

**" DAVID HUME'S CONCEPTION OF THE PRINCIPLE
OF CAUSALITY AND
THE PROBLEM IT CREATES IN AFRICAN
METAPHYSICS "**

BY

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DECLARATION

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



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This thesis has been submitted for the examination with our approval as university Supervisors



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PROF. JOSEPH NYASANI



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DR. JACK A. ODHIAMBO

DEDICATION

This thesis is dedicated to the gallant people of South Africa in their quest for democracy and good governance.

ABSTRACT

The study attempts to understand the status of the principle of causality. In experimental science it is held to be cardinal on grounds that every scientific experiment presupposes a cause. Hume however, who is the principal scholar in this study denies the principle a real status and argues instead that it is founded on custom, a tendency of expecting that like causes will always be followed by similar effect. Thus the connection between cause and effect is not in an instance (event) but in the mind (psychological). The study introduces an African dimension of the status of the principle of causality and argues that the classical scientific view has flaws and that Hume's denial is contradicted by what actually goes on within African traditions. It would also be shown that in the African view, the principle is in dispute when involving events considered extra-ordinary or traumatic. The principle objective is to demonstrate that the connection between cause and effect exist and cannot be denied.

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CHAPTER ONE

THE DEVELOPMENT OF THE PRINCIPLE OF CAUSALITY

1.1 Statement of the problem:

The Principle of Causality has been discussed for a significantly long period dating as far back as Plato and yet still raises debates. The present debate is rooted on David Hume's understanding of the principle but argues that such understanding is contrary to the African metaphysical understanding of the principle. David Hume argues that when we see an event produce another repeatedly, we begin to expect that such similar events not only will but must produce similar events (effects) in future. He therefore argues that the principle of causality has no existence, instead it is a tendency, a custom that such events will be followed by similar effects. There is no necessary connection between the cause and the effect. All that can be said with certainty is that there is a sequence not a consequence, the two events are conjoined but not connected. Such an argument by David Hume it will be observed is inconsistent with the African conception of the principle of causality. In African traditional thought, causality takes centre stage when dealing with events that are

considered extraordinary. The aim is to seek ultimate or a causal explanation for such events. Examples include frequent death of members of the same family. The attempt to explain extraordinary events, challenges the status of such concepts as coincidence, accidents or chance. There is a great deal of resistance to merely explain away a traumatic event as being a result of chance. The paper will demonstrate specific events in history which they (Africans) refuse to accept as being product of chance especially when as a result of such events the future of that community was drastically influenced. This arises from the conviction in African traditional thought that life is not a series of isolated episodes like atoms moving in random (dis) order.

The tendency to seek causal explanations is because Africans hold the view that life/existence must be due to an intelligent order of things hence there must be a necessary connection of events. On his part, David Hume holds the view that the idea of a necessary connection is not founded on reasoning but rather it is a customary expectation. It is these divergent views that present the problem which is the subject of debate in this study. The catalogue of human development is premised on there being a connection between events.

1.2 Justification:

The principle of causality is of cardinal importance to the development of knowledge. The horizons of human development are ever widening because of further research in all spheres of life. Even more importantly, all scientific research presupposes a cause and this has been an encouraging conviction on the part of experimental scientists. This paper takes on David Hume's view that the idea of a necessary connection is not founded on reason but it is only a tendency in the mind. From his arguments, the paper provokes a debate between what has been referred to as the conventional scientific way of explaining reality or interpreting events and the African traditional explanation of events. The choice is not accidental but deliberate. It was due to misrepresentations and distortions of African traditions that this work is both necessary and expedient to rebutt such misconceptions before they become the new orthodoxy. The paper is also inspired by the findings of quantum mechanics which challenges the deterministic view of conventional material science. Quantum theory advises that scientific concepts such as time, space, particles, waves and atoms must be used with caution when trying to explain the complex and random events of nature because these concepts are in-appropriate as they were developed under the assumption of

classical science. Such a caution has a logical significance to this paper because it effectively provides for an alternative view of explaining or understanding events.

It is this alternative that African traditional thought introduced into the discourse to explore whether it cannot contribute to the development of knowledge. Conventional material science had a despotic tendency to rule out any other explanation that does not conform to logical objective and laboratory oriented method of explanation as being mystical, irrational magical and therefore not worthy of attention.

This paper seeks to show that by recognising other alternative explanations of events, African traditional thought has a contribution to make towards the development of knowledge both realistically (practically) and academically.

There has been an unjustified attack on African traditional thought systems. such attacks as will be demonstrated in the study were based on a misleading assumption that traditional methods did not observe scientific principles of logic.

1.3 Methodology:

The research study will be based on information collected from primary and secondary sources. A written questionnaire would be administered in Botswana amongst persons above the age of forty-five. These individuals are considered knowledgeable in African (Tswana) traditional thought. Elderly men and women with little or no formal academic background will be interviewed because their pattern of thought is perceived as not having been influenced by Western and scientific reasoning. It is on this ground that they are deemed competent enough to represent African traditional thought especially those informants born at the turn of this century. Two villages of Mmadinare and Serowe in the Central District would be chosen. Although the questionnaire shows twenty seven questions more would be covered since it is envisaged that most responses would lead to a further lines of inquiry.

Secondary sources in the Botswana national archives would be of great use to shed light on certain historical events.

Photographic evidence will be adduced to sustain a philosophical statement about the status of certain concepts such as coincidence, chance and/or accident. The vast literature on African traditional thought, David

Hume and conventional material science would be relied upon to show the magnitude of the debate. From such literature, it is hoped that certain prejudices and flaws will be exposed and that will signal the point of departure for the present study.

1.4 An introduction to the principle of causality:

“A knowledge of effects from their causes and of causes from their effects”¹ was the definition assigned to philosophy by Thomas Hobbes (1588 - 1679). The word cause is derived from the Latin word “causa” and has been used in various disciplines notably law, science and philosophy.

In legal context, it referred to the voluntary action of an agent for which the person concerned could be held liable. The position held in legal circles is that the event under consideration would not have occurred had the action of the agent been otherwise. What is central in this instance is that to "cause", is to perform an action in order to bring about a state of affairs, in which case then, it would mean that to cause an event to occur is to do something with the expectation and intention that the event would/should follow. The moment the human "intentions" and "expectations" are put on trial, subjectivity is introduced into the definition. Thus it is not surprising to find a court of law caught up in vicious arguments over a single event one party claiming it is murder while the other insisting that it is man-slaughter. During the civil rights movement in America, a black man sued the railway organisation because he was denied access to public transport facilities as this was a white only train. The lawyer representing the railway organisation charged that the

fallacy of the prosecution was the assumption that segregation meant discrimination. While the merits of the case may for the present be laid to rest, what is material in this case is that it clearly demonstrate the room available for subjectivity in legal spheres.

In the empirical sciences the principle of causality is held to be absolute necessity because all scientific research aimed at establishing how a particular phenomena depended upon its antecedent/s. Thus the underlying assumption in all scientific research is that every phenomena must depend upon a cause. What has come to be called the natural law e.g. the law of gravity, is based upon frequency, consistency and regularity which are established by cause and effect. This school of thought is represented amongst others by John Locke, Rene Descartes, Isaac Newton and Albert Einstein.

1.5 The problem of causality:

The Platonic forms and Aristotelian dialectics

Plato perceives existence basically in two orders, the sensible objects and the world of ideas or forms. The sensible are not real in the sense that Plato does not assign to them absolute reality. The natural phenomena is

subject to the law of change, they are always passing into existence, changing and perishing. The position Plato assumes is that

.. the visible world - the objects of physics, as distinct from mathematics and dialectics belong to the realm of things that become and can be generated. It is not eternal but has a beginning or source of becoming... The thing is not there at the beginning of the process, it is there at the end! It has become. To become can only mean to be in a process of change, events that are happening or changes that are going on. Something new is always appearing, something old passing away but the process itself can be conceived as going on perpetually, without beginning or end. For this perpetual becoming the sort of cause needed is not a cause that will start the process at some moment and complete it at another, but a cause that can sustain the process and keep it going endlessly.²

The distinction between the sensible objects and the forms suggest that he denied the physical object any reality while he assigned it to the forms or ideas, which are held to be unchanging and eternal. Thus while an optician may give an accurate and detailed physiology of the operation of the eye, at the end of it all the question still is but why have an eye? The purpose of the eye is not for stimulus to strike it in the retina, but to give the body sight thus enabling it to partake of the forms the unchanging reality. In his view then, the

whole world is an image, not the substance. You cannot, by taking visible things to pieces, ever arrive at any part more real than the whole you started with. The perfection of microscopic vision can bring you no nearer to the truth for the truth is not at the further end of your microscope. To find reality you would do better to shut your eyes and think.³

From the above, it is obvious that reality is not, as Lucretus argued, in the world of sensible objects but rather the object of the intellect. The explanation that can be given for the difficulty in Plato's theory is that he inherited a confusion that began with Parmenides. He (Parmenides) had insisted that either a thing had being or non-being, thus change was the irresistible law of that which lacked being. This is observed by Guthrie W. K. C. in his book A history of Greek Philosophy when he expressed the view that what Plato had to do was "to free himself from the consequences of the simple but devastating assertion that what is is and cannot be, what is not is not and cannot be. Nothing therefore can change or come into being, for what is does not become [Since it is already] and nothing could come to be out of what is not."⁴

Plato vacillates, in some instance sensible things are said to be between being and not being, a beautiful woman for example may not always be beautiful when compared with other beautiful women. This vacillation does not in his view, involve a contradiction as

he saw no difference because the fact that a thing could grow from small to large or be either of these in relation to other things or from other view points were for him evidence that they were neither non-existent nor fully existent. Existence, changelessness and absoluteness are in his mind inseparable.⁵

This argument was later improved if not changed by Aristotle when he advanced the theory of act and potency. The theory of atomism which considered nature as a product of some spontaneous force or an aimless collision of lifeless atoms, were for Plato devoid of truth. He introduced in his theory, the idea of a demiurge who fashioned the universe thus giving it a purpose. This demiurge is however part and parcel of the cosmic existence. The optician's physiology is but a mere "physical process whereby light acts upon the eyes... is a secondary and subordinate type of causation, the means by which the true purpose is attained. Such causation [subordinate] is connected with the notion of necessity, as opposed to rational purpose of sight."⁶ Here "necessity" is used differently from classical mechanics in that it is errant, meaning it is "irregular and disorderly and not inexorably determined, but open to the persuasion of reason."⁷ This may be confusing because "necessity" is by definition that which is not subject to persuasion, but this is precisely what makes Plato difficult to understand as he reverts into mythical and poetic language. The reader is warned to decide whether certain statements should be taken literally or not. Since the demiurge does not initiate the original material but merely fashions them, he, like a craftsman is limited by the properties of these materials, therefore what he designs may not reach perfection. It

was held that sensible things originated partly by nature and partly by chance while earth, water, air and fire were the basic elements. However the Athenians rigorously denied that

...fire and air, water and earth are the primary things and deserve in that sense the name of "nature". Soul is really the first cause of the becoming and perishing of all things. Soul is prior to all bodies and governs their change and rearrangement.. If "nature" means the generation of primary things, then soul has the best right to be described as existing "by nature."⁸

In this case, the word necessity is synonymous with chance while law and order are associated with design. It would be noticed that Plato's elements contrary to modern physics are devoid of energy but are held together by a geometrical relationship. This does not mean that the universe he subsequently created lacked energy, instead the demiurge acts as the source, in Friedlander's words "the formative power of the idea of the good."⁹ If it is true as Collingwood has argued that "matter in modern Physics is inseparable from energy while in classical mechanics, motion was added as something external to matter"¹⁰ then Plato obviously enjoys the support of classical mechanics. A closer scrutiny reveals that Plato's view was merely being consistent with what later became the doctrine of Platonism which held firmly to "the conclusion that the visible world is an image of the eternal..."¹¹ The division of sensible things from their forms was so central to Plato's pattern of thought that it permeates his Republic.

Therein he built an ideal city an Utopia with the Philosopher - king at political apex and one may add, he was its demiurge. To attain the idea of the forms, that is to be wise and knowledgeable, it was imperative that one should

seek first for the causation whose source lies in a self-moving and intelligent soul and only in the second place, for the causation characteristic of things that are moved by others and of necessity set yet other things in motion. Causes that work with intelligence to produce what is good and desirable must be distinguished from those which, being destitute of reason, produce their sundry effect at random and without order.¹²

The implication of the above argument would be that while machines and other gadgets helped to make an operation successful, the real cause of success are the doctors, technicians etc. who used the gadgets with skill. However nature and its operations are too difficult to understand, not only are they numerous, but are ever changing. In a critical appraisal of Plato's position, Schrödinger expressed the view that

nature is both strict mathematical law and chaotic chance: chance dwelling in the realm of the absolutely indeterminate; law supervening in the form of mathematical order upon chaotic disorder without ever being able to control the later completely. Thus neither law nor chance reign supreme, but the world as we know it is a product of both.¹³

In his contribution to the debate, Aristotle identifies four causes, the efficient, material, formal and final cause. He meant by the efficient cause that by which a thing is made e.g. a craftsman. The material cause on the

other hand referred to that out of which a thing is made, such may be copper, wood etc. while the formal cause was that through which a thing is made thereby becoming specifically that which it is. This would exhibit the most out-standing peculiarities of that which is being represented. A statue of Socrates must among other things assume the appearance of an average human being as commonly known. The final cause pertained to that on account of which or for the sake of which a thing was made. It is clear that the last cause involves the rationale, the purpose or the justification why a thing ever became or is becoming. While some may be inclined to grade these causes in order of importance, that would be missing the point. Aristotle does not consider each as sufficient to produce an effect. Instead "causes are conditions necessary but not separately sufficient to account for the existence of a thing."¹⁴ He championed the crusade against the Platonic position that the "forms" and "sensible things" were mutually exclusive of each other. Adopting his theory of motion, the attainment of objectives, that is the actualisation of change lies not only in the agent's potency of moving but also in the patient's potency of being moved. The outcome must be attributed to the assimilation of one of the two bodies to each other, the co-operation that existed between them. Thus in the Aristotelian cosmos, order ought not to be sought in a single

entity outside it. The constituents, trees, rivers, animals, rain cycle may be different but are all ordered together. He maintains that

... yet this does not mean they stand in no relation to one another there is a relation. For all things are ordered together in a common relation of contributing to a single end. Since the nature of each of them is a source of activities of this contributive kind¹⁵.

