POSSIBILITY OF REINCARNATION
A BIOLOGICAL-EDUCATION APPROACH.

by

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Abstract
Reincarnation is a trado-religious concept, by which a living being starts a new life in a different physical body or form after each biological death. For centuries the phenomenon of Reincarnation has been debated but science has it that it is the dominant expression of phenotypic and genotypic characteristics. Some religious beliefs and cultural practices hold tenaciously that human beings reincarnate. However, this paper, via hermeneutics and duly informed by Biological Education submits on the possibility of reincarnation and concludes on such scientific possibility as such.

Keywords: Reincarnation, Biology-Education, Dominant-Recessive gene.

Introduction
Reincarnation is more of a religious concept than a cultural idea by which a living being starts a new life in a different physical body. The phenomenon of Reincarnation has been debated but science has it that, it is the dominant expression of phenotypic and genotypic characteristics. Alleles produce phenotype and genotype that are dominant or recessive which is associated with a particular allele as a result of masking, by which a dominant phenotype hides a recessive phenotype. By this, in heterozygous offspring only the dominant phenotype will be apparent. Ndi Igbo, the Yoruba people and people of Urohbo speciously believe in reincarnation. However, reincarnation has its basis biologically which it is proven to be dominant expression of genes which could reflect in eye colour, skin colour, birthmarks and character in offspring. Hence, the possibility of reincarnation through biological explanations. Belief in Reincarnation has it that a living being starts a new life in a different physical body or form after each biological death or cessation of earthly life. It is also called rebirth or transmigration, and is a part of Samsara doctrine of cyclic existence (Oxford Dictionaries, 2016).

According to Edeh, EMP (1985, 120) “the phenomenon of coming-to-be, of life and of death are realities outside the control of finite beings. But they are undoubtedly happening everyday”. Ikenga-Metuh, E. (1999, 252) accepts that “the belief that death is not the final end of man is common to all Africans Societies…Death after ripe old age is called God’s death or natural
death, and is counted as a blessing to be sought for through prayers and sacrifices. Any death before this time is regarded as unnatural and blamed on agents of the evil…” The idea of reincarnation is found in many ancient culture (Stephen, 2008), and a belief in rebirth metempsychosis was held by Greek historic figures such as Pythagoras, Socrates and Plato (Norman, 2010). It is found as well in many tribal societies around the world in places such as Australia, East Asia, Siberia and South Africa (Gananath, 2002). In African religion, it has been part of our strong cultural belief system but before the advent of science and technology and Christianity in particular we have always had our way of explaining the existence of things. There has been cases where people were born and had character traits of people who were dead which lead to giving names of the dead to the newly born. Onwbiko, O. A. (1991, 60), opines that many names in Yoruba culture suggest great belief in reincarnation like; Babatunde (Father returns), Yetunde (Mother returns), Babatunji (Father wakes once again) and Sotunde (The wise man returns). These names offer vivid evidence in the belief in reincarnation (cf.Otite, 1982). The Urhobo people of the Southern part of Nigeria describe the rhythm of human existence as being cyclic. A child born grows old and dies to be brought into life again by his offspring or relations to repeat the same process as many more times as possible, which involves man's normal transitional cycle of life that implies decorption and incorporation. The movement of souls is said to be always within the extended family groups both into the physical and the spiritual spheres (Nabofa, 1978). In Igbo land they believe in the concepts of ụlọ uwa and ogbanje. According to Onwbiko, O. A. (1991, 60),

African Religion is world Affirming and do not contain doctrine of eternity and in heaven. There is in them, the concept of spirit world. ... Therefore Africans do not believe that people stay there forever. They must come back to this world to live and die to come again. This is embodied in the belief in reincarnation…Among the Igbo it is ụlọ ụwa. The belief in Ogbanje is a specific aspect of it.

Name …is a full length philosophical statement. Chinua Achebe 1966
When a particular child keeps coming back to life and the family relations will meet with the elders to perform sacrifice in order to end the rebirth of that particular child. That Child may be termed ogbanje and may be stop via many sacrifices. ụlọ uwa, however, has to do with the good spirit represented by the ancestors. Hence, in Igbo worldview it must be found out the incarnating ancestor that is onye noro uwa (He who welcomed him into the world). Finding out the incarnating spirit determines whether the person is ogbanje or real ancestor. Hence, we have names like Nnenna ya (father’s mother), and other names that refer to any of the dead members of the family or extended family. Names of course are ontological. According to Mbabuike, C. Michael, “anthroponyms, personal names, among the Igbo and other ethnic group are identificatory, classificatory and declaratory”. Nonetheless, with the advent of science it has been proven that it is the expression of dominant genes of the dead in the new born which supersedes recessive genes. However, the focus of this study is not cultural and religious but using biological approach to examine the possibility of reincarnation.

According to Wikipedia, Reincarnation is the philosophical or religious belief that the non-physical essence of a living being starts a new life in a different physical form or body after biological death. It is also called rebirth or transmigration. It is the concept that the soul or some aspect of the soul is reborn into new lives. Biologically, reincarnation is believed to be an outcome of the effect of heredity, the sum of all biological processes by which particular
characteristics are transmitted from parents to their offspring. This involves the transmission of physical traits and mental peculiarities from ancestor to descendant through the molecular mechanism lying primarily in the DNA and RNA of the genes.

It is also a belief in various modern religions. Many religions believe either in the soul’s existence in another world or life, like the Christianity religions Islam religion and many pagan belief systems, or reincarnation and rebirth like many form of Hinduism, Jainism and Buddhism, which believe that one's status in the afterlife is a reward or punishment for their conduct during life. The concept of reincarnation which literally means "to take on the flesh again" has puzzled human mind since the origin of mankind. As the civilizations evolved, beliefs got discriminated and disseminated into various religions. The major division manifested was "East" and "West." The eastern religions being more philosophical and less analytical, have accepted reincarnation. However, the different eastern religions like Hinduism, Jainism, and Buddhism have differed in their faith on rebirth. Further, the Islam and most dominant religion of the world, Christianity, having their origin