 J Hum Ecol, 29(1): 23-31 (2010)

The African Metaphysical Worldview and Its Prostrate Condition of Backwardness

Preye K. Inokoba, Adeyemi-Suenu Adebowale* and Johnnie Perepreghabofa D**

Department of Political Science, Niger Delta University, P.M.B. 071, Wilberforce Island, 560001, Bayelsa State, Nigeria
E-mail:talk2preye1@yahoo.com
****Department of History and International Diplomacy, Lagos State University, Lagos, Nigeria***
E-mail:Blackman_wale@usa.com
*****Department of Political Science, Niger Delta University, Wilberforce Island, Bayelsa State, Nigeria***
E-mail:johnniepere@yahoo.com

KEYWORDS Worldview. Scientific Culture. Backwardness. Society

ABSTRACT The prevailing worldview of any society is the fundamental determinant of how meaningfully the society will relate with itself and its environment. No society can advance beyond the limits of the dominant perception of social reality. It is within this context that the African predicament of backwardness was investigated. It is argued that Africa's metaphysical worldview is the *cul-de-sac* preventing the continent from embracing innovation and change. The paper concluded that it will take a revolutionary, aggressive and innovative science bias education policy for African to effectively confront the menace of ignorance and backwardness.

1. INTRODUCTION

Science as an endeavor and phenomenon is not conceived and operated in a cultural and environmental vacuum. It is a social phenomenon it is greatly influenced by the prevailing cultural traits and worldview of a people such as their social values, priorities, ideas, skills ethics, perception of social reality and belief systems. Basically, it is the worldview of a people, that is, the way they think of themselves, their problems, others and their material environment, that fundamentally determine their level of scientific, technological and industrial progress. What this means is that there are certain cultural traits, attitudes and belief system that could encourage the growth of science and equally too, there are those that could act as disincentives to scientific advancement. Another way of saying this is that modern technological progress arises in the main as an expression of existing cultural values. Thus, the dominant cultural setting or the worldview of any society determines to a large extent, the growth of both science and technology and as well as how scientific thought and processes are given priorities in the scheme of things (Aikenhead 1980).

All correspondence should be directed to:
Preye K. Inokoba
E-mail: talk2preye1@yahoo.com

The above assertion is predicated on the premise that the existence of an appreciable level of scientific consciousness is the starting point of societal, scientific, technological and industrial advancement. In other words, for any society to experience socio- economic and technological progress there must be the existence of a dominant culture of science in the way it interacts with itself and its interpretation of social reality.

It is within the purview of the foregoing that we are going to investigates how the African metaphysical worldview has contributed to the continent's prostrate condition of ignorance, poverty and backwardness. This mode of analysis is a departure from the two dominant theoretical models: Firstly, the Western liberal scholarship as ably represented by the modernization theorists who attempt to explain away the crisis of development in African and other global rural communities as a consequence of endogenous factors. To develop the Third World countries are advised by this paradigm to adopt the capitalist path to development (Efemini 2002: 144) The second theoretical model which is very popular with Africa social science is the radical dependency explanatory framework. This theoretical orientation posits that underdevelopment is mainly a consequence of exogenous variable – that is, imperialism. The major pitfall of this analytical tradition is escapist orientation

which glorifies the potency of imperialism without giving adequate attention to the role played by the African internal make – up in its crisis of development.

Therefore, the driving force behind this academic endeavor is to look inward and investigate how the African perception of social reality has also contributed and reinforced the continent's perennial condition of ignorance, poverty and backwardness. This paper is a wake-up call on Africans to take up some responsibilities for their congenital predicament. In other words, to adequately confront the menace of backwardness and underdevelopment, there is need for Africans to acknowledge how their restrictive perception and interpretation of social reality have contributed to the process of underdevelopment.

The paper which began with an introduction will provide a theoretical clarification of its major concepts – worldview and scientific culture in its second part. And to incisively investigate how Africa's meta-physical worldview has retarded the scientific, technological and industrial and socio-economic development of the continent, the third section of the paper shall briefly trace how certain ideals and worldviews acted as a cocoon for the evolution and development of scientific culture. Part four of this paper shall examine the nature of African mentality and how it has fostered the continent's condition of backwardness. The concluding section examines what need to be done to change the African metaphysical worldview in order to kick start the continent's quest for scientific and technology progress.