Reality then is not only immanent in nature but cannot be divorced from it. It resides in complex harmony that sustains the cosmic arrangement. If ethicists, are to raise the issue "whether the nature of the universe contain the good i.e. the highest good, as something separate and by itself or as the order of the part. [The response would be] probably both ways, as an army does, for its good is found both in its order and in its General and more in the latter, for he does not depend on the order but it depends on him."¹⁶ If Aristotle is translated in political philosophy, his teaching would be that the people are what they are because of the government that rules, as much as the government is what it is because of the kind of people it rules. Once again reality is not the monopoly of any one party but the outcome of the co-operation of the two. If as Aristotle argues, sensible things, though they may be different are all ordered together, then by implication he is asserting a connection between them. The question that follows immediately is whether the connection is a necessary one. There does not seem to be evidence that he asserted the necessary connection. In fact at

the end of the discussion of the theory or the prime mover, he requests to be excused for

entering a sphere that is beyond the bound of philosophy proper but even of demonstrative necessity. He will not speak of "necessity" at all but merely of the probable¹⁷.

Even though he recused himself from the proceedings to establish the necessary connection, he however held the belief that it (connection) was there. This was suggested by his relentless criticism of those theories which "make the substance of the universe a mere series of episodes"¹⁸...

It must be admitted that David Hume is under attack given his theory of constant conjunctions.

While Aristotle had sought reality in the aggregate co-operation between all forces involved, his theory of motion implies the existence of another being/s. Change implies motion and for anything to move it needs a fulcrum that must lie outside the moving body. If the entire body is to move, it needs the earth to take off from. In the same token, since the universe moves, by implication there must be something outside it to cause that motion. While that "something" which causes the universe to move, might require something else to move and so on, Aristotle thought it absurd to assume an infinite regression of causes. He thus advanced the

theory of a first cause, a prime mover who moves everything but must of necessity be unmoved. For him

the highest principle is immaterial mind, pure act, serene and blessed life free from all interruption If it thinks nothing it is at rest and hence at the most potency, not pure activity, if it thinks something other than itself it thinks something less perfect than itself and thereby diminished its own perfection thought thinks itself and in this creative act it eternally enjoys its own absolute perfection¹⁹

Even though the theory of motion implied the existence of a being outside the universe, it was not conclusive that there was a single and not a multiplicity of such principles. To posit a multiplicity of first principles, would raise an epistemological problem. It is generally held that nature exhibit a degree of congruence but this would be difficult to explain if each phenomena has its own first principle. Even if it were granted that a multiplicity of causes can still evince harmony, ultimately the aim of their harmony should point to a single objective. A multiplicity of first movers would require that these be material thus locatable since that which is not material cannot be individuated. The foregoing argument enjoys scholarly support of such intellectuals as Jaeger who observed that

.. the primary essence has no matter, for it is complete unity. So the unmovable first mover is one both in definition and in number It has no connection with matter, which is the principle of individuation. In the highest of all forms, unity of form and real singleness coincide.²⁰

It must be clear by now that the major difference between the Platonic form and the Aristotelian dialectics is that in Plato, reality, that which alone account for change or motion, is the forms that are real and eternal. For Aristotle however change is a product of both the agent and the patient and their potency to act in a particular direction. Aristotle however cannot maintain the doctrine of the immateriality of the first principle and still hope to be consistent with a multiplicity of them. Either they are a multiplicity in which case they are material or they are immaterial and single because matter is held to be the principle of individuation.

1.6 J. S. Mills, F. Bacon and J. Locke's Search for a Scientific basis of causality

These are but a few scholars who sought to establish a scientific basis for the principle of causality. John Stuart Mills has graded knowledge in order of importance. Mathematics and physics are admitted as sciences since they are exact in their claims. Organic Science, Physiology, Chemistry, Biology are in-exact. The social and moral sciences are for him not sciences due to their disorderly and diffused nature. The exactness of a science can be manifested by induction, where particular phenomena can be observed and a constant arrived at. While this method is heavily relied upon in the sciences, it has limited authority to claim that

its findings are universally valid. The particular causes observed may well be true but Mills' contention is that "however far they went in collecting evidence, they could never be certain they had examined every possible case. The proper function of induction was to check by experience the findings of deduction. It was confirmatory, not creative."²¹ This is consistent with Hume's cynicism when he asked that "what logic, what process of argument secures you against this supposition."²² The supposition that the future may not resemble the past.

Yet another problem of the proof of induction, Mills argues was the assumption that "nature is uniform, that what has happened once will happen again in the same condition."²³ Mills seems nevertheless to have entertained the assumption that the universe was uniform. Thus "causation was the constant relation between a phenomenon and the sum of the positive conditions necessary to produce it."²⁴ Hume battles with this issue whether the necessary connection should depend on the inference, what Mill calls the constant and not the inference (constant) depending on the necessary connection. As for that which fell outside the scope of the explanation of how a particular event occurred, Mills still held it to be caused even though for now the cause was undiscovered. Given Mills'

position, there was no room for "pure chance" because the universe is uniform and therefore every event ought to be caused.

Although an explanation may not be given as to how the Biblical miracles occur, they are not incredible since they do not dispense with cause. Their occurrence is attributed to a supreme principle thus as an event real or imagined they have a cause. The only problem is the reliability of the evidence. The quest to build a system of human knowledge was driven by excessive faith Mills had in the human facilities. He supposed that with the development of knowledge, even the social sciences could be narrowed down to exactness. The issue that arose was if everything could be brought under the law of causation, it would have serious implications on the human free will. That this could be put to dangerous use, was immediately noticed by Fredrich Engels when he warned that "it does not occur to any communist... to believe that ... in general, the single bourgeois can act otherwise... than he does act.... the revolution must come."²⁵ The mistake made by sociologists in the study of man was that by

generalizing on the species without sufficient study of its members, they were led to set man in society above man as an individual creature. ... Society was a mixture not a compound, a bag of bullets not a molten ingot. Men are not when brought together, converted into another kind of substance, with different properties, as hydrogen and oxygen are different from water... Human being in society have no

properties but those which are derived from, and may be resolved into, the laws of the nature of the individual man.²⁶

The progress of sociology is based on understanding the individual man, and once a science about his nature can be arrived at, human behaviour can be sufficiently brought under the law of causation. Man is then the way to understand mankind not as Augustin Comte said that "humanity must explain man, not man humanity... Society was a living entity more significant than the individual who compose it."²⁷ In his book Physics and Philosophy J. Jeans observed that Mills held the belief that

all human actions are so completely determinate that sociology could be made into a perfectly exact science, in which the future of a society could be seen to follow from its past with a mechanical certainty and after unvarying laws.²⁸

The law of cause may be valid but not completely universal, Mills subscribes to Plato's idea that the universe is both order and chance. It would be assuming too much to think that the law of cause applies everywhere. Certainly what happened

beyond the range of human faculties it could give no guarantee... It was entirely possible that in the deepest hidden recesses of the stellar regions, where the mind of man could not yet pry, the law of cause and effect might not be valid and nature might not be uniform²⁹.

Francis Bacon like J. S. Mills had a hierarchy of knowledge, Physics as part of philosophy was a research for causes and effects but it only handled the material and efficient causes. Therefore as a discipline that dealt with

the properties that are inherent in matter it was transitory. Above physics was metaphysics which was equipped to handle the formal and final causes, thus it dealt with "that which is abstracted and fixed."³⁰ What Bacon referred to as "fixed" was what Plato would have called the "forms". In fact Bacon accepted Plato's argument that "forms were the true object of knowledge"³¹, but his objection was over the elevation of the forms, as being completely abstracted from matter and consequently, not confined and determined by matter. It is safe to assert that Bacon's arguments were influenced by Aristotelianism which regarded the forms as inherent and manifest in sensible objects and even more precisely as their essence. A good example of the compatibility of the physical and metaphysical is the covering of living creatures with skins. The reason creatures ever had skin was to protect their bodies against extreme heat or cold. However, the mechanism through which this (protection) is achieved, is by the contraction or opening of the pores at the surface of the skin which is incident to the presence of foreign and hostile bodies. To say that the skin protects the body would not change the cause of the skin mechanism (pores), both causes are true, the difference is that one shows the intention while the other is consequential. The mechanism to bring about the intended result, (protection of delicate parts), may change

depending on the age, condition of health and even the kind of species, but the intention remain fixed.

Bacon endeavoured to show that there is a good relationship between science and nature, that science does not alter nature but was a servant. For this reason, he was not opposed in principle to magic but rejects its endeavours to dominate and improve nature as this amounts to fraud. He defined magic as "the science which applies the knowledge of hidden forms to the productions of wonderful work of nature."³² This definition is corroborated by many others. Della Porta believed it to be "the climax of natural philosophy, magical operations only seem miraculous because the spectator does not understand how they are produced. They never overstep the limits of nature... the magician creates nothing."³³ Similarly Campanella expressed the view that magic was "... a practical activity operating on reality, certain inventions had been described as magic until they were understood .. such were gunpowder, the magnet..."³⁴ Benedict Varchi in "questions sull' alchimia" quoted in Rossi P. Francis Bacon from Magic to Science took the issue even further when he differentiated magic from false alchemy. He dismissed as typical of false alchemy "...all that which claimed to cure disease instantaneously, create talking statues and bestow eternal youth, that it could not only imitate nature but master and

surpass it all of which is impossible and absurd."³⁵ It would be noticed that both Porta and Varchi, intended to show that magic was valid as long as it admitted that it could not bring about that which was not necessarily possible within the operations of the regime of nature. It was Bacon's view that man needed infinite patience to overcome his condition and to attain control over his destiny. From magic, Bacon borrowed the idea of science a servant of nature but the disaster lay with the objectives of his project. That he was labouring under christian influence, need not be over emphasised, nor was he altruistic that science was pursued for the sake of human goals. It is reasonable to insist that he stepped into the objectively inaccessible, he was convinced that the advancement of science could restore mankind to dominion over the universe where he was before "the fall". Not only would that be stretching science beyond its limits but expecting too much from it. Some scholars, consider the past to have been anarchic than the present, Thomas Hobbes taught that man in antiquity lived in a state of nature, wherein there was war of all against all. Karl Marx was even less sympathetic to the idea of "the fall" if, as per his popular view, religion was an opium.

John Locke has made significant input into the problem of causality. Man, according to him was born with an empty cabinet, a tabularasa, his

knowledge begins with the senses and the subsequent reflection leaves one with an idea of external objects. Once ideas are united in a single understanding, they are signified by one name. The unity between them is sustained and subsists because there was a fabric or a substance. The assertion was based on the supposition that thought always has content. One cannot think of nothing. From a single idea, particulars spread in varying degrees until they become generalities and this was for him how knowledge grew. The mind under the sponsorship of the senses observes phenomena come into being and come to an end, whenever it is preceded by a given phenomena. On the basis of these observations, a conclusion was arrived at to the effect that

the like changes will for the future be made in the same things by like agents and by like ways ... We see sequence, but mere sequence does not satisfy us especially when the sequence is repeated. We proceed to convert sequence into consequence by means of the idea of power or cause or necessary connexion³⁶.

To a great extent Locke was in agreement with David Hume, even the argument by Locke that "the idea of power or causation cannot be given in sensation as a phenomenon,"³⁷ was typical of Hume's position. It is admitted that all that the mind can observe and was available to it, was phenomena following upon each other. What was actually witnessed was just the fact of change. Up to that point the two concur. Indeed Hume

acknowledges as would be shown later, that the mind does, as Locke has rightly observed, "proceed to convert sequence into consequence..." The real cleavage was that Hume does not accept such method of argument as logical or valid. He would insist that the idea of causal relation between facts to

be no true idea, but only a habit of transition produced in the mind by the frequency of the particular sequence.³⁸

But an even strong criticism of this method of procedure was that "the inference from the observed to the unobserved is supposed to be a detour on the road to discovering the source of the idea of necessary connection."³⁹ Whether Locke's view was entertained that "we proceed to convert sequence into consequences" or Hume's that the relation was "a habit of transition produced in the mind.." it is important not to lose sight of the very idea of causation. By its nature the term was judgmental and evaluative, thus as an intellectual exercise, it was in the mental domain and not in the domain of the senses.

Locke was driven by the motivation that an idea and the object of thought were correlated, that outside their mutuality they were meaningless. While he was spared the criticism against Plato for his absolute forms, he fell into yet another pitfall. He erred in assuming "a reference to reality to be

inherent in ideas as such. " ⁴⁰ This line of procedure was met with a critical assessment by Prof. Campbell Fraser who earnestly need to know "how we can determine agreement of "ideas" with "reality" without first having the real existence presented to us apart from all ideas of it."⁴¹ The question is a logical one, very much similar to Kant's objection in ridicule of Anselm of Canterbury (1033-1109) that the idea of a hundred dollars does not translate into real money in his pockets. The above manner of reasoning committed the error of making existence a predicate of thought. Contingency relates in time and place, to say that one is thirty years old was to introduce a time span or duration to some existing object. That meant, the time span of one's existence is equivalent to thirty annual revolutions around the sun. However, one's thirty years existence as a being has nothing to do with the actual thirty revolutions, they would still have followed the cycle even if the being had never existed. The individual would have also lasted that life span even if the earth had not made any revolutions around the sun, except that other methods of quantifying time, outside these annual revolutions would have to be invented. Certainly at this stage of the debate, significant progress has been made on the principle of causality. However as long as J. S. Mills is of the view that the exactness of a science lay in observing a constant in

phenomena or as J. Locke taught that "we proceed to convert sequence into a consequence..." it does not appear that an objective basis for the principle of causality has been established, and this was for Hume the principal objective.

1.7 Cartesian - Newtonian Physics and Einstein's theory of relativity:

Cartesian - Newtonian physics was a scientific revolution which was pioneered by René Descartes who laid down its foundation while Newton was to perfect it. Cartesian Physics explained phenomena in its compositional terms. To understand water for instance, one would give the two to one ratio obtaining between hydrogen and oxygen molecules. However such method of explanation require real concrete terms "without needing to postulate anything in matter other than the movement, size, shape and arrangement of its parts."⁴² The limiting factor with this method is obvious, it must be in terms of things that are substantial. The word substantial is used in Ree's definition that "a thing is substantial to the extent that the quality of it tend to be conserved."⁴³

Cartesian Physics

According to Descartes' third law of motion, "a body upon coming into contact... with a weaker one, it loses as much as it transfers to that weaker body."⁴⁴ If this law is sustained, that motion is transferred during impact, it is legitimate to argue that motion can exist without matter. However Descartes avoided treating motion as substantial. Motion was a mode of matter or a moving thing and that "movement properly understood may be said to relate only to bodies that are contiguous to that in motion."⁴⁵ In a nutshell this theory amounts to saying that the world cannot be said to move since it is contiguous to the atmosphere which is stationary. It should not be difficult to understand why Descartes had a predicament. He had to dissociate himself from the Copernican theory for which Galileo was to be inquisitioned by the church for claiming that the earth moves around the sun. He held the view that motion in the universe was constant, the original impetus having been provided by God at creation. The constant motion was due to the nature of matter because being

completely passive and inert it cannot stop itself or even slow down... It cannot slow down on its own accord. The only change in motion that can occur is transference from one part of matter to another, according to the law of motion and the seven rules of impact.. All the movements in the universe, in short, are one vast chain reaction initiated at creation by God.⁴⁶

Still in Cartesian theory one finds a universal principle of inertia, which held that "things which move in a circle always tend to recede from the centre of the circle that they describe."⁴⁷ It is legitimate to question that if there was receding from the centre, why was it that planets do not break free at a tangent and move in a straight line. Descartes explanation was that "their tendency to fly off was counteracted by the fact that they were constantly falling towards the sun because of gravity."⁴⁸ It is argued here that the inertia principle cannot be sustained. Evidence from research in astronomy reveals that certain bodies move towards the north and south poles, that comets are occasionally seen in a disorderly path. Interestingly, Newton distanced himself from this principle, though accepting that attraction was universal, "that did not mean it was essential and inherent to matter. His theory only expressed the law and properties of attraction not the cause by which attraction is performed."⁴⁹ Later in the Principia, amid mounting criticisms, Descartes renounced the idea of gravity as an irreducible property of matter.

Yet another aspect of controversy in Cartesian Physics was momentum. In modern theory this is identified with speed in a given direction, but Descartes erred in identifying its speed "with a quantity which can be evaluated without reference to direction."⁵⁰ The above argument is

illustrated by an object that is pushed down, the movement that has been started, is not only that involving the object but all other bodies that move with the object. The obvious weakness in such a physics was that momentum cannot be determined and this was the reason Ree in his book Descartes lamented that "then the concepts of mass and momentum become for practical and experimental purposes, completely useless."⁵¹ These are but a few observations that marred Cartesian Physics. It is not the aim nor within the scope of this study to expose all the weaknesses in Cartesian theory, but it is sufficiently clear that as a science it was riddled with flaws. This negativity does not altogether mean that Descartes has no place in the development of science. His contribution was acknowledged, that it was him who taught that "matter and motion were conserved quantities to which all sorts of physical phenomena could be reduced."⁵² Significant though the contributions may be, still the issue of causation remained unresolved. The law of motion he advanced, which could go a long way to explain some aspect of the principle of causation was not only inadequate but inaccurate.

Newtonian Physics

The crisis over the principle of causality was certainly a burden in Newtonian physics, hence the need to focus attention on his science. Scholars before him had grappled with the problem of the causal relation that subsists between two or more bodies. Newtonian physics considered matter to be constituted of small particles called atoms. From this constitution of matter it was inferred that physical objects could be explained in terms of motion. For there to be change then, groups of particles must affect each other either by breaking up or combining or altering each other's motion. It is important to note that while the idea of atomic theory of matter was held before Newton, the theory was strictly by "... contact action. The only allowable notion of force therefore was force of impact, all other concepts of force such as attraction and repulsion were regarded by these natural philosophers as occult."⁵³ From the theory of motion Newton advocates the idea that

the world was a collection of particles of pieces of matter each of which could be either at rest in space or moving through space. If a particle was at rest, it stayed at rest, and if it was in motion it continued in motion at the same speed and in the same direction unless "forces" intervened to change this state of rest or motion.⁵⁴

This assertion became the first law of motion which purports perpetual motion for a moving body unless something checked it.

The second law taught that force was determined by velocity, multiplied by the mass of a body. Velocity on the other hand was speed plus direction, which meant that there could be change of velocity even though the body maintained a constant speed. Modern Physics now knows that what Newton called force was actually a description of what is now called momentum, which Descartes called motion. Force would then be the rate at which the momentum increases. If this was restated in the light of modern physics, given that the following be represented as

$$\text{Velocity} = V$$

$$\text{Speed} = S$$

$$\text{Mass} = M_1$$

$$\text{Direction} = D$$

$$\text{Momentum} = M_2$$

$$\text{Force} = F$$

then the following equation summarises the second law of motion

$$V = S + D$$

$$M_2 = V \times M_1$$

$$F = \text{Rate of increase of } M_2.$$

What this means in ordinary language is that if two vehicles one a van and the other a truck move at the same speed in a given direction, the

difference would be that it requires the truck a lot more force to achieve the same result. Thus it is not economic in a number of instances to be driving a truck. The third law of motion stated that "when a body A exerts a force on a second body B, then B must exert on A force which is equal in amount but opposite direction."⁵⁵ The theory of motion as it stands cannot explain the complex operation of nature, such as spontaneous events. In recognition of this inherent limitation, Newton introduced what he called "active principles" whatever that meant. Leibniz expressed shock at the idea of "active principles" when he charged that "gravity [and by implication any of its active principles], must be a scholastic occult quality or the effect of a miracle."⁵⁶

Newtonian Physics must be understood within its own limitations. The law of cause and effect was valid only when applied to the physical world. The effect which was brought about by change was due to contact or impact. The discovery of magnetism has compelled that a broader definition of the word contact be adopted. Though there may be no physical "contact" between the magnet and the object of attraction or repulsion, the air molecules around the magnet are positively or negatively charged to bring about the desired effect. The phenomena (attraction or repulsion) can only occur as long as the object lies within the given field

of magnetic influence. In real terms therefore, it can be affirmed that there was contact within the broader meaning of the word. Newton did not deny that there must be contact and this he made abundantly clear in a letter to Bentley quoted in Jeans Physics and Philosophy. Therein he argued that

it is inconceivable that inanimate brute matter should without the mediation of something else which is not material, operate upon and affect another matter without mutual contact That gravity should be innate, inherent and essential to matter, so that one body may act upon another at a distance, through a vacuum, without the mediation of anything else by and through which their action may be conveyed from one to another, is to me so great an absurdity that I believe no man who has in philosophical matters a competent faculty of thinking can ever fall into it.⁵⁷

At the end of Newtonian Physics it can be recognised that these laws hold within the given regime of nature and if it was granted that phenomena was moving against a background of absolute time and space. Latest developments in science challenge this assumption and disclose that "Newton's laws are valid only in the large scale phenomena of nature, beyond these lies a whole world of atomic and sub-atomic processes which do not obey Newton's laws at all."⁵⁸ It has been important to discuss Cartesian-Newtonian Physics because it has influenced the scientific view of causality yet it has flaws.

Einstein's theory of relativity

Cartesian-Newtonian physics eclipsed after 1915 when Albert Einstein advanced the theory of relativity. Bertrand Russell could not have been more scientific when he defined causality in Mysticism and logic as "given an event E_1 there is an event E_2 and a time-interval T such that, whenever E_1 occurs E_2 follows after an interval T ."⁵⁹ The problem however was in determining how much time lapsed betwixt the cause and effect. In his admission he affirmed that the

difficulty is caused by the temporal contiguity of cause and effect which the definition asserts. No two instants are contiguous, since the time - series is compact, hence either the cause or the effect or both must, if the definition is correct endure for a finite time, ... If the cause is a process involving change within itself, we shall require (if causality is universal) causal relations between its earlier and later parts, moreover, it would seem that only the later parts can be relevant to the effect, since the earlier parts are not contiguous to the effect and therefore (by the definition) cannot influence the effect⁶⁰.

The debate is obviously at the heart of the controversy, whether the effect is a product of the cause and can be isolated from it, or the effect is already included inherent in the cause and merely transpires at the top-end of the process of change. None of the alternatives seems more reasonable than the other making the issue more unamendable. It would not be going astray to allow that Russell came very close to advancing the theory of relativity and a possible explanation is that he was party to a generation

that inherited a misconception. Such misconception was to divide the events of the world into detached episodes as if they were held together in pairs. A radical perspective is born owing to the theory of relativity that endeavours to demonstrate that

the changes in the world are too continuous in their nature and also too closely interwoven, for any such procedure to be valid.⁶¹

An excellent illustration of the theory of relativity was given by Jeans in Physics and Philosophy. That if one shoots a bird, the falling down may be said to be the effect but what would be the cause. To say that the pulling of the trigger was the cause, which would ordinarily be accepted would be an over-simplification of what actually happened. Before the trigger was pulled, there must have been cartridge, which somebody must have manufactured, that the gun was pointed in the right direction, allowance was given for speed and angle (velocity) etc. Clearly a multiplicity of causes converged to bring about the actualisation of the effect. Einstein's theory castigates such method of analysis on grounds that

it is not necessary for all previous events in history of the world to be considered as separate causes. The effects of the earlier of them are already taken into account in the later and they need not be allowed to for twice over. It is to consider a cross-section at one particular instant of time. The state of

the world at this instant any instant I choose will provide the adequate cause of the effect under consideration.⁶²

By a cross-section it is meant here, all prevailing conditions at that instant. However, some events which are part of those prevailing conditions are too far and light from the sun would not have reached that place of the incident at that instant. The formula then is since light travel faster than their influences, these other prevailing conditions can be excluded from the cause.

The theory concur with Cartesian - Newtonian physics about the validity of the causal law of motion. It is accepted that "the relation between objects only hold when the objects are at rest but arrangement is inadequate once objects are in random motion."⁶³ In other words, the point of departure from Newtonian physics is that the process was complex to be explained in terms of the arrangement of particles once the process was so haphazard or indiscriminate. The idea of a three dimensional relation of objects in space was overhauled by adding yet another dimension, time. By so doing he made "a space-time unity, the four dimensional continuum forms an indissoluble unity and must always be regarded as a whole."⁶⁴ The theory of relativity introduces the idea of a four dimensional continuum. None of the three in the continuum

separately represent space while the other represent time but rather each can represent time or space at any time in an interwoven process. This just goes to show the extent to which the principle of causality has not only developed but become intricate. Some scholars have expressed concern that the theory was a move towards determinism. Einstein in his defence, manoeuvred his way through difficult times and he expressed the hope that

as experimental research advances, the fundamental laws of nature become simplified more and more... We find that simplicity residing neither in the physical facts nor in the pictorial representations, but surely in the mathematical formulae which describe the pattern of events⁶⁵.

The issue under investigation now appears to be a mirage, it has not only transcended the scope of philosophy into science (physics) but it now lies in the realm of pure mathematics. The philosophical problem of this drift towards pure mathematics is that "the theory of relativity of gravitation ...seem to carry us yet further along the road from materialism to mentalism."⁶⁶ The mathematical orientation of general relativity was taken further by quantum mechanics to which attention would be paid.

1.8 The relevance of quantum mechanics

The theory of relativity assumes that the fundamental laws of nature are simple and further assumes that events of nature follow fixed causal laws. Under this influence Marquise de Laplace argued that the Universe was deterministic and "declared that for an intelligence acquainted with the positions of all material particles and with the forces acting between them, the future as well as the past would be present to its eyes."⁶⁷ Quantum mechanics is introduced to dispel the idea that science can predict what would occur. However, to predict the future position and velocity of a particle one must be able to calculate its present position and velocity with accuracy. In 1926 Werner Heisenberg observed the difficulty involved in such a calculation as he realised that

the more accurately you try to measure the position of the particle, the less accurately you can measure its speed, and vice versa. Heisenberg showed that the uncertainty in the position of the particle times the uncertainty in its velocity times the mass of the particle can never be smaller than a certain quantity, which is known as Planck's constant. Moreover, this limit does not depend on the way in which one tries to measure the position or velocity of the particle, or on the type of particle.⁶⁸

It is impossible even in principle to measure such values. This is known as Heisenberg's principle of determinacy and can be expressed as $\Delta p \times \Delta q \geq h/4\pi$ Where the variables p and q are instantaneous coordinates of

"momentum" and "position" of an electron or other subatomic elements as the case may be respectively. Also, Δp is interpreted as the coefficient of uncertainty or deviation or dispersion from the average value of the momentum at a given instant and similarly for Δq .

