomenal fact. This claim that we are not free should be based on direct evidence. Theories are supposed to explain observations, not do away with them or distort them, unless there is powerful evidence to justify its claim. This kind of evidence is not available and determinists have not proposed any potential experiment to test their theory (Libet, 2004:154-156).

Libet suggests that the acceptance that we have a free will is a better scientific option than its denial by natural law determinist theory. Such a view would enable us to proceed in a manner that accommodates our feeling of being free and responsible for our actions. We would not see ourselves as machines under the complete control of nature and physical laws.

In defence of free will against the claim of neuroscientific determinism, Glannon (2015) says that the idea that a person’s conscious mental states do not cause our actions does not imply that consciousness has nothing to do with the performance of the actions. Events occurring unconsciously in motor areas of the brain may be the cause of an act but these may not necessarily lead to the decision to act. The conscious intention should be necessary for the accomplishment of this task. Our actions are not only a result of our intention to perform them, but require prior deliberation, and as such, there is need for a conscious mind throughout this process. The Libet findings show that certain neural events are necessary but not
sufficient for performance of voluntary acts. There is no indication of a period of conscious deliberation on the choices that the subject has to make. This process usually takes time ranging from seconds to even days but the findings presented by Libet do not have room for such kind of pre-planning and decision making.

Glannon further observes that the conclusions drawn from the Libet-type studies cannot be generalized to include a broader class of actions that feature in our normative judgments. This is partly because his studies involve only specific tasks and the scientists only monitor a specific phenomenon in the brain; the electrical activity in the motor areas of the brain. The capacity for reasoning and decision making involves more than a few circuits of brain motor areas. There is a mental involvement in performing these acts and therefore we cannot only attribute them to mechanical brain functions.

According to Glannon (2011:69-70), neuroscience does not threaten free will because it does not show that we are not the originators of our actions. It also fails to show that our conscious mental states do not cause these actions. While the neuroscience has explained many relations of the mind and body, it is mistaken to infer that just because conscious desire, belief, or intention has a physical cause in the brain, these and other mental states do not causally influence our actions. Further, causation is not equivalent to coercion, compulsion or constraint and as such, the Libet experiments do not imply that we do not have a conscious control of our actions. The argument against free will does not hold because it rests on a
misconception about the relationship between the mind and brain. Nothing about brain function means that we cannot act freely and be held responsible for our actions. This means that we cannot be victims of neural circumstances.

Baggini (2015:210) tries to dispel the conception that neuroscience threatens to prove or it may have proved that free will is an illusion. Against this assertion, he says that science can only make clearer why a particular common misconception of free will as an escape from the causal necessity of the physical world is false. Additionally, we do not need science to prove that since the idea is not coherent. All free will needs from science is the confirmation that human beings are self-organising beings whose conscious beliefs, desires and deliberations affect their notions. He concludes that there is nothing in science has completely proved that humans cannot have free will.

According to Tse (2013), the findings of the Libet experiments seem to contradict the traditional belief that our conscious will is the cause of our voluntary acts. The subject’s conscious awareness of the act comes after the unconscious planning of the action but just before the execution of the said action. It would be troubling if our conscious intentions and wills were not responsible for the initiation of our actions and instead, these actions that we consider voluntary are the result of unconscious brain processes. Further, there is still no proper explanation as to what the role of the readiness potential is. It is still not clear whether the readiness potential is a neural correlate of the motor act, the planning of the motor act,
expectation of a motor act or the act of conscious willing. As such, we cannot claim that we have extensive evidence that all our actions are not consciously and voluntarily initiated.

We should not be quick to assert that we cannot be free agents based on the experimental findings of neuroscience. What neuroscience has managed to show is that our previous assumptions that we have a conscious awareness and it is this that gives rise to voluntary actions may not be as accurate as we thought. There is also a contribution of the mechanical processes of the brain in human agency. As the neuroscientists try to understand how the brain accomplishes its tasks, they should not rule out the role of the mind (consciousness) in these processes. If they limit their interpretations to only the mechanical part, they will fail at establishing the proper nature of voluntary actions and the role of both the consciousness and the unconscious cerebral processes in them.

In as much as the libertarians oppose any element of determinism in voluntary acts, it is impossible for our actions to be free of influence from forces that we have no control over. The experiments, findings and conclusion of Libet serve to demonstrate the fact that our actions are determined to a certain extent. This claim by the libertarians is therefore not warranted and cannot be reasonably justified. On the other hand, the conclusions that Libet draws concerning the role of consciousness cannot be justified because they would subsequently mean that there are no alternative possibilities that were available for the agent. This would
imply that we do not have a free will, since an act can only be said to be free if another could have been performed in its stead.

However, there is some truth in the assertions of both the libertarians and the determinists. There is an extent to which voluntary actions are influenced by unconscious processes in the brain. For instance, the habits developed by drug addicts or serial killers may be said to be unconsciously initiated due to repeated and habitual execution but this does not mean that they are not the authors of these actions. The agents of these actions can be held responsible for these actions because they chose to repeatedly perform them before they became habitual and part of their nature. Still, there is a possibility for these vices to be eliminated but it takes a conscious effort by the persons that have them to achieve this goal.

Libet attempts to show that the experiments do not mean that free will is an illusion. He does this by introducing a new role for our consciousness. However, one may argue that what Libet manages to do is introduce a new understanding of how a free act develops. His explanations concerning free will do not agree with the traditional understanding of free will that we have. What the libertarians would acknowledge from his conclusion is that he agrees that there cannot be a free act without the involvement of consciousness. There is no way someone would be considered a free agent if all his actions are entirely dependent on unconscious brain processes.
Finally, Hobbes assertion that a voluntary act is like a river that freely flows downhill but is necessarily limited to the channel makes sense upon evaluation of the arguments that the libertarians and determinists give. The choices that one chooses from do not come from chance, or complete determination from prior events and causes. They are free in as much as one can choose one and ignore others due to conscious deliberation, and examination of the pros and cons of each action. They are also influenced because they are necessary outcome of prior causes and as such, the person can only choose from the available choices. The person may also choose an action due to the influence of forces such as, personal bias, background and external forces that they cannot control.

4.3 Conclusion
The fourth chapter has presented arguments put forth by different scholars in an attempt to reconcile the seemingly deterministic nature of our actions as presented by neuroscientific findings and the claim for total freedom in our agency advocated for by Libertarians.

It has also affirmed that it is indeed possible to have actions that people perform freely but have an element of being determined in them. It is therefore not advisable to hold the incompatibilist position or either the libertarians or the determinists because these positions overlook certain facts of free will that are essential. For instance, the libertarians ignore the influence that the alternatives they choose from have. They do not think these choices are as a result of prior events which necessarily produced them. The determinists, particularly those in
the field of neuroscience, do not acknowledge the role that consciousness plays before the initiation of the voluntary act. This in turn implies that there are no alternatives for the agent to choose from. The consequence of this denial is that all actions are therefore determined and as such, our claim to free will cannot be justified.

The fourth chapter finds these claims from both sides wanting and proposes that every human action that someone can be held accountable for is both free and determined in some sense.

The chapter that follows gives the findings of the previous chapters, various recommendations suggested in an attempt to resolve the problem of Libertarian free will and neuroscientific determinism in the twenty first century and the general conclusions that were drawn from the study.
CHAPTER FIVE: FINDINGS, GENERAL CONCLUSION AND RECOMMENDATIONS.

5.1 Introduction
This research has aimed at analysing the free will problem which has been a perennial philosophical problem. The study has however limited itself to the contemporary concerns of some philosophers and neuroscientists that experimental science, especially the field of neuroscience, could prove that the traditional belief that we have a free will to be an illusion. It has looked into the arguments presented by the libertarians in support of a completely free will, the experiments claimed to provide evidence that free will is an illusion, the interpretation and implications of these findings. The study has gone further to interrogate the arguments presented by the proponents of compatibility of free will and determinism in an attempt to solve this problem.

This chapter has presented the findings of the four previous chapters and has sought to find a remedy to the free will problem. It has outlined the major conclusions of each chapter and critiqued them. It has then given recommendations on how the free will and determinism conundrum can be solved to the satisfaction of both the libertarian and deterministic positions.
5.2 Findings

The question of whether we have a free will or not has been a perennial endeavour for thinkers in philosophy and in the twenty first century, experimental scientists have expressed interest in the debate. These scientists introduced empirical tests to try and find solutions to this problem. Of major concern in this research were the neuroscientists especially Benjamin Libet who ran a series of experiments to investigate the role of consciousness in the performance of human actions.

This study has established that there are three positions that can be held regarding the status of free will in human actions. There is the libertarian position which asserts that human actions are essentially free and their performance is not necessitated by prior events or causes. The agent has the freedom to consciously deliberate and make a choice from among a number of alternatives. The second position, the deterministic stance, decrees that human actions are the necessary effects of preceding events and prior causes and therefore, we cannot claim them to be entirely free. The compatibility position holds that both of these stands are not justified since human actions are performed freely by the agent and prior events play a role in the initiation and performance of the said actions. The proponents of the Libertarian and the deterministic positions can be collectively known as the incompatibilists because they agree that free will and determinism cannot be reconciled.

The libertarians think that for an action to be categorised as freely done, the agent must be conscious of their intention to initiate it and consciously perform it and be
able to have control over the action throughout the whole process. There is no room for unconscious processes in the libertarian definition of free human acts. Secondly, there is need for an action to be preferred over others for it to be regarded as free. Alternative possibilities ensure that there is a process of deliberation over the choice of action one makes and this would be important in the evaluation of decisions that would have long-term consequences or decisions made after a long period of deliberation. Further, the agents usually have a sense of moral responsibility for their actions and this makes the libertarians to argue that we would only have a sense of responsibility if our actions were not imposed on us by forces that are beyond our control and we had the power to choose and perform a different action.

The study has acknowledged the importance of conditions such as conscious intention to perform an act before its initiation, deliberation and evaluation of the alternatives that are available to the agent. It has also acknowledged that these actions are not as free as the libertarian would want them to be (completely undetermined).

Contrary to the libertarians’ arguments, the determinists argue that we are not as free as we would like to think we are. Our actions are determined, and as such, we would be wrong to hold that we are free. The experiments conducted by Benjamin Libet and his colleagues have gone a long way into solidifying this position.
It was observed that the subjects’ consciousness arose after unconscious brain processes had initiated the voluntary actions but slightly before the action was actually performed. The implication of this is that our actions are not the result of our conscious deliberation and election. They are outcomes of mechanical processes of the brain and therefore the libertarian would consider them as determined, hence not free. A second implication is that there is no possibility of the agent having a number of options to choose from because the actions are already initiated by unconscious processes even before the conscious agent is aware of it. This means that even if the agent gets conscious control of the actions later on, it would still be a determined act since there was no point of conscious deliberation beforehand. The unconscious cerebral activity will have eliminated the possibility of prior deliberation and conscious initiation of the agent’s choice of action.

The study has discouraged the drawing of conclusions concerning every human action based on observation of only a few acts that are conditioned. Moreover, over-reliance on experimental data alone to make these conclusions has been discouraged. There is need for exhaustive investigations into the nature of consciousness and free will for acceptable conclusions.

In an attempt to reconcile the deterministic and libertarian positions, the compatibilists have argued that the Libet findings do not pose a threat to free will. This is because the researchers based their conclusions on limited information that
they gathered from the experiments. These findings can at best be attributed to particular acts but they cannot hold for all voluntary human actions. As such, the claim that Libet and his colleagues were successful in showing that our actions are wholly determined by forces that we could not possibly have control over, would be misleading. Further, there is no sufficient evidence that would lead us to authoritatively dismiss the possibility of free will and conscious choice.

5.4 General Conclusion
The study has concluded that in as much as our actions may be determined by some forces beyond our control we cannot claim them to be entirely determined. What the proponents of neuroscientific determinism have managed to show is that there is an involvement of the unconscious brain processes in the initiation and performance of voluntary human actions. This does not mean that our actions cannot be consciously willed and performed. It would therefore not be justified to argue against free will based on only the experimental findings of neuroscientists.

It is important for philosophers and scientists to look into the nature of human actions in an objective manner, and not draw conclusions based on selective data. Philosophers should consider the role of the mechanical operations of the brain in the initiation and execution of a voluntary act while the neuroscientists should recognise that human actions are not wholly characterised by the mechanical processes in the brain.
Additionally, researchers in the area of free will and determinism ought not to confuse causality with correlation. Cerebral activity prior to the realisation that one intends to act in a certain way does not automatically grant that the unconscious process is the cause of the agent’s urge to act. What this means is that the brain is active before the intention to act becomes known to the agent and that it is involved in the process of decision making and execution of actions. What it does not explain is its exact role in this process. It would therefore not be wise to declare that unconscious cerebral activity is the sole cause of our actions.

Finally, one would be advised to hold the compatibilist theory of free will since leaning on either the libertarian or deterministic positions would be taking a biased stand. Our actions are not wholly free; they are influenced by prior events and conditions, some of which we have no control over. However, these actions cannot be said to be fully determined since there is an element of freedom in the face of these deterministic conditions.

5.3 Recommendations
There is need to establish criterion for determining the validity of the assertions of the researchers after observing the experiments. The accuracy of the reports given by the test subjects regarding the time they had a conscious awareness of the urge to act could not be objectively verified and therefore it would not be wise to base our conclusions solely on these reports.
Secondly, there is need to employ a rational investigation in matters that have been regarded as strictly belonging to the empirical sciences and whose interrogation involves the examination of empirical data. A philosophical investigation into such matters will identify biases and overlooked assumptions that may misinform the researchers. Every claim made should be sufficiently supported by relevant evidence.

Thirdly, one would recommend further research to be done on the how the free act develops. For the neuroscientists, a variety of experiments should be done in different conditions so as to widen the scope of investigation. Relying on the flexing of muscles in a controlled environment will not give much information on the nature of our free will.

Upon closer examination of the emergence of more advanced empirical investigation of phenomena, and especially the rise of neuroscience, one may be compelled to revisit the debate on the mind-body problem. The relationship between the mind and body is raised in this research but since it is not of interest here, there is no discussion of the implications of neuroscientific findings on this controversy. One would therefore recommend that an independent study be done to address this problem in light of these recent findings.
REFERENCES