2. CONCEPTUAL FRAMEWORK

Worldview as the central concept and the explanatory tool of this paper is a team derived from the German word "Weltanschauung" meaning a "look onto the world" (Wikipedia 2001). It refers to the framework of ideals, values and belief systems through which an individual interprets the world and interacts in it. Worldview could also be seen as "mental lenses" or cognitive and perceptual maps that are we continually use to find our way through the social landscape and surrounding.

The focus of this paper is on dominant or prevailing worldviews that are extremely encompassing in content and pervasive in adherence. According to Olsen et al. (1992):

The dominant worldview in the culture of a society normally pertains to the totality of human existence and most aspect of social life. Virtually everything that we experience is shaped by the perception provided by our view of the word. Since the dominant worldview is generally hold by most member of that society, it normally establishes the culturally accepted definitions of social reality.

It is confirming and pervasive in character because the Weltanschauung of a people originates from the unique world experience of a people, which they experience over several millennia. It is learned through processes of socialization and social interaction, and is constantly being reinforced by the culture of the society throughout its lifetime. Another way of saying this is that we unconsciously and uncritically take our worldview for granted as "the way things are". It therefore pervades and influences most of our thinking and actions; it is not often questioned or doubted; and it is rarely altered in any significant way. Over time, however, worldview does very slowly change. This is one strong reason why any society should be conscious and concerned about the character of its dominant or prevailing worldview. Where the society is dominated by a Weltanschauung that is restrictive, docile, confirming, irrational, unadventuring and fetish, such society is bound to experience stagnation, retrogression and decay. The reverse is the case of a society that has a prevailing worldview that is critical, evaluative, inquisitive and rational.

In addition to the dominant worldview prevailing in a society – such as the Western industrial nations- there may also be one or more alternative worldviews such as an emerging post – industrial worldview which is associated with the nascent knowledge driven Western societies. An alternative worldview is obviously not held by a majority of the member of the society, although its adherents normally think that it should be (Olsen et al. 1992: 16). What this implies is that there are several types of worldviews. However, for our purpose we shall collapse them into two broad types: the metaphysical (or pre – scientific) worldview and the scientific worldview. Where the generally accepted Weltanschauung is characterized by scientific traits of rational, logical, inquisitive, and analytical reasoning such society is said to have a scientific worldview(or culture). On the other hand, a society that is permeated by perceptions and belief system that

incubates superstition, magic, animism, cosmetology and theology is said to be one that has a metaphysical worldview. The industrial and post –industrial Western societies belong to the former, while the Third World particularly; Africa is dominated by the latter worldview.

As a tool of analysis, the notion of worldview is to understand how the world functions and how it is structured. "World" here means the totality, everything that exists around us, including the physical universe, the earth, life, mind, society and culture. It also gives answers to questions such as "why is the world the way it is? Where do we come from? This is perhaps the most important part of a worldview, if we can explain how and why a particular phenomenon functions (Heyligen 1996).

Again, as an explanatory model, the Weltanschauungs of any society contains a theory of values which defines morality or ethics, and as well as serves as a theory of action (praxiology). It defines how we should interact and act. It helps us to solve practical problems and to implement plans of action. From the foregoing, the Weltanschauung of a people serves as a comprehensive and all –embracing framework for generating various dimensions of human perceptions and experiences like knowledge, politics, economics, religion, culture, science, and ethics. However, before we conclude this section of the paper it is absolutely necessary to bear some thought on a related concept of "scientific culture". The term "culture of science" as employed in this paper is to sensitize us to think of science, not in the traditional sense of accumulated, organized knowledge, or solely as a method of deriving the "the truth" and not certainly a western monopoly, but rather as a culture unto itself. It is only by thinking of science as a distinct culture functioning within or transcending national cultures and civilizations that we can clearly appreciate the salient role played by Africa's metaphysical worldview in its deepening crisis of backwardness.

As a culture, science has its own institutions, ideals, values, methods, symbols and recognizable practitioners" (Luedtke 1980: 51). More profoundly, like all cultures, science creates its own reality. It acts as a screen that rejects much of human experiences. Science, which it may be "organized curiosity", is also not geared to credulity but to critical inquiry. It aims to dispel superstition, myth, fable, old wives' tales, fantasy, hoax, and deliberate falsehood. Most obviously science in its relentless pursuit of truth demands unfettered critical thinking which in turn produces a dominant culture in constant change and revision.