Max Planck had argued that light (radiation) was not continuous as had traditionally been thought, but rather that it is emitted in packets of energy which he called quanta. Albert Einstein was very revolutionary if not radical when he assumed that light was made of particles. Following Heisenberg's uncertainty relations and cognisance of the universal Planck's constant, three physicists, Heisenberg, Schrodinger and Dirac in the 1920s reformulated the theory which was then called quantum mechanics. Heisenberg's formula when interpreted asserts that the product of the uncertainty of the momentum and position of a sub-atomic particle is never less than the Universal Planck's constant at any given time. In real terms this means that

if one of these co-ordinates is measured with great precision, it is not possible to obtain simultaneously an arbitrarily precise value for the conjugate co-ordinate. For example if Δq is vanishingly small, Δp must be enormously large and for practical purposes "infinite"⁶⁹.

This theory should not however be understood to imply that a subatomic particle does not have a determinate momentum and position, but only that

the two co-ordinates cannot be established simultaneously, hence the theory is said to be indeterministic. This view is expressed by many physicists and is accepted as the basic tenet of quantum mechanics. Bransden B.H and Joachain C.J in their book an Introduction to Quantum Mechanics taught that

.. once the system is known to have a momentum defined to within a precision Δp , subsequent measurements of the position must produce results spread over a range $\geq h \Delta p$. The uncertainty Δp can be arbitrarily small but the more precisely the momentum of the system is known, the greater the range of results, that will be obtained in a series of position measurements on an ensemble of such systems.⁷⁰

Another scholar J. O. wisdom in Challengeability in Modern Science stated that "the pseudo corollary has been drawn that to speak of the precise position and precise momentum of a particle at the same time is meaningless"⁷¹ thus buttressing Heisenberg's principle of indeterminacy.

Quantum mechanics, by denying precision in determining the two co-ordinates, has effectively introduced an element of unpredictability or randomness in science. This point will be addressed further in chapter three because of the pertinent philosophical implication it has. Quantum mechanics is not deterministic in nature but rather inherently statistical in its content. Even when reference is made to a "precise momentum", this is, in real terms, the mean or average values of the momentum of sub-atomic particles taken over a series of intervals; therefore even the time is not an instant but instances. This is relevant to show that while the theory does predict, these are probabilities involving possibly a billion particles

and not one particle. This idea was stated by Stephen W. Hawking in A brief history of time: that

in general quantum mechanics does not predict a single definite result for an observation. Instead it predicts a number of different possible outcomes and tells us how likely each of these is.... One could predict the approximate number of times that the result would be A or B but one could not predict the specific result of an individual measurement.⁷²

The domination of statistics in the theory has led some physicists, Planck, Einstein, and others, to consider it inadequate to explain real events. This is due to its failure to account for the behaviour of the individual elements in these subatomic processes. Quantum mechanics has not penetrated the large scale of nature, yet this would be the focus of attention in African conception of the principle of causality. This growing belief that the principle is not applicable to atomic or subatomic processes, and the findings of quantum - mechanics raise doubt concerning the conventional view which claimed that the principle of causality was universally valid.

The difficulty, that cannot be ignored, is the special place quantum mechanics seeks. Erwin Schrodinger held that the particles under investigation exist in a quantum state, but it is not clear whether this is an ideal, a mathematically determinable state, or a convenient assumption. In this state, particles are said to behave like particles, while in some instances they behave like waves; hence there is a wave-particle duality.

The theory speaks with a new authority, that though it speaks of space and time, position, and momentum, particles and waves, these are traditional concepts that were defined in accordance with the assumptions and teachings of classical physics, but are inadequate and inappropriate in quantum physics. For this reason the reader is advised not to understand them literally. This warning, in itself, presents a problem, for if the momentum, for example, is not to be taken literally, it is difficult to understand the alleged momentum since there is no such a thing as the electron's momentum to be the object of knowledge.

Much as some scholars have argued that Kant added nothing substantial where Hume had stopped on the principle of causality, there is increasing suspicion that quantum mechanics has done the same, this is said in Pitowsky Quantum Probability Quantum Logic. Therein he argues that "Hume has made the sceptical point regarding causes in as forceful a manner as can be made. Quantum theory has added nothing new to it."⁷³ At this stage the issue is, if we cannot predict from the inherent difficulties the theory has shown, is there justification in maintaining that the principle is universally valid. For Hume, the justification is from custom, a tendency, a determination in the mind. At the same time, the theory has not denied definite position and momentum of a particle, but only that

from human endeavour no experiment can calculate its precise value. However the impossibility to determine these values does not justify the denial of the connection. In the words of Ernest Nagel "neither the analysis of physical theory, nor the study of the subject matter of physics yields the conclusion that there is no strict causal behaviour anywhere."⁷⁴ It was Einstein's strong belief that nature was not governed by chance that led him to say "God does not play dice."⁷⁵ Hume would have insisted that the idea of causation had no premise, no logic that enables us to prove it, therefore it is a detour on the road. This is the controversy the paper faces, that while the necessary connection cannot be positively demonstrated by the classical definition of "demonstrate", there is nevertheless justification in the belief that the connection exists.

For this purpose the study subscribes to the standard interpretation of the theory known also as the Copenhagen interpretation. Quantum mechanics is interpreted as sets of probabilities, but not as in a fair lottery where each number has equal chance of winning. Here the electron has a "quantum probability": it depends on the energy state when measurement were taken. Therefore it is more highly probable in certain energy states than others. To repeat the measurement does not guarantee the same result. Gribbin and M. Rees in Cosmic Coincidences explain that "In quantum world, as

soon as we stop looking at an electron, it dissolves into a mist of probabilities, called a superposition of quantum states.... The act of measurement forces the electron to choose among the possible states and to take a solid identity.... what is known as a "collapse of the wave function."⁷⁶ While it is not the intention of this paper to go into intricate quantum mechanics, it is however, its responsibility to retrieve the philosophical implications of the theory to apply them to the central argument of the thesis. It will be observed that this chapter focused on the development of the principle of causality. Plato considered matter to be passive and subject to the law of change. He consequently assigned reality to the forms which are intelligent and self-moving. This was the radical difference with Aristotle who saw the basis of causation of residing in the co-operation between matter and the forms. Causality was for him the aggregate conditions required to bring about change. Classical (Cartesian) physics attempted to explain reality in concrete terms, atoms and molecules. Such an explanation made the mistake of assuming that given accurate knowledge of the operations of atomic particle(s) the future could be predicted. The theory of relativity has demonstrated the difficulty in attempting such a prediction. This was carried further by the theory of quantum mechanics which did not only show that the more precise one

calculates the uncertainty position of an atomic particle, the more difficult it will be to determine its momentum because one is determined at the expense of the other. Quantum mechanics even considers the concepts of atoms, waves, time, space, limiting and inappropriate when explaining atomic and sub-atomic processes. It argues that reality is too complex and random to be explained in terms of position and momentum of particles. Once these are in motion such an explanation becomes overwhelmingly simple to explain the process. It dismisses as futile the attempts by classical physics to predict the future. This paper argues that there are other ways of explaining reality, the African traditional thought system and that it is not necessary that logical reasoning should be limited or is the exclusive domain of material science. These implications would be the basis of the arguments discussed in Chapter three.

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CHAPTER TWO

HUME'S CONCEPTION OF THE PRINCIPLE OF CAUSALITY

2.1 The theory of the origin of ideas.

According to this theory, the human senses are like in-lets towards knowledge. The sensation of heat or sound for example stand in a different relation to the subsequent thought upon reflection of these sensations. The sensations are called impressions while the thought that arises out of these are called ideas. The difference between impressions and ideas is that the former are more lively in terms of their force and vivacity. It is held therefore that whatever is obtained through sensation, there is a corresponding idea and vice versa. From the above observation, that the ideas an individual acquires, were copies of previous impression, Hume thought he had established what could be called the science of human nature. According to the proposition it was held that

all our simple ideas in their first impression appearance, are derived from simple impressions which are correspondent on them, and which they exactly represent.

[It was further insisted upon that]

.. from this constant conjunction of resembling perceptions, I immediately conclude, that there is a great connection betwixt our corresponding impressions and ideas and that the

existence of one has a considerable influence upon that of the other. Such a constant conjunction, in such an infinite number of instances, can never arise from chance, but clearly proves a dependence of the impressions on the ideas or of the ideas on the impressions.¹

Although impressions and ideas seem to reciprocate, this is not a two-way traffic but one. Two observations are evidence of this assertion, namely natural disabilities and resembling perceptions. In cases of disabilities where a person is born without one of the faculties that enables him for example to taste, not only would the impression be lost but its corresponding idea as well. As an illustration it is argued that "we cannot form to ourselves a just idea of the taste of pineapple without having actually tasted it."² As has been argued earlier, all ideas have a corresponding impression which they resemble. However this assertion is restricted to simple ideas and from the resembling/corresponding perceptions, it was sufficient for Hume as

a convincing proof, that the one are the causes of the other, and this priority of the impressions is an equal proof, that our impressions are the causes of our ideas, not our ideas of our impressions.³

A careful analysis of these arguments reveals that Hume cannot accept the view on "innate ideas". The feelings of compassion arise because a person has had a certain terrible and unpleasant experience in the past and does not want to have it recurring. The compassion arises due to an emotional

experience which logically must have taken place in the past. Thus a child is not capable of sympathy as it has never undergone situation that would enable it to know what it takes to be sympathetic. While it may rightly be argued that a child is not capable of knowing anything anyway, other example may illustrate Hume's objection to "innate ideas". In societies that have lived under severe suffering, murder, extortion or ruthlessly trained combatants who have become "killing machines", the human mind has no regard for sympathy. No "impression", any more seems to lead to the production of the "idea" of sympathy, it would even appear that such people derive pleasure from the agony of their victims.

The theory on the origin of ideas was best summed up in the Enquiries that "when we analyze our thoughts or ideas, however compounded or sublime, we always find that they resolve themselves into such simple ideas as were copied from a precedent feeling or sentiment."⁴ The effect of this theory is it would reduce or confine knowledge to experience. This need not be inferred, it was also held by John Locke who adamantly believe that

the mind could only know its ideas.... He held that we can know nothing which has not come into our mind from without, knowledge is in the end observation... Nothing can be in the intellect which was not first in the senses.⁵

This view on the origin of ideas greatly influenced Hume's formulation of the principle of causation to which attention will now be focused.

2.2 The idea of a necessary connection:

Having established what he thought was a science of human nature, that ideas are copies of impressions, or that there can be nothing in the intellect which was not a sense datum, he proceeded to settle the problem of a necessary connection. From the content of the intellect he endeavoured to find the origin of the "necessary connection", and the impression that not only precedes but gives rise to it. It is insisted that there are three aspects involved in this continuum. These are contiguity, resemblance and cause and effect. The first two are necessary but not sufficient in themselves, as they do not enable the mind to go beyond what is immediately given. The only aspect is causation which alone

produces such a connection as to give us assurance from the existence or action of one object, that it was followed or preceded by any other existence or action. There is nothing in any objects to persuade us that they are either always remote or always contiguous....⁶

If as it has been pointed out, that it is our idea of cause and effect alone which gives rise to the idea of a necessary connection, the question is, then how does it arise. It would be difficult to venture into the investigation without a definition of causation. To say it is something productive of

another is vicious because production cannot be defined differently from causation. The exercise is running in a vicious circle as it gives a synonymous term instead of a definition. Equally frivolous is the argument that attempts to show the existence of a cause by maintaining that every effect must have a cause. This is a trivial point in Hume's view "because it is implied in the very idea of effect. Every effect necessarily presupposes a cause, effect being a relative term of which cause is the correlative. "⁷ The bottom-line, is that there is no way of positively demonstrating the necessity of a cause in a new phenomenon. Equally difficult if not impossible is trying to show that something can exist without some causal principle as being responsible for its being. Thus it appears either way a necessary cause cannot be proved to be there or not to be there.

The absence of an impression from which necessity of a cause can be traced for Hume means that the idea is not derived from any reasoning. It must arise from observation and experience. When two objects are considered within circumstances where they normally arise, where one is called cause the other effect, the following scenario prevails: It would be observed that the two objects are contiguous in time and place and that the one we call cause has always preceded that one we call effect. All that

subsist between those objects is "contiguity" and "succession". The only explanation why inference is made beyond the given is that

after a frequent repetition I find that upon the appearance of one of the objects the mind is determined by "custom" to consider its usual attendant, and to consider it in a stronger light upon account of its relation to the first object. It is this impression, then, or determination, which affords me the idea of necessity.⁸

If it is granted that the necessary connection is "custom" the question that is principally wanting in this manner of reasoning is the efficacy with which the cause produces the effect. This question is here dismissed as absurd because the concepts of agency, power, force, energy, necessity are considered synonymous and its worthless exercise to use any to define the rest. Thus the question of the efficacy of the cause in Hume's view does not arise since it is implied in the latter. The denial of a necessary connection as arising from pure reason is sustained further by the rejection of innate ideas. The phenomenon then that gives rise to the idea of a necessary connection are experience and observation. This occurs when

we observe several instances in which the same objects are always conjoined together, we immediately conceive a connection betwixt them and begin to draw an inference from one to the other. This multiplicity of resembling instances, therefore, constitutes the very essence of power or connection and is the source from which the idea of it arises. To understand the idea of power, we must consider that multiplicity.⁹

Consequently, from the multiplicity of instances the mind is misled as "it is constantly supposed that there is a connection between the present fact and that which is inferred from it. "¹⁰ The reality of the situation as far as the theory stood was that there was

nothing new either discovered or produced in objects by their constant conjunction and by uninterrupted resemblance of their relation of succession and contiguity. But it is from this resemblance that the ideas of necessity, of power and of efficacy, are derived. The ideas, therefore represent not anything that does or can belong to the objects which are constantly conjoined.¹¹

The above argument introduces a very controversial aspect of the theory and the onus was upon the authors to justify this position. This was not unique, Immanuel Kant subscribes to the view because he held that "all combination... is an act of understanding.. when... our understanding is brought to bear upon the given, we are enabled to connect that which as such is wholly unconnected... Combination is a representation which cannot be given through objects. "¹² Hume was influenced by what he calls "matters of fact" which according to him are proved by another matter of fact as opposed to the relation between ideas which can be proved by the mere understanding without being dependent on what is existent elsewhere. He had wanted the relation between cause and effect to be like that between two ideas, accessible by reasoning a priori rather than arising from experience. The Biblical Adam serves as an appropriate

example, that however developed his faculties could have been, he could not tell from the mere observation of the fluidity of water that it could suffocate (drown) him.

Those who argue on the contrary that the effect can be discovered by the operation of reason are confronted with even stronger objections. They can only

fancy that, were we brought on a sudden into this world, we could at first have inferred that one billiard ball could communicate motion to another upon impulse, and that we needed not to have waited for the event in order to pronounce with certainty concerning it. Such is the influence of custom....¹³

The Directors of a comedy movie "The gods must be crazy Part One" appeared to have exploited this psychological phenomenon to excel in fiction. In the relevant scene an apparent confrontation ensued where a European draws his gun and hold the Bushman at gun point. The Bushman in a state of pure ignorance grabs the gun with the barrel away from his assailant leaving him bewildered. If the fiction is bracketed the point is it is anticipated that the audience would burst into laughter because the Bushman's reaction was consistent with his ignorance. Being portrayed as ignorant of European technology, he could not have known

the danger of holding a gun with a barrel, it required not reason but experience. In a humorous statement Hume was adamant that

a man must be very sagacious who could discover by reasoning that crystal is the effect of heat..., without being previously acquainted with the operation of these qualities.¹⁴

By implication from the preceding example, man's fear of a gun is due to his past experience and observation of how deadly the weapon can be. This by implication suggests that anybody in that state of ignorance, would probably have reacted in the same way the Bushman did. The point is that, this does not illustrate something specific and characteristic of that individual or his clan (Bushman) but a logical mental human disposition for anybody in that state of ignorance.

The arguments have shown how cardinal experience is in human development. From experience the mind is enabled to pronounce with certainty that despite being fluid, one can drown in water, that one billiard ball can communicate motion to the second upon impact and that a gun once fired is deadly. However this truth is restricted to those specific objects or events that occurred under the cognisance of the mind. The point in question which finally constitutes the essence of Hume's argument was what is the foundation upon which the inference is made, or why from causes that appear similar we expect similar effects. This is the main

thrust of the argument which grapples with the issue why experience and observation should be allowed to extend and compel man to suppose “that the future will be conformable to the past.”¹⁵ The argument is pushed to the extreme as the opponents cannot seek intellectual asylum in scientific method of experimentation to prove an issue by a multiplicity of recurring instances. Such a method is rejected as begging the question because “... all inference from experiment, suppose as their foundation that the future will resemble the past and that similar powers will be conjoined with similar sensible qualities.”¹⁶ Thus the problem is why one should accept the uniformity principle whose validity has not been established. In concluding his investigation Hume made radical assertions arguing that there was no logic, no process of thought that protects one against the suppositions that the contrary of every matter of fact is possible since it implies no contradiction. Consequently he insisted that

there is nothing in a number of instances, different from every single instance which is supposed to be exactly similar, except only that after a repetition of similar instances the mind is carried by habit, upon the appearance of one event to expect its usual attendant and to believe that it will exist. This connection therefore which we feel in the mind, this customary transition of the imagination from one object to its usual attendant, is the sentiment or impression from which we form the idea of power or necessary connection ...¹⁷

By way of summing up the argument he maintained that:

When we say, therefore that one object is connected with another, we mean only that they have acquired a connection in our thought and gave rise to this inference by which they become proofs of each other's existence...¹⁸

From the foregoing, it will not be a contradiction if tomorrow the sun moves in the opposite direction but it will be a contradiction if there can be a single instance where Pythagorean' rule is contradicted. Thus the general rule governing the direction of the sun is true by experience and observation while Pythagorean' law is true by definition. This is what Hume meant that there is no logic nor process of thought that secures one against the supposition that the future may not resemble the past. The above represent Hume's position on the principle of causality, but because of his denial of the necessary connection, he called it the theory of constant conjunctions.

2.3 A critical appraisal of Hume's theory of constant conjunctions

Hume's theory of constant conjunction is so important that it should not be dismissed off-hand. The observations it makes are to a great extent true but the bone of contention is whether conclusions from these observations are also acceptable. It is clear that whatever the theory intended to put across, the real issue of concern was one of inference from particulars in the past to making future generalisations. It is not positively affirmed here that inductive methods are false but rather their validity have not yet been established. Thus the problem is one "of the validity of the method of reasoning in induction."¹⁹ As issues are developed further, it will be noted that the investigation shifts away from the origin of the idea of necessary connection, as more attention is placed on inference. The belief, the expectation arising from the observed to the unobserved is really the bit that the theory is concerned with. On closer scrutiny it would be found that according to Stroud

Hume believes that all inferences from the observed to the unobserved are founded on the relation of causes and effect, and there is a sense in which he agrees that every event must have a cause, but he thinks that the traditional way of understanding the causal maxim is completely wrong.²⁰

In his objection to Hume's position, John Locke taught that to deny causality would mean that

if anything wanted a cause... it would produce itself, that is exist before it existed which is impossible... Whatever is produced without any cause is produced by nothing or... has nothing for its cause. But nothing can never be a cause, no more than it can be something or equal to two right angles. By the same intuition, that we perceive nothing not to be equal to two right angles, or not to be something, we perceive, that it can never be a cause, and consequently must perceive that every object has a real cause of its existence.²¹

It cannot be denied that Locke was labouring under the illusion that Hume denied the fact of a cause, and that certain objects may exist without a cause. Reacting in self defence, Hume explained that

when we exclude all causes we really do exclude them, and neither suppose nothing nor the object itself to be the cause it follows that upon the exclusion of other causes we must accept of the object itself or of nothing as causes. But it is the very point in question whether everything must have a cause or not.²²

Charles W. Hendel in his introduction to the Enquiries concerning the human understanding and concerning the principles of morals by Hume, identified Beattie as having suffered the same fate of misunderstanding the argument. She is quoted as having stated that

We repeat, therefore, that this axiom is one of the principle of common sense, which every rational mind does and must acknowledge to be true, not because it can be proved but because the law of nature determines us to believe it without proof and to look upon its contrary as perfectly absurd, impossible and inconceivable.²³

However this is the issue that Hume has over and over again raised, that the acceptance of relation of cause and effect is due to the determination of

the mind by nature. It is further acknowledged that following a multiplicity of recurring instances, the opposite of that phenomena is considered impossible "yet Hume would accept, but because of what our mind has become accustomed." ²⁴

The paper argues that the theory errs in its insistence that inference need to be deductively valid to be "good". Stroud's position is very plausible when he argues

A man is reasonable or justified in believing something about the unobserved as long as his past and present experience entitled him to believe it, or make it reasonable for him to believe it than to believe its negation. And he could be reasonable in believing it even though it turned out to be false. ²⁵

The method employed would not work because its demand for reasonability amounts to showing non-deductive inference to be demonstrative inference which it is not. The belief not only that a B will but must follow, is what attention must be paid to. From his earlier distinction between ideas and impressions, the theory is misled as it equates belief with idea except that the belief is more lively and vivacious. A repetition of instances lead to the idea of a necessary connection but that alone adds nothing new to the instance but to the mind. It is from this observation that Hume concluded that "necessity, then is... nothing but an

internal impression of the mind, or a determination. "²⁶ This is equivalent to what Kant had earlier said "all combination... is an act of understanding... Combination is a representation.... "²⁷ A warning here would be appropriate, that these scholars should not be taken literally. They do not mean that causality is operative in nature as a result of what goes on in the mind. Rather the idea of connection comes about because of certain occurrences when our experience exhibits certain features. The problem arises because of the use of psychological term in epistemological language. Even if it is granted as Hume writes that "perhaps will appear in the end, that the necessary connection depends on the inferences, instead of inferences depending on the connection, "²⁸ it does not jeopardise the position of those who oppose him. It is petty and vicious (worthless) argument whether, it is the egg or chicken that is real or whether a glass is half-full or half-empty. An appropriate example to compare the argument with is that which attempts to establish whether the individual is dependent on society or society is dependent on the individual. This question implies that the two statements cannot be simultaneously correct, that one must be wrong, but what is wrong, it is argued here, is the implication itself. Without knowing the perspective, from which the question is asked, it would be difficult to resolve the issue.

It is plausible to argue that ontologically and metaphysically, the individual is autonomous and self-sufficient while society is secondary and has no reality of its own. Socially however, man is dependent, secondary and derivative, while society is primary as it takes precedence over the individual. Even if it were admitted that the individual is dependent on society, it does not usurp or jeopardise his ontological status as a being. It appears however that according to Hume it would be a disaster to discover that the necessary connection was dependent on the inferences. That should not usurp its scientific importance of being cardinal to any research, just as a person's ontological completeness is not reduced in consequence of his entry into the community. Hume's theory has satisfied itself by merely establishing the origin of the idea of belief. Stroud was right that "even if correct, that cannot be the whole story... The whole story should go beyond the theory of ideas into the content of belief. "29 What Hume has omitted was to show the reader what the idea of a necessary connection is an idea of. It is envisaged that more problems and weaknesses would surface in the next chapter as the argument develops further with the introduction of the African dimension of the principle of causality.

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CHAPTER THREE

A COMPARATIVE ANALYSIS OF THE PRINCIPLE OF CAUSALITY

To appreciate the status of the principle of Causality in its African context, it is necessary to understand the African ontology. Such an understanding is urgent in the light of recent attempts by scholars of European orientation to explain it. Whether these were anthropologists, sociologists, theologians and social philosophers, many have succeeded in distorting it. It is therefore essential to save this ontology from these distortions before raising pertinent issues of philosophical concern.

3.1 A distortion of African ontology

Among the literature that is material to this debate, was the "findings" of Father Placide Tempels in his book Bantu Philosophy, John S. Mbiti, in African religions and philosophy, and Evans Pritchard. Placid Tempels would have his readers believe that Europeans hold a static conception of being while Africans hold a dynamic view. Consequently, the Bantu cannot distinguish "being" from its attribute "force". Tempels insist that

"Force" in his thought [Bantu] is a necessary element in "being" and the concept "force" is inseparable from the definition of "being". There is no idea among the Bantu of

"being" divorced from the idea of "force". Without the element of "force", "being" cannot be conceived... force is not for them an adventitious accidental reality. Force is even more than a necessary attribute of beings. Force is the nature of being, force is being, being is force... What has been said above should be accepted as the basis of Bantu ontology.¹

The concluding remarks are more disturbing than the arguments that feed them. To accept as the basis of Bantu philosophy that being is force, force is being is to perpetrate a misconception. To make force synonymous with being or even its nature, amount to envisaging it existing independent of being. Actually, Tempels does come close to saying this when he stated "where we see concrete beings, they see concrete forces". To dismiss this as a category mistake would be an understatement, it is absurd because it deliberately includes forces within the category of the concrete. A mistake may be accepted as genuine but this was part of Tempels' intention to expose the "primitive" logic of the Bantu. He equated force with being so as to lay grounds for what he calls "the hierarchy of forces." The consequence of such an equation was that power and therefore being can be increased or diminished. Paulin Hountondji in his objection observes that

as far as the European is concerned one either possesses human nature or one does not. By acquiring knowledge, by exercising his will, by developing his various ways, man does not become more human. On the contrary when a Bantu

says... "I am becoming strong" or when he says compassionately to a friend who has been struck by misfortune: "Your vital strength is reduced, your life has been eroded" these statements are to be taken literally as implying an essential modification of human nature itself²

Indeed it does not make sense to talk of a person's human nature being increased or diminished. Consistent with the hierarchy of forces is that human beings are placed above the animal, vegetable and mineral forces.

One practice that marks these class distinctions is that

a chief is the class of human show his rank by wearing the skin of a royal animal. The respect of this ranking in life, the care not to place oneself higher than one's legitimate place, the necessity not to approach the higher forces as if they were our equals...³

This, Tempels argues is the key to taboo or totemism. Simple observation of modern conventional structures also shows that Police and Military officers wear silver or gold to mark their ranks above their juniors, that the nobility, diplomats, Presidents have executive powers and therefore have immunity against arrest, thus making it a "taboo" to even attempt to arrest them. The point then is why does a chief wearing a skin to mark his rank be problematic while it is perfectly logical when military officers wear minerals (silver or gold) for the same purpose.

Yet another problem Tempels "finds" is that

African reason half as we do (a critical reasoning associated with the nature of things) and then abandons all reasoning and gives himself up to magic... Magic, which is nothing but an evil practice equally prevalent amongst those who have a more static conception of being and those whose philosophy is dynamic. ⁴

This claim is made by observing the hunting practices, that after constructing the weapon and using them with so much dexterity, the African begin to pray. He actually believes, argues Tempels that it is the spirits that brought the prey into his traps. It must be objected that the techniques of catching animals can be explained adequately without resorting to spirits, ancestors or gods. The fact that he may have prayed or uttered some incantations after setting his trap should not be interpreted as "abandoning all reasoning and giving himself up to magic". Before the traps were laid, lucrative spots which animals frequent are identified thus obeying the scientific laws of probability and statistical chance. It is clear that the word magic is not used to mean an event that can not be explained in terms of clear sequence, rather it is "nothing but an evil practice." ⁵ The problem with Tempels' Bantu Philosophy may not so much be its contents but the purpose of the entire research. African societies were considered primitive, different and lacking in some measure from European thus it was the responsibility of the white man to civilise. This is made abundantly clear from the title of the last chapter "**Bantu Philosophy and**

our Mission to Civilise." It follows that African cultural practices were studied with an already existing prejudice. In Tempels' view they were to conform to Christianity because it was in that religion

alone that the Bantu will find relief for their secular yearning and a complete satisfaction of their deepest aspirations... Christianity in its highest and most spiritual form is the only possible consummation of the Bantu ideal.⁶

This was the prejudice and unfairness that guided the project of Bantu Philosophy. In his dismissal of Tempels' thesis, Paulin Hountondji insists that the whole project is

... a double problematic, that of the "mission to civilise" and the "heightening of soul," neither can be separated from the other. The colonisers "civilise", but only on condition that they re-humanise themselves and recover their soul. The theoretical objective of Bantu Philosophy is entirely contained in this double problematic, which itself finds its meaning solely in the ideological problematic of triumphant imperialism. This one has to accept.⁷

In his crusade Placide Tempels contributed to the distortion of African Ontology. The Tempelsian equation that "being is force, force is being" was upheld by subsequent scholars, such a view was maintained by Hallpike in his book Foundations of Primitive thought. He argues that Primitives, function at the level of pre-operative thought, meaning they think of the properties of things as absolute and inherent. Consequently, so he insists, the

"Primitives" suppose that movement is a manifestation of a force or vitality that is inherent in the moving object, and so easily assumes that this vitality is purposive... Since he treats the resistance offered by an object when he tries to move or lift it as a manifestation of the active power of that object, he therefore regards heaviness, not as we do as passive and inert (a dead weight) but as an active property closely allied to that of strength.⁸

What is unacceptable about Hallpike's technique is that he proceeds from an analogy to an assertion, yet one expects him to know that an example is not a proof of what actually happens or happened. The analogy is wrong, surprisingly he chose the pathology of a child which may be said with justification, is functioning at "pre-operative thought" to compare it with the logic of reasoning among the "primitives". In his comparison he further maintains that the "primitives" like a child being

unfamiliar with explicit comparison and the relativity of relations, the child does not think of the same object A as heavy in relation to another object B, and as simultaneously lighter than a third object C, A is conceived as heavy in an absolute sense....⁹

It is likely that Hallpike at the time he authored his book was aware of Albert Einstein's general theory of relativity. Since African cultural practices were analysed with the theory in mind, it is imperative to give a few examples which will show that though the theory was not developed, its basic and crude assumptions were utilised in everyday life. Amongst the Tswana societies who span oxen using leather ropes, they coated these

with animal fat for storage to prevent them from breaking due to dryness. While it was acknowledged that the ropes were reliably tough for the purpose for which they were intended, the toughness was not absolute rather it depended on their interaction with those who used them. If they were perceived in absolute terms as Hallpike suggests, the practice of coating the leather to enable it last longer would not have been carried out.

Yet another example which refutes Hallpike's observation of absolutism, is the drum. The life span of this instrument does not depend on it being kept away in some place (Museum) but in being utilised at various traditional official functions. Its durability depended on it being beaten, being played, in other words it depended on its interaction with the person who used it. This clearly showed the relative life span of the instrument. In fact it can be argued that the idea of a museum which is a European creation suggests that objects have absolute value. It is assumed that there is something sacred and intriguing in seeing ancient objects locked away from their people. This practice is strongly criticised by Okot P'Bitek who considers these objects meaningless and dead once alienated from the culture into which they were developed and utilised. Their value is relative as it depends on their interaction with those who own them.

The last "observation" which is here considered erroneous is that "primitives" are unable to understand causation because this is "greatly inhibited by the absence of machines. "¹⁰ Their thought is considered to be at pre-mechanistic stage and again like a child, they "cannot construct a series of events proceeding from cause to effect; he always proceeds immediately from one to the other. So, for example, he imagines that the fire in a stationary steam engine turns the wheel by direct influence without regard to the intervening mechanism...."¹¹ The fallacy of this assertion is the assumption that by manufacturing machines man invent concepts, or more specifically the first principle of causality. This principle is intellectual, it can be understood by simple association of ideas. It follows that technology has nothing to do with its origin though it may change its application. If it were true that "primitives" proceed "from cause to effect", then in their mode of production, that is subsistence farming , they would proceed immediately from planting (cause) to harvesting (effect), but they do not. Experience shows that the Bantu, after ploughing their fields wait for the seed to germinate, grow, they must remove weeds for the crops to monopolise the nutrients, birds and other animals must be kept away in the case of sorghum, millet etc. All these demonstrate what Hallpike argues is lacking, that ability to "construct a

series of events proceeding from cause to effect." After this cumbersome process is over, that is when they can enjoy the harvest (effect). They have to participate to bring about a good harvest otherwise other forces (pests, birds, weeds) may intervene and deviate the effect (harvest). It is from such cumbersome activities that the Tswana have a saying "monna o ja mofufutso was phatla ya gagwe" translated as one must live on the sweat from his forehead. There is logic and observance of the laws of causation in the circumstances that gave rise to the saying. To deny them logic or a clear sequence of events, would be to deny them an explanation of such a proverb.

Unfortunately some African academics perpetuate these prejudices. In his book African religions and Philosophy, John Mbiti contends that for Africans

...time is a composition of events which have occurred those which are taking place now and those which are immediately to occur. What has not taken place or what has no likelihood of an immediate occurrence falls in the category of "no-time".¹²

The consequence of this, Mbiti argues is that in traditional Africa

Time is a two-dimensional phenomenon, with a long past, a present and virtually no future. The linear concept of time in Western thought, with an indefinite past, present and infinite future, is practically foreign to African thinking. The future is virtually absent because events which lie in it have not

taken place, they have not been realised and cannot, therefore constitute time.¹³

The problem in Mbiti's importunity that traditional African conception of time is different from the western view of time is the assumption that the west is agreed on the definition of time. There are disputes among western scholars over the meaning of time and it would be unfair to give a blanket treatment of a concept that is clearly controversial. Husserl for example held the view that "as soon as we make the attempt to account for time-consciousness, to put objective-time and subjective time-consciousness into the right relation... we are involved in the most extraordinary difficulties, contradictions and entanglements...."¹⁴ While St. Augustine said "if nobody asks me what time it is, I know but if I am asked to explain it, I don't know."¹⁵ It must be rejected outright Mbiti's contention about Africans not having the future concept of time. Part of the explanation is that he confuses events in time with time. That events in the future have not occurred and so they (Africans) do not know how to think about them, simply mean to them such events are irrelevant. However, irrelevance does not confer upon time the absence of the future. Events mark and do not make time.

This research conducted among the Tswana (Bantu) of Botswana, reveals that their language is rich in proverbs which have a future orientation of time. A few of these proverbs include the saying "O se tshege yo o oleng mareledi a sale pele", translated as "do not laugh at one who fell for the road ahead is still slippery". Yet another say "Khumo matlhare e a tlhotlhorega" literally meaning "riches like leaves, withers". Many more proverbs may be given but these two should suffice otherwise the study may assume the appearance of linguistic anthropology. Mbiti cannot therefore hope to make sense when he writes "those who are seen sitting down, are actually not wasting time, but either waiting for time or in the process of "producing time. "¹⁶ Whatever Mbiti meant by "producing", the statement maintains its logical absurdity as it gives the impression that at the "moment" of waiting there is no time or the event is not in time, time only arises when the event he is waiting for actualises. This arises from the confusion mentioned earlier about events in time and time. However critical Mbiti may have been, he was unphilosophical for he does appear to be observant of the rules of logic, more specifically the principle of sufficient or necessary condition. Consequently he was misled by two things: the Christian doctrine of eschatology and the linguistic structure of the Akamba people. His research among the Akamba in Kenya show that

there is nothing that resembles the eschaton - the Christian view that the world would come to an end in the future. It is admitted that the Bantu may not have the idea of the future that is similar to christian eschatology. From his observation, Mbiti "draws the wrong conclusions from this about the nature of Bantu time "¹⁷ argues Francis Gillies. This criticism is not rigorous enough, it should be added that in fact the Akamba or any other community does not need to have a christian eschatological view of the future for them to qualify as having a future time - consciousness. Such is both irrelevant and its not a necessary condition at all. Once again the same cultural prejudice is being committed, the prejudice of studying African traditions from a Christian perspective and anything that is not consistent with it, is dismissed as African as opposed to western thought.

The linguistic structure of the Akamba was another aspect that misled Mbiti. The Akamba language it is argued does not have a verb tense for the long future meaning "something happening beyond two years from now apart from the tense describing the near future."¹⁸ If it were accepted as a logical truth that the absence of a verb tense describing a long future meant the Akamba had no concept of the future, then they will not have plans for the future, such as preparing their fields, planting seeds, storing the harvest to provide for the family during hard times. African societies

in their traditional establishment may not have had a detailed systematisation of the future but that was commensurate with their lifestyle. The detailed planning for the future even in Western thought, was part and parcel of the transformation of society, the effect of technology, but planning in itself has always been there. Even modern Governments design five-years development plan and not ten, as economists would argue that ten years is too long to focus and therefore make meaningful plans for. The unpopular then Russian leader Joseph Stalin launched a ten-year development plan, but an evaluation of the plan showed it had such disastrous consequences it had to be dropped forthwith. What Mbiti wants his readers to accept as the difference between African and Western thought of the concept Francis Gillies rightly argues is "only a difference of degree. The time span is irrelevant."¹⁹

The last argument Mbiti raises which is considered not only wrong but trivial for the purposes of this study is that "... in Western or technological society... time... is a commodity which must be utilised, sold and bought."²⁰ By implication in traditional society time is not sold or bought. It ought to be noted that this usage of time is of a different meaning. What is actually being sold or bought is not time, but "human labour (praxis)

and commodities (the continuation of praxis), and this certainly is part of traditional African society just as much as it is part of western society even though the economic structures are totally different."²¹. It is events that facilitate the quantification of time in order to attach value to it, otherwise time in its ontological sense cannot be sold or bought.

The distortion of African ontology can also be found among the ethnographic school. Robin Horton who conducted a study in Nigeria expressed the view that traditional African thought was mystical while Western thought was scientific. In traditional thought we are told "there are gods and spirits while in the west there are atoms, molecules and waves as the basic elements of understanding and explaining reality."²²

That reality could be explained in terms of waves as Horton wrote, was the influence of classical (Newtonian - Cartesian) science which imposed sharp distinctions between particles - waves, mind-matter, space-time. However, latest developments in science as crusaded by quantum theory opt for a wave - particle duality because at some stage it is a wave and a particle at another stage. Even more important is that quantum theory raises an alarm when it warns that these concepts should not be treated literally because they were defined in conformity with the assumptions of classical science and who knows, it may be what others call spirits. It may

not be reading too much into texts to say that the above is consistent with what Henry Adams meant when he said "truth, indeed, may not exist... The architects of the twelfth and thirteenth centuries took the church and the universe for truths, and tried to express them in a structure which should be final."²³ While Niels Bohr warned that "it is wrong to think that the task of Physics is, to find out how nature is. Physics concerns what we can say about nature."²⁴ Yet Italo Calvino advised that "the more enlightened our houses are, the more their walls ooze ghosts."²⁵ The constraining factors inherent in science as the only way of explaining reality must be acknowledged, such was a dogmatic as opposed to the modern but progressive science. In the face of mounting criticism for his view that spirits and gods are essential features of traditional thought, while atoms, molecules and waves, that is theoretical entities were essentially scientific and western, Horton changed his position. He no longer insisted that these were peculiar and static qualities of the two modes of thought but rather a phase of development of every thought process be it African or western. A more critical assessment should show that this was both academic and strategic retreat to avoid an appearance of dogmatism. What changed is the form but the substance is the same, he has not changed his mind that traditional African thought is mystic and

pre-scientific and on these grounds his revised conclusions must be rejected.

It was absolutely essential to expose a number of distortions of African ontology as this would have a serious bearing on the study. An understanding of African thought was imperative to know whether the attributes of things are absolute or relative and whether indeed such a distinction between things (objects) and their qualities was observed. The concept of time is of paramount importance to the debate concerning the principle of causality. It has been necessary to rebuff Mbiti's claims about the Bantu because unless the status of these concepts is established, it would be an amorphous task to defend the hypothesis advanced in the study.

3.2 Hume and African conception of the Principle of causality: An inconsistency

In the preceding Chapter it would be noted that David Hume denied the existence of the necessary connection between cause and effect. More specifically, he insisted that there was no justification in the inference from specific and particular instances/events in the past to making future generalisations. Hume admits that where two objects are involved, the one we call cause the other effect, all that can be said with certainty is "contiguity" and "succession". The objects are conjoined but not connected, thus all that is known is the sequence but not consequence. The concluding assertion is that the idea of a necessary connection was a habit, in his words it was a "... customary transition of the imagination...",²⁶ which was endorsed by Immanuel Kant that "all combination... is an act of understanding... We are enabled to connect that which as such is wholly unconnected...."²⁷ The present study protracts the debate by arguing that if Hume's view was admitted, it heralds an inconsistency with the African conception of the principle of causality. The ensuing arguments attempts to show that the African conception of the principle of causality is opposed to Hume's view. At the same time evidence will be produced from research findings as well as documented

sources to justify the belief that the connection between cause and effect exist.

In African traditional thought, the principle of causation is not held to be in dispute at basic level. It is readily accepted that the wild down pours caused the flooding of the river, or that the invasion by locust caused the poor harvest. The events are explained as part of the given regime of nature. While critics may ignore such explanations as pure common sense, but that is precisely what the principle of causality is about, it "begins as a hybrid between common-sense and intellectualism."²⁸ Causality however, becomes disputed when dealing with events that are considered "traumatic" in Gyekye's view, "... their attention [Africans] is to explain those they regard as "extraordinary" or "contingent" occurrences that are held to fall outside the course of nature."²⁹ Such occurrences violate their ontological perspective and are extremely difficult to explain in terms of conventional material science. An example of an extraordinary event, would be a tree falling on a man and killing him. What is surprising is neither the falling of the tree nor dying, both are accepted but the question is why did a tree fall at that particular material time and trap that individual? African perception demand more, the effect cannot be made intelligible merely by the cause (tree), instead a distant cause that must

have brought about the falling of the tree is assumed. It is in these cases that the principle of causality becomes disputed.

Among the Tswana there is preponderant belief in forces, powers or capacities that lie beyond the human faculties yet in one way or another connected with the living. Such capacities may be harnessed by experts or they may interfere (intervene) and alter the course of events in the world. Such a belief has given society a certain orientation, emphasis is on the society rather than the individual. The dead are not just some unconnected departed individuals instead they have attained a different status. The Tswana traditional society therefore can legitimately be classified as part or typical of what Ross Webber called an apollonian society. In such a culture it is argued that

... Security and friendship relations are based upon equality and all people engage in mutual efforts to help one another... The apollonian culture would distrust the individual who attempts to satisfy egoistic drives for prestige or power.³⁰

The meaning of life is to be found by living in the community, in realising and acknowledging that everybody has obligations and commitments to one another. Society is therefore not a mathematical aggregate of the individuals who make it but the relatedness that gives rise to the spirit/feeling of identity. This should not be taken to the extreme as

nowhere is it suggested that one's entry into the social contract means a loss of individuality. To this end, Kwame Gyekye teaches that

Ontologically then, the individual person must be self-complete in terms of his essence. For it requires nothing but itself in order to exist... If this is so it cannot be the case that the reality of the person is derivative and posterior to that of the community... In the social context the individual person is not complete... Just as the community does not have a life of its own ontologically, so has the individual person no life of his socially... Socially, then, he remains incomplete.³¹

The subsumation of the individual into the community enjoys the support of many scholars who believe that Africans consider themselves to be involved in the predicament of others. When writing about the Tswana Kenneth Koma in an article entitled "Pamphlet No.1: The official organ of the Botswana National Front" he expressed the view that

... Society regarded all the good things of the earth as belonging to the people, as belonging to society, as communal, labour was communal and so was land and the fruits thereof went to the people. The soil which entombs the bodies of our ancestors was the communal property of the living and the dead. Our old African Society abhorred individualism. All the people in the community were interdependent and the survival of the whole community was a condition for the survival of the separate members of the community. It is the traditional African relationship between the community and the individual which the national democratic education must nourish and instil into the minds of the youth.³²

The symbiotic relationship between the individual and the community, the dead and other capacities beyond the human, constitute a legitimate

African "weltanschauung". In other words, the entire arrangement of the cosmos was itself a mystery, and not a consequence of pure chance/accident. Such a "Weltanschauung" paved the way for certain capacities that may be causal agents of particular occurrences. The research findings produces evidence of occurrences that deserve philosophical attention. One such event involving a reliable informant took place in the 1940s. The incident took place in Mmadinare, a village in the central district of Botswana. A man called Zemane was bitten by a poisonous snake and since there were no hospitals at the time, a messenger Sekane Modise was sent to the cattlepost of Mhatane to call a traditional doctor. The said traditional doctor's name Rakwathao Chakalisa was about forty kilometres away, but this was even compounded by the poor transportation services at the time. It was reported to the researcher by the messenger Sekane Modise who was still alive at the time of the research that the traditional doctor Chakalisa consulted his apparatus [bones] which revealed that the victim's situation was very critical. Since it was almost impossible to make it to the village to save Zemane, some mixture was prepared and administered to the messenger Sekane to drink. Shortly after the administration of the mixture, Sekane began to vomit and at around the same time the victim Zemane also vomited thus being saved the poisonous

effect of the snake. The traditional doctor consulted his apparatus [bones] which indicated that the exercise went on as scheduled and Sekane was sent back who confirmed that the victim Zemane was recovering steadily. Unfortunately Chakalisa and Zemane were dead at the time of the research and so they could not corroborate the information. However other people were there who knew of the incident and one such informant was Mokudinyana Obuseng aged eighty-four years. What was striking was the confidence of the traditional doctor Chakalisa who believed his apparatus [bones] that he did not bother to go to the village to confirm that the victim was recovering but instead sent back the messenger. This is more than a question of mere fact but actually a justification of belief, the belief that the exercise was successful, the expectation not only that B will but must follow A.

According to Hume there was a clear case of sequence of events but it would be difficult to sustain his greater thesis that the events were merely sequential and not consequential. Hume in some way may agree that such a specific incident, that particular event, was caused but would reject the supposition, and African conception may not disagree, that the same would always happen in future. Such a generalisation would amount to making the principle of causality universally valid at all time, but whatever

the truth of the matter such a dimension was pedantic and of no ultimate concern in African metaphysics. The African view would have satisfied itself with the conviction that the relevant incident involved a connection between cause and effect. In other words all options for the future would be left open, it may not work in future, thus reality was a product of both order and chaos, hence the need to harness capacities.

Yet another example of the African conception of the principle of causality was over the origin of the duiker as the totem of the Ngwato tribe, whether as an event it involved a cause or it was an accident. Before the Ngwato were an independent tribe they were part of the Kwena tribe under chief Sechele 1829 - 1892. His brother Ngwato proved not only ambitious but to have secessionist tendencies, hence the need to contain him. The reason Sechele wanted to keep Ngwato and his followers under control was explained by the missionary John Mackenzie, as his (Sechele) "life long endeavour, to secure some of the treasures of ivory and ostrich feathers and furs which are brought from extensive [Ngwato] hunting grounds."³³

Ngwato eventually seceded from the Kwena of Sechele who dispatched an army after him, and it is that incident which is of philosophical relevance to the study. What exactly took place is recorded by Patrick Mgadla in his

to the study. What exactly took place is recorded by Patrick Mgadla in his unpublished PhD thesis entitled "Missionary and Colonial education among the Bangwato: 1862 - 1948". Mgadla writes

tradition hold that Ngwato the leader hid in a thicket. When Bakwena came to the scene they disturbed a duiker which sprung from a clump of bushes adjacent to Ngwato's hiding place throwing Bakwena off Ngwato's trail. The duiker thus saved Ngwato from being killed by the Bakwena. After this the Bangwato assumed a new totem of Phuthi (Duike).³⁴

This incident is well documented and its historicity well supported thus it is not another traditional folk story. It is further documented in an article by G. S. Nettleton titled "The Bangwato" in Isaac Schapera, Traditional histories of the natives tribes of Bechuanaland protectorate. p64, David Livingstone also recorded it in his book Missionary travels and researches in South Africa p 15 and so did John Mackenzie Ten years North of the Orange river p 363.

In line with classical philosophy, such an event would have been regarded as a coincidence and consequently not compelling to be given the attention it has hitherto received. The emphasis in classical philosophy is that the two events, the presence of the duiker and the subsequent escape of Ngwato are parallel and not related, but the fact that one changed the course of events for the other one is pure accident. What is of concern for

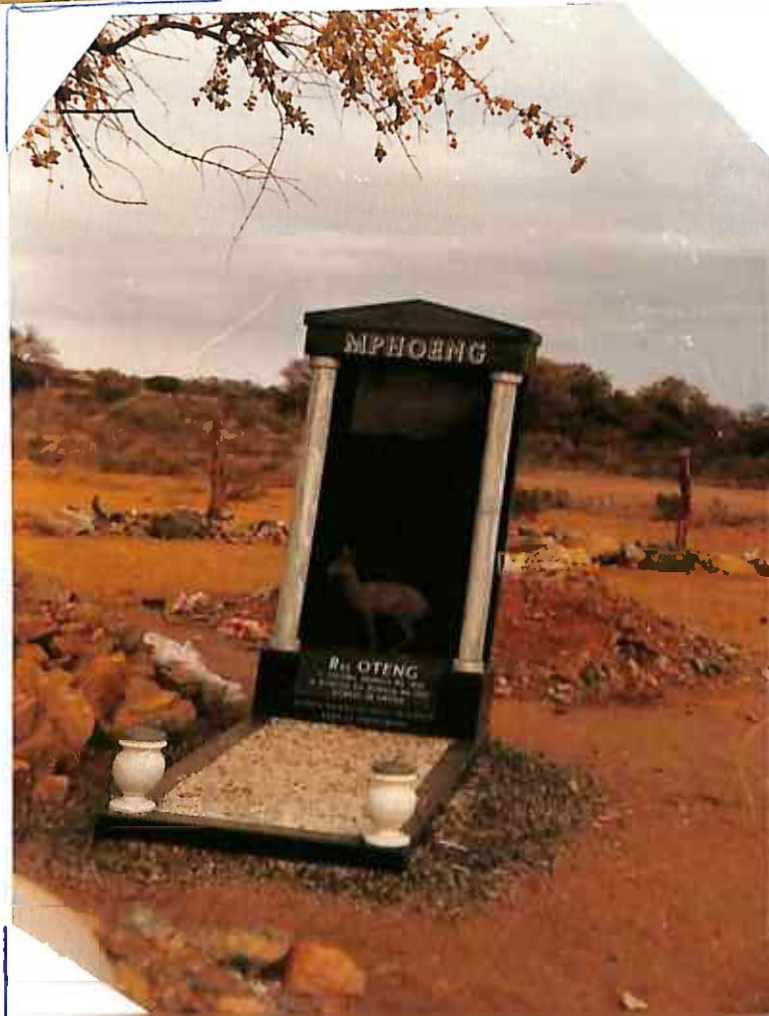
this study is that of the elders interviewed 40 out of 50 constituting 80% of the informants, insist that the presence of the duiker was a causal intervention by the powers beyond the human to enable Ngwato to escape. One informant drove his point home when he indicated during the interview that "we are aware that this is folly to the "educated" but that explains why you miss a lot of what is happening."³⁵ Others when confronted with the idea of accident/coincidence, asked why the duiker did not flee the relevant spot much earlier, while others argue that it could have chosen to remain in hiding thus making Ngwato susceptible to being found by his assailants. What is material through and through is that the animal leapt at the time the hiding place was about to be searched. The convergence of events is held to be related and not isolated episodes. The subsequent reaction of the Bangwato reinforce this observation. The duiker has not only become their totem even to this day but that it constitutes their identity. The dead, the living and posterity are all bound together by a single identity, the duiker which shows how deeply entrenched that historical event is in the comprehension of the people. The photographs in the next page show two graves of Bangwato chiefs about 200 kilometres apart yet both bearing the shared symbol of identity, the duiker.

Graves bearing the totem (identity) of a people.



**Paramount Chief
Khama 1835 - 1923
Serowe Village**

**Chief Oteng
MPHOENG
(1889 - 1969)
Mmadinare Village**



What the Bangwato incident of the duiker point to is the status of such concepts as chance, luck, randomness, possibility, probability and coincidence in a collective perception. The incident raises the question asked by Hallpike that can they (Africans) "... recognise the possibility of an apparently significant event being produced by chance...?"³⁶ It is clear that it is context that plays a pivotal role in determining whether events are regarded as the manifestation of hidden causes or as of no interest. Piaget is probably right that traditional societies

could not understand the possibility of an accidental confluence of forces producing apparently significant responses or effects... For if... significance is bestowed on events, then our objection that it may be due to chance will not be meaningful to the primitive. There is, in other words, a notion of "insignificant accident," but not of "significant accident."³⁷

Thus for Bangwato this could not have been a "significant accident".

The names parents give to their children also demonstrate the status of concepts such as randomness and causally structured events. In the family of Kgololo Motshwaedi the first four children were girls and the fifth and last born was a boy who was then called "Kaboketla" translated as "then I came". According to biological law of probability there are 50% chance of a child born being a boy, or a girl and therefore the fact that a boy was finally born after four girls was a product of random chance. The name

however, "then I came" implies intentionally, that the coming was preceded by the decision or desire to come, in which case it was not due to random chance as would be held scientifically. Yet another child was called Mphoyame translated "my gift", because the child was an albino. Available knowledge teaches that when two recessive genes merge the child would be an albino however remote such chances may be. The name "Gift" ignores such chances and implies instead that the event was intended since there can be no gift without a giver (cause).

Scholars who share Hume's view that causality was an act of the understanding, dismiss certain phenomenon as psychological and lacking objective existence. Evans Pritchard argues that

an act of witchcraft is a psychic act... Witchcraft is an imaginary offence because it is impossible. A witch cannot do what he is supposed to do and has in fact no real existence³⁸

This was buttressed by Meek who authoritatively asserts that "witches and witchcraft is a purely imaginary crime."³⁹ To deny the existence of witchcraft would render it difficult to explain what John Mbiti has documented of people suspected of practising witchcraft in certain parts of Kenya being attacked and killed by members of the public. Equally worth mentioning is that modern African Governments when they assumed

office, banned witchcraft thus without being aware such Governments have in fact officially acknowledge its existence and potency. While it is not the aim of this study to defend the status of witchcraft in its narrow sense, it however maintains that witchcraft in so far as it is part of the powers/capacities that lie beyond the human, exist and can be an agency of change or is perceived as such.

The practice by Africans to manipulate certain herbs, powers or forces for purposes of healing or protection have been considered a failed or false science. In the process of manipulating such powers, there was a break down in the sequence of events hence the practice is said to be magical, more specifically the practice is called an art and not a science. A British social anthropologist Bronislaw Malinowski argue that "all cultural behaviour was "functional" i.e. directed toward the goal of satisfying physical needs... Magic had a definite practical purpose...."⁴⁰ Felicitas Goodman share the view as she observes that "in fact Malinowski was the one who nearly pointed out that non-western societies had "true" science, or else how could they have survived?"⁴¹ The causal potency of traditional medicine was expressed by Omasade Awolalu in Yoruba beliefs and sacrificial rites where he stressed that

medicine as conceived by the Yoruba is believed to have something extra a mysterious power which can cure or prevent ailments but in some cases could be used to do harm to an enemy... Victims of witchcraft are real... We must get away from the psychologist's fallacy of thinking that simply because a particular person has not experienced something, that something must necessarily be unreal and untrue.⁴²

There is evidence provided by anthropologists who have reported of certain phenomena that could not be explained by material science. Margaret Field in her research in Ghana collected confessions from witches. In one of these puzzling confession Field reports that

a woman confessed that she had taken away another woman's uterus and had buried it under a tree... The woman... asked the witch doctor to go and dig a particular area, and when this was done, something like a small parcel tied round and round with red and black thread was recovered. And when the woman took it and loosed it ceremonially, the other woman soon afterwards experienced the joy of childbirth.⁴³

Another example which was originally reported as part of the proceedings of an international conference in London on "parapsychology and anthropology" by Boshier, is recorded in Hallpike, Foundations of Primitive thought. Boshier brought a traditional doctor Ndlaleni to the museum to test her, and he says

Leaving her in my office with the other witch-doctor and Miss Costello I went to a neighbouring building and took out the skin of a gemsbok. This I hid beneath the canvas sail on the back of my Land Rover. I then called her outside and told her, I had hidden something which she must find. With the aid of the other witch-doctor she knelt down and began to sing softly. Then in trance state, she informed me that I had

hidden something on the other side of the building, over there, she told me it had more than one colour, that it came from an animal that it was raised from the ground. Suddenly she got up ran round the building, out into the front where the Land Rover stood and knelt down beside the Land Rover. Again she began singing softly and within five minutes of this she tore off one of her necklaces and holding it in front of her like a divining rod, she walked around the Land Rover, climbed onto the back, and took out the skin.⁴⁴

While an empiricist such as Hume may argue that Margaret Field's finding involving witches in Ghana is not self-contained and therefore conclusive it would be difficult to dismiss Boshier's case of testing a traditional doctor. It is argued here that these few cases demonstrate how cardinal the principle of causality is in African metaphysics and that if it was psychological as Hume would have us believe all these striking incidents could not have occurred, or have been explained.

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CHAPTER FOUR

CONCLUSION

The principle of causality is one of the philosophical problems that are yet to be resolved. The problem arises as the inquiry seeks to establish whether the cause and effect have a meeting point or simultaneous or whether the effect is already implied or contained in the cause and so, as Hume had done, can the effect be determined by the mere analysis of the cause. Plato argued that the primary cause of things was in the ideas. To understand for example why the body has an eye, it was not because stimulus should strike the retina (how), but to enable man to partake of reality (why). Man enjoys sight that is accompanied with cognition, hence to "find reality you would do better to shut your eyes and think."¹ While Plato has implied the forces that lie hidden as having causal efficacy, the problem was he divorced reality from things leaving them passive. This explains why Aristotle was opposed to making ideas alone the agent of change. He demonstrates that through his four causes, none of them was individually sufficient and complete, the agent of change was to be found in the process involving all causes. It is plausible to argue that

Platonism is mysticism, Aristotelianism is common sense... Science is Platonic in inspiration yet it is more commonly associated in our minds with the idea of common-sense... But I believe the Platonic roots of science points to a deeper truth.²

Translated into African tradition, Platonism and Aristotelianism demonstrate that man and nature are just important players in the process of change just as the spirits and God are but there is an even deeper sphere that man has not yet fully exploited. The co-operation between man and those capacities beyond the human was where the process of change laid. Classical philosophy was part of the culture of the enlightenment which broke free from the constraints of orthodoxy. The enlightenment was specifically a departure from christian orthodoxy which considered itself a representation of the truth while God was the underlying causal principle of all that was. Christianity decreed that anything opposed to these doctrines was heresy. Classical science which also became influential, regarded itself as an embodiment of knowledge and the path to the truth. Such a science showed the same dictatorial tendencies as did Christianity as it insisted that objective observation and reason were the only valid methods of arriving at the truth, anything beyond that was either mystical or magical. It is a human tragedy that words have been colonised by classical science, objectivity often means that which conforms to scientific methods, while mysticism was unscientific by definition. Francis Bacon

even thought that the advancement of scientific knowledge would restore man's divine position over creation where he was before "the fall".

Cartesian physics incorporated God so as to provide the original motion, otherwise motion was held constant since matter was passive. Descartes errs in dividing reality into mind and matter, in the case of the human physiology, the mind and body meet in the pineal gland. It does not make sense to talk of the cause and effect having some meeting point, the two are not completely independent of each other. His predecessor Newton while restricting his physics to bodies that were in contact, erred in assuming absolute space and time, cause and effect. The theory of general relativity exposed flaws in Cartesian - Newtonian physics, as it argues that reality cannot be explained in terms of atoms, particles and molecules. It shows that once objects are in random motion, the situation is much more complex for such explanations to be sustained. Einstein opted to talk of a space-time unity, that there was a mathematical formula that describe the pattern of events. However revolutionary the findings of relativity were, Einstein himself remained conservative as he refused to accept that the universe was governed by chance. Hume was part of the great tradition of classical science who accepted that the objective, was that which had a

laboratory orientation of proof. He set out to demonstrate that the effect was already contained or present in the cause but when his analyses proved this wrong, he erroneously concluded that causality was a habit and psychological. His extreme empiricism made him oblivious of the simple fact that causality as a concept was an intellectual exercise and cannot be given to sensation. African metaphysics holds the principle to be real and the many examples ranging from totems, witchcraft, gods and names given to children was an attempt to demonstrate this. A causal agent is implied in all these practices, otherwise the whole body of knowledge that they (Africans) have, would be in utter disarray and meaningless.

African metaphysics is not opposed to science in principle, it however rejects its determinism, the claim that the future is fixed. That was suggested by Bryan Appleyard when he advised that

we may wish to say prayers to make our crops grow but we know that fertilisers work better; We may wish to protect isolated cultures from the inroads of technology, but we know that antibiotics will stop our children dying; We may wish to walk to America, but we know we must fly.³

Such a view would be devastating, if it implies that tradition is unscientific. Antibiotics would perform the same function that numerous traditional or natural herbs have been used to heal illness. Herbs are just

as scientific in function as are Appleyard's antibiotics. It is common knowledge that kraal manure is an excellent fertiliser with negligible environmental hazards compared to Appleyard's 2:3:2(22) 5% Zn and other similar synthetic products. The certainties of classical science have been challenged by quantum theory and what is at stake was its "truth". It is interesting to note that scientists have now agreed to "remove the idea of truth from science completely and replace it with the concept the viable or acceptance."⁴ At this stage we reject Tempels idea that one characteristic feature of Bantu thought was the vital force, while Mbiti contends that Africans are notoriously religious. These views are unacceptable as they portray African metaphysics as devoid of any objectivity. What must be admitted is that the African techniques of manipulating powers beyond the human, do not follow the strict sequence of events as science may require, hence it is considered magical or mystical. The case of Zemané who was beaten by a snake and the manner in which he was healed, was an outstanding example of remote control which has just been discovered by quantum theory. The new science has shown that

radiation occurs because of the emission of particles. Statistically we may know with immense precision how many particles will be emitted in a given time. But, at the quantum level, it transpires that we can know almost nothing... but consider the implications. What quantum theory is saying is that, however detailed our observations, we cannot ever know

which particle will be emitted next. This means that we cannot discover a cause for the emission. Quantum theory appears to show that there is a limit to causality.⁵

These findings are encouraging to continue the work of inquiring, but for this study as some scholars accept, it has "found God in the quantum."⁶ God here should not be understood as the supreme individual but rather as an embodiment or representation of all metaphysical capacities. The confidence of classical science has been eroded as its claims are brought before a jury thus making its claims "subjudice" (tentative). African metaphysics handles the future with no guarantees and it is this aspect which Bryan Appleyard missed when he said they "say prayers to make their crops grow, but we know that fertilisers work better..." Such misconception was also observed by Kwame Gyekye that "here one sees something that anthropologists and other writers on Akan religion failed to see, namely, the influence of a metaphysical system on the religious perspective or behaviour of a people."⁷ The African view does not lay down strict division between the secular (scientific) and the mystical, instead the very existence of all that is observed, exhumes the mystical reality. The problem arising from Hume's denial of the principle of causality is that it would arrest development by restricting the truth to the "objective". It is legitimate in the light of these radical discoveries to ask,

who said that reality (truth) is only constituted by the objective, who impose this notion? Many would agree that it was classical science, the very discipline in question. Quantum theory has paved a way for democracy and there is room for other perspectives. As long as the quantum equation that $\Delta p \times \Delta q \geq h/4\pi$ is valid, it means that the result of our inquiry range between Max Planck's constant and the infinite. Since such a range is indeterminable, the claim by African traditions that gods, spirits, witchcraft have a causal efficacy, is not logically absurd. Indeed, it is appropriate to ask as did Bryan Appleyard that

with what confidence can we cling to any contemporary certainties about the possible and the impossible? The old rigidity of classical science was being replaced by something even more terrifying.⁸

It may well not be an exaggeration that the terrifying phenomena include the elements: spirits, ancestors, gods, God as agents of change. As much as quantum theory advises against a literal understanding of its concepts space, time, atoms, waves and particles, it may well be intelligible not to consider the elements mentioned in African metaphysics literally. The tragedy of this aspect of causality, is that it is decreed evil, magical and illegal even by African intellectuals. The sense of emptiness, the failure to satisfy many Africans has been expressed by the emergence of secessionist

movements, the so called African independent churches. These have blended the basic christian doctrines with their traditions such as the drum, spirit possession/obsession and the ululating in the case of the Ethiopian orthodox church. The refusal by Africans to let-go the ideas of metaphysical powers is still evident. In a case held in the high court of the Republic of Kenya between December 1986 and May 1987 to determine where Mr. S. M. Otieno was to be buried, Professor Odera Oruka when asked by Lawyer Khaminwa whether he believed there were spirits, he responded

I am still looking for reason why I should not believe in spirits. Perhaps it would be a service to scholarship and law if you could provide me with a reason.⁹

Interestingly the African intellectual who publicly disassociated himself from these beliefs, visit the traditional doctor (Inyanga) at night for various forms of assistance. It is not necessary to wait for quantum mechanics to bless these practices for them to be recognised. The practices have survived and sustained societies even before the era of science and the basic contention is that they have a causal efficacy.

The paper has concerned itself with Hume's position as regard the principle of causality. His contention that it is a detour on the road to

proceed from present particular instances to future generalisation is valid. It must be admitted that the argument introduces a vital controversy that the scientific method of induction has not been established to the present. Hume's logic cautions that there can be no guarantee that the future will be conformable to the present. The problem arises not from the caution but the conclusion arising from the inclusiveness of the relationship between the present and the future that there is therefore no connection between cause and effect. This view is contradicted by experimental science that the law of causality is cardinal to any scientific inquiry, cause and effect are held to be linked necessarily. To that extent the paper has the support of classical science in rejecting Hume's position but it goes further and dissociates itself from the scientific de Laplacean deterministic view of causality. The African understanding of the principle of causality, holds the causal efficacy to exist but not in a deterministic way. The idea of predicting what the future will be like given the present is not a position that African view is committed to. It is in this regard that while lessons are learnt from the past and present they may be general guidelines about the future but not certainties or guarantee. The realm of the future is harnessed and approached with extreme caution, hence the Tswana say "Ompotse tsa kwa ke tswang tsa kwa ke yang ga ke di itse", meaning that the

wise men were prepared to answer question about the past with certainty but the same cannot be said about the future. This view is supported by quantum mechanics' notion of indeterminacy which make reality to be both order and chaos. At this stage there is a drift from the polarisation of rigid classical logic that either it is A or not A to quantum logic which accept a third alternative a probability of both. Consistent with quantum logic, the third alternative seem to have both aspects of two different sides. If this logic was applied to ethics, it would not commit itself to the divergent theories of free- will or determinism. Hume's denial of causation would imply that we are governed by the law of chance. However this is not sufficient to explain the applicability of the principle of causality in African traditions. The African inquiry is about a higher cause, events especially extraordinary or traumatic (significant) are suspected to be purposive, that is directed by intelligence. The paper has endeavoured to show that the African "Weltanschauung" clearly subscribes to a causal relationship between events. To accept Hume's position on causation would ruin the entire African foundation of knowledge.

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APPENDIX A

QUESTIONNAIRE

1. What is the traditional understanding of existence?
2. Do the dead, ancestors or spirits play any role in the lives of the living? If so, what role?
3. What is offering libation and to whom is the offering made?
4. When or under what circumstances would communities make such offerings?
5. Would a bad experience e.g. persistent infants death urge a community to make offering or sacrifices or rituals?
6. If yes, would communities make similar offerings or rituals in anticipation of some disaster?
7. How would the ancestors, dead or spirit, influence the lives or the living, if they can? Any known examples?
8. Do you believe in pure accident or chance or luck?
9. How would you differentiate accident from a preconceived event?
10. How do you understand and interpret extraordinary occurrences?
11. What occurrences would you consider extraordinary.
12. Does a curse have any effect? If yes How?
13. Does the effect have to be seen within a reasonable time or it may take many years to occur.
14. Should myths, taboos, stories etc. be maintained or disregarded?
15. What is the basis for the origin of these myths, taboos, stories etc.

16. Why did Bangwato change their totem from a crocodile to a duiker?
 17. How do you interpret the convergence of these two events, the presence of a duiker in a thicket and Chief Ngwato's escape?
 18. To what extent does the duiker as a totem constitute a bond among Bangwato?
 19. Is this bond limited to the living and not the departed and posterity?
 20. If it extend to the departed and posterity, what evidence is there that suggest this?
 21. What is the difference between a traditional doctor and a witch-doctor?
 22. Do they have any causal efficacy that can be an agent of change?
 23. Can traditional doctors or anyone else see into the future?
 24. What is your view about our modern legal system which does not recognise witchcraft as an offence because it is not considered as having any causal power?
 25. Hume argues that things/events are conjoined but not connected. What is your position?
 26. What would be the implications of subscribing or rejecting Hume's view.
 27. Do you think there is a limit to causality? If so how or why?
- N.B. These are some of the major questions to be asked but depending of the nature of the answer, the conversation would raise more questions.