3. THE EVOLUTION OF THE NOTION OF SCIENTIFIC THOUGHT AND CULTURE

Since the beginning of formal and organized learning there have been various prevailing ideals that shape or mould our ways of thinking, conceiving, analyzing and relating with reality. These prevailing ideals (worldview) serve as the foundation for interpreting social reality. It is the recognition of this that we shall relate the different worldview to the space- time continuum. This shall be so done that no age or phase shall be described without reference to the prevailing ideal of the time.

Myth and superstition grounded the pre –critical (or pre- science) age. The age of mythology was the period that proceeded the epoch of actual philosophical and scientific theorizing. During the age of mythology which had its origin among the Greeks (lasting between 8th and 5th centuries B.C), all happenings in the natural world were attributed to the behavior of gods. It was superstitiously held that there was a world of spirits which controlled the physical world. This worldview (of myth and superstition) led to the idea that some higher forces controlled human relations and existence (Essein 2006: 36). Under this epoch, in order to understand human existence, religion was employed "….to interpret nature and its processes in terms which could be understood- to make man feel at home in the world" (Essein 2006:36).It is also important to make that no complete account of the age can be given without mentioning the contributions of Homer and Hesiod whose poem represented the spirit of the age (Uduigwomen 1996:19). But the consequences of attributing all occurrences (whether good or bad) to the gods was that, instead of searching for scientific causes and explanations of such occurrences, supernatural causes and explanations were invoked and hence hindering of real development of human knowledge. Jones (1970: 51) summarized the spirit of the age when he said:

The myths not only failed to inform: they actually inhibited scientific advance. As long as the cause of events are attributed to the will

of the gods, a meteorology, for instance was impossible

The above was the situation in Greece until the 5th century B.C when the door of criticality or philosophico- scientific speculation was open by Thales. According to Lewes (1960: 4) lonian Greek was "…… the first and only people who disengaged speculation from theological guidance ….. and it was he (Thales) who made the first attempt to establish a physical beginning without the assistance of myths". The thinkers of this era used thought experiment to search for the ultimate principle that makes other things possible, and under which every other thing could be explained. Men of this ancient period thought in terms of nature, for instance, water was qualified candidate for the position of ultimate reality according to Thales. Some others suggested fire, others air and others still the earth. Thus cosmology became the prevailing world outlook of the ancient period.

The demise of the ancient era led to the birth of the medieval age. The prevailing worldview of the medieval age was that of theocentricism: that is all explanation of social reality was traced to divine source- God. This age was characterized by the authority of the organized church and the comprehensive structure of power it commanded (Shaw 1997). All Europe was one religion and the ecclesiastical law applied to all. During this period the authority of the Holy Roman Empire was synonymous with the authority of the Holy Roman Catholic Church. Those who stood against what was spoken by the "ex cathedra" were either excommunicated or executed.

The thinkers and philosophers of the enlightenment rose against the prevailing religiosity and theocentrism of the dark ages. Meanwhile, we must note that there was no progress in scientific thought in the dark ages as a result of the restrictive and hindering worldview. Over time, this prevailing worldview was gradually challenged by a more liberative and progressive belief system and new mode of perceiving social reality. This eventually gave birth to the era of renaissance- "the new birth"

The renaissance period is so called because it was not only a time when classical learning was revived, it was also a period of discovery and emancipation. The restrictive metaphysical worldview of the dark ages was replaced with a more liberal and critical world outlook. Renaissance liberated the mind set of man. It's enlightening effect restored faith in reason, faith in nature and faith in progressive.

It was also inevitable that the new intellectual mood of the renaissance period would lead to a totally new mood of relating, organizing and analyzing the structure of nature. This critical and liberative worldview gave birth to modern science with:

…. its stress upon observation and mathematics, an approach employed chiefly by Copernicus, Kepler and Galilieo. The Renaissance was, therefore, a time when many individuals from many lands exhibited many new modes of freedom and expression, causing at some points some discontinuities with the past while the emphasis in areas in which continuity with the past was preserved…… one of the significant aspects of Renaissance was the gradual emergence during this period of the method of modern science (Mason 1962: 224-225).

The renaissance produced scientists who achieved the feat of devising new methods for discovering of knowledge and improving the life of man on earth. Unlike the medieval thinkers who took the traditional text as their final authority, the early modern scientists shifted emphasis to observation and the formulation of hypothesis. Man now began to search for principles and laws governing heavenly bodies rather attempting to confirm biblical statement (Uduigwomen 1996: 36). The inquisitive nature of the age of enlightenment also led to the invention of various instruments to verify the veracity of man's observation. Mason (1962) succinctly highlighted the phenomenal progress of science during this era:

Galileo discovered the moon around the Jupiter, and Leeuwenhoek (1633-1723) discovered spermatozoa, Protozoa, and bacteria. Whereas Copernicus (1473-1543) formed a new hypothesis of the rotation of the earth around the sun. Harvert (1578-1657) discovered the circulation of the blood…And Boyle (1627-1691) the father of chemistry, formulated his famous law concerning the relation of temperature, volume and pressure of gases. Added to these inventions and discoveries was the decisive advance in Mathematics especially by Sir Isaac Newton and Leibniz, who independently invented differential and integral calculus. The method of observation and mathematical calculation now become the hallmarks of modern science (p. 226).

These inventions and discoveries nourished

by inquisitive and critical nature of the renaissance worldview led to further inventions which eventually heralded the European industrial revolution. The modern era that was dominated by machine technology; this enhanced massive and avalanche of production in European factories and industries.

As a result of the dynamic nature of society (culture and ideas –worldviews), scientific knowledge as a social phenomenon has never remained static. As such the dominant "spirit' of today's world is the phenomenon of information science or technology. This phenomenon coupled with its attendant shrinking of global space and time, otherwise known as globalization has influenced, shaped and molded the thought pattern of this age. Nowadays, almost everything is conceived and perceived in terms of networking. Religion, science, morals, education, fashion and politics are not left out. Communicationism and informationism, networking and globalization have all become paramount in the emerging post-industrial (knowledge driven) age.

Basically, the purpose of the detailed foregoing discourse is to open our minds to the phenomenal role the prevailing or dominant human ideas and perceptions play in the way people think of themselves, their problems, others and their natural environment. In other words, "ideas" or worldviews is what separate the pre-scientific age from the scientific era (renaissance and the modern age). The ideas and perceptions of a man in the ancient and dark ages was coloured by mythology, superstition, cosmotology (faith in nature) and theology (faith in God). All these are hindrances to scientific inquiry because they were inherently dogmatic, uncritical, fetish, metaphysical and unadventurous. No room was given for critical and analytical reasoning – the hall mark of scientific society. What this means is that man under the Dark Ages was inherent helpless to take charge of his relations with others and as well as to meaningfully interact, organize and control his natural habitat in order to advance his society.

The scientific age which was ushered in by renaissance heralded a scientific worldview that was highly rational, logical, inquisitive, analytical and evaluative. The foundation of this scientific worldview was the renewal of faith in reason, faith in progress (Ameliorism) and ultimately faith in man (Anthropocentricism). The scientific worldview is an era of positivism because man has assumed the centre of everything. Faith in man and man as the standard of everything is the defining character of modern day scientific worldview. As the dominant worldview in the western world, it is therefore least surprising that these societies have continued to make phenomenal and epoch-breaking scientific, technological, industrial and as well as general advances and development in other facets of human endeavor.

It was as a result of the permeation and general acceptance of the scientific worldview in western societies that scholars developed the concept of "scientific culture". It is referred to as a culture because the scientific traits of rational, logical, inquisitive and logical reasoning have become a way of life in these societies. There is the deliberate quest for knowledge, especially scientific knowledge and its application. Scientific literacy (knowledge) and its utilization is the main reason for the competitive and leading position of western societies in the world market and politics.

The notion of scientific culture which also denotes scientific literacy tampers on the issue of the interrelatedness of science and society and as well as the symbiotic interaction between science and technology. These scientific thoughts, knowledge and processes are used to develop the society. The members of the society help the growth and development of science by extending its frontiers of knowledge and supporting its activities morally (by accepting its products) and financially. Science, as a social phenomenon, has meaning in as much as it transforms society and makes the people perceive the world in certain ways different from what had existed before (Alozie 1996: 10). Societal problems set agenda and direction for scientific research. Research priorities are influenced by request for proposals, grants and funding through private and public sector collaborations. The notion of scientific culture sensitizes us to how values and social norms affect the receptivity of new ideas, and as well as how social factors within the scientific community set the pace for the research undertakings and the acceptance of new research discoveries and findings. Thus, science and technology affects society by advancing socio-cultural changes and developing economic, political and educational aspirations, while society in turn helps to stimulate and encourage

technology by making use of the scientific knowledge possessed by its members. Truly, technology has meaning in so far as it is related to society (Alozie 1996: 16).

From the foregoing, it is glaring that science and its attendant culture (or worldview) is the foundation of all social change. It has been able to liberate men from the bondage of superstition, mythology, cosmetology and the slavery of false metaphysical beliefs. In other words, ideas and perceptions rule the world. The prevailing worldview of any society in a lot of ways determines how its members relate with one another and as wells as the natural environment to solve societal problems. Another way of putting this, is that the pace and rate of any society's scientific, technological, socio-economic and political advancement is largely dependant on the nature and trait of the generally accepted culture (or worldview). Invariably, no society can advance beyond the limits and boundaries of a prevailing world outlook. We shall now identify and examine those inherent cultural traits that are responsible for the prostrate condition of backwardness of the African continent.

4. THE AFRICAN METAPHYSICAL WORLDVIEW AND ITS CRISIS OF BACKWARDNESS

We have been able to establish that the extent to which science as a social phenomenon can transform and advance any given society is mainly dependant on the nature and traits of the prevalent culture, ideas, perceptions and belief system – collectively known as the worldview of the society. Where the generally accepted worldview of the society is characterized by scientific traits of rational, logical, inquisitive and analytical reasoning such society is said to have a scientific culture (i.e. it is scientifically literate). On the other hand, a society that is permeated by perceptions and belief systems that encourage superstition, magic, animism, cosmetology (faith in nature) and theology (faith in God), is said to be a one that has metaphysical worldview. The advanced western societies belong to the former, while the Third World particularly Africa is dominated by the latter worldview.

The metaphysical worldview of Africa is an alloy of mythology, supernaturalism, religiously and theocentricism of the pre-critical (or pre-scientific) ages. If Africa is dominated by a pre-science Weltanschauung it invariably means that the general perceptions and ideas of Africans, are those of these ages. And when one considers the fact that there was no scientific progress during the dark ages as a result of the prevalent metaphysical worldview, reasons for Africa's prostrate condition of backwardness and underdevelopment becomes very obvious. As earlier assumed, ideas are the foundation of societies and no society can advance beyond the limits and boundaries place by the dominant idea and belief system of its people.

The metaphysical is anti-science worldview; it breeds and cultivates uncritical, unquestioning, irrational, unadventuring, fetish and other attendant cultural traits that hinder the development and application of scientific knowledge. It is also deterministic in outlook in the sense that man becomes timid, weak and helpless in his interaction with his fellow man, societal (human) problems, institutions and most especially his natural habitat (nature). Restricted to the confines of the metaphysical perception of reality, man is forced to worship and revere nature. Under the overwhelming force of the metaphysical belief system, Africans have continuously failed to realize that they can cultivate scientific worldview of reality that will progressively enable them to understand and subdue their environment; to better manage and exploit it, to reduce the drudgery of labour, produce more and better goods and services and by extension improve the quality of life in society (Eze 2001: 5).

As a result of its superstitious and unscientific nature, the metaphysical interpretation of reality has made Africans less sympathetic and receptive to new ideas. It breeds the inertia to change in the African mentality. A case that readily comes to mind is reported case of a community which would not welcome a generator driving a pump to supply water, because the noise made by the generator was alleged to be very offensive to the local gods. So the community preferred water from disease-infested ponds (Alozie 1996: 30). Another related example of this is the decision taken by the people and some state governments in Northern Nigeria, to stop health officials from immunizing their children against polio in 2005. This was as a result of the fear and misinformation that through immunization the children could contact the dreaded HIV-AIDS disease.

As a corollary, the metaphysical worldview of Africa is also responsible for the high level of

scientific and technological illiteracy that have perennially frustrated the initiation, development and utilization of scientific knowledge for the progress of the African societies. We hold the absence of a scientific culture responsible for the African belief that a modern industrial complex and social infrastructure will not function unless the local gods are appropriated placated with sacrifice. The same factor is applicable when in the event of accidents, say a collapsed bridge, aeroplane or car crash, our first inclination is seldom to examine natural causes in poor construction and malfunctioning mechanical parts, as the case may be: instead our first suspicion rest on malevolent agents operating from the spiritual realm. Again, when some few years ago cassava crop failure occurred as a result of an attack by a certain crop disease in most Eastern States of Nigeria, the story was circulated that the spirit of deity of cassava had been offended and so was demanding certain rites including libation to be staged in farms and the sacrifice of some animals. Some communities actually performed this prescribed sacrifice; while the more enlightened communities heeded government directives to purchase improved and disease resistant cassava cuttings from agricultural stations. No one can be left in doubt as to which method actually worked to save the populations from starvation (Alozie 1996: 30).

Again another accessible example of how African metaphysical outlook could frustrate socio-economic progress, is the one sided nature of the development of the Niger Delta University campus in Bayelsa state. A curious observer will notice that development of the campus is tilted to the right while the forest on the left hand side is left untouched. The undeveloped portion of the campus is alleged to be a dwelling place for the gods of the host community. As a result, the University development plan has been designed to reflect this belief pattern of its host community.

Another way the African metaphysical has contributed to the prostrate condition of backwardness is seen in the manner the African societies treat knowledge, particularly the process of its acquisition and the professionals (scholars and scientists) concerned with the acquisition of education (Mabogunje 1996: 2). The government does not see the proper education of its citizenry as a worthwhile venture to invest in. The public education system has been left to rot away without adequate funding, monitoring and evaluation. Science education is the worst affected; laboratories with elementary equipment and instruments and as well as research institutions abandoned without adequate funding and collaboration with related agencies, industries and firms. A government that is dominated by people with metaphysical worldview can never see education especially scientific literacy as the life wire of its society.

African metaphysical interpretation of reality has also adversely affected socio-political relations amongst different societies. The unwholesome criminalization of the continent's perennial civil, ethnic, sectarian and fratricidal wars has been attributed to the role magic, charms and superstition played in the conduct of the combatants. The predominance of the metaphysical worldview among the combatants has created the right environment for the practice of gruesome blood letting and cannibalism in crisis theatre like Somalia, Congo, Rwanda, Liberia and the Niger Delta region of Nigeria.

What about the political implications of the African weltanschauung on the sustenance of its transitional democracies? As an explanatory tool it could be utilized to explain the docility, naivety and helplessness of the citizenry (the civil society) of Africa towards the insensitivity, arrogance, misrule and human right atrocities of African government.

The deep religiosity of African populace coupled with their perception of government as an omnipotent phenomenon (that cannot be checked) has crippled and hindered the evolution of an active and virile civil society in Africa. And because most Africans do not believe that they could make their governments accountable to them, they have subsequently resigned their predicament (fate) to divine intervention. The absence of this indispensable element of democracy that is virile civil society has given rise to governments that are so insensitive and irresponsible to the people of Africa.

From the preceding discussion it is glaring that the African metaphysical perception of reality is the prevailing worldview that is sustaining its enduring crisis of poverty, backwardness and underdevelopment. Definitely it is not the sole causative variable for Africa's predicament, but it plays a fundamental role in the process. Indeed, the metaphysical worldview is like an albatross that is holding Africa bound to the rudimentary era of Western European dark ages.

5. THE WAY FORWARD

For Africa to initiate experience and sustain progress and advancement in all spheres of human existence there is the urgent need to liberate it from the *dul-de-sac* and bondage of the metaphysical perception of reality. This perception and viewpoint of reality, before any other variable must give way to a more liberating, innovative, critical, empirical and rational weltanschauung. It is only such fundamental shift of worldview that will initiate the gradual process of liberating the people of Africa from the stranglehold of illiteracy, poverty, hopelessness, helplessness, backwardness and underdevelopment. It is believed that a more innovative, rational and analytical worldview will place Africans in a better position to understand, appreciate and identify the various endogenous and exogenous variables and issues that have constrained the continent to her present unenviable position. A simple way of saying this is that Africa needs a rebirth in her worldview.

The African renaissance must be concretized in an aggressive, qualitative, comprehensive, multifaceted, penetrative and a well coordinated education and reorientation policy. The education programme which must be science bias, must be effective enough to penetrate the rural African setting where we have a large army of Africans still under the clutches of the metaphysical worldview. The assumption is that the transformation of the individual is the starting point of societal advancement and progress. And his worldview (i.e. ideas, perceptions and belief system) is the foundation of this process. Thus, education and training programs are the primary systems by which the human capital of a nation is preserved and increased. It is only through such encompassing education revolution that African can move from old ways of thinking of social and economic organization to new ones (Stiglitz 2000).

Emphasis should be laid on scientific literacy because it provides concepts processes, skills and values that enables us make everyday decision as we interact with one another and with our environment. This involves in improving our scientific consciousness and capacity to deal with our environment (Rodney 1972). After all, scientific knowledge and its utilization are now the measures of any country's competitive position in the world market and this is also applicable to the individual.

It is however, important to emphasize here that the reception of a more science inclined metaphysical perspective does not necessarily implies the complete abandonment or rejection of our Africaness. We cannot afford to do away with the stabilizing, integrative and moralistic elements of the African interpretation of reality. As such Africans must embrace and imbibe science education that is universal yet endogenous (or Afro-centric) in character. As much as we must confront our problems with enduring policies having science and technology as its cornerstone. The positive Afro centric content of the African worldview is necessary so that these societies do not come under the onslaught of cultural alienation, social disharmony and spiritual chaos. What we mean is that as much as Africans should be exposed to the universal principles, concepts and laws of scientific knowledge, it must be adapted and made relevant to Africa's unique reality.

What all these invariably mean is that if Africans fail to emphasize on effective education, this will adversely affect our attitude, perceptions and orientation towards innovative challenges and changes especially scientific knowledge and discoveries. This situation will ultimately not only sustain the prostrate condition of backwardness of the continent but will also reinforce the marginalization of Africans in the scheme of things as they will continue to remain onlookers as the West and Asia decide what happens in the international economics and politics. The options are there for Africans to decide their fate.

REFERENCES

Aikenhead GS 1980. Science in Social Issues: Implications for Teaching. *A discussion paper.* Ottowa Science Council of Canada.

Alozie PI (Ed.) 1996. *Technology, Science and Environment: A Current Review.* Calabar: Clear Lines Publications.

Alozie PI 2004. *Philosophy of Physics*. 2nd Edition, Calabar: University of Calabar Press.

Dampier CW 1966. *A History of Science and its Relations with philosophy and Religion.* Cambridge: Cambridge University Press.

Efemini AO 2002. *Ake and African Development: Selected Issues*. Port Harcourt: Paragraphics.

Essien ES 2004. The Status of Physical Theories in Modern Physics. *A Seminar paper on philosophy of science presented to the Department of Philosophy,* University of Calabar, Calabar.

Essien ES 2005. *Justifiability of Pre-emptive self defence: An Examination of the US Invasion of Iraq in the*

Light of the UN System. A Master's Degree Thesis. Department of Philosophy, University of Calabar, Calabar.

Evwaraye AO, Mgbenu EN, Okeke PN 2004. *Electomagnetism and Modern Physics.* 2nd Edition, Ibadan: Spectrum Books Limited.

Eze OC 2001. Nigeria: Path to Technological transformation. *CASS Monograph No. 13.* A Publication of the centre for Advanced Social Science, Port Harcourt.

Heylighen F 1996. What is worldview? Available at: www.principiacyhermetica.com (Retrieved on 20th February, 2006).

Jones WT 1970. *A History of Western Philosophy: The Classical Mind.* San Diego: HBJ Publishers.

Lewes GH 1960. *The History of Philosophy: From Thales to Comte*. London: Longman.

Luedtke LS (Ed.) 1980. *Making America: The Society and Culture of the US.* Washington DC: A Publication of the United States Information Centre.

Mason SF 1962. *A History of the Sciences.* New York: Collier Books.

Mabogunje AL 1996. The Role of Research Institutes in National Development. *Keynote Address Delivered at the workshop organized by the centre for Advanced Social Sciences (CASS), Port Harcourt, on The Role of Research Institutes in National Development*, Sheraton Hotels and Towers, Ikeja, 15-16 July,1996.

Olsen ME, Lodwick DG, Dunlop RE 1992. *Viewing the world Ecologicaly.* Boulder, CO: Westview Press.

Rodney W 1972. *How Europe Underdeveloped Africa.* London: Bogle L'O Uverture Publications.

Shaw MN 1997. *International Law.* 4th Edition. Cambridge: Cambridge University Press.

Stigtz JE 2000. *Wither Reform? Ten years of the Transition. Annual World Bank Conference on Development Economics, 1999*. Washington D. C.: The World Bank.

Uduigwomen AF 1996. *A Textbook of History and Philosophy.* Aba: A. A. U. Industries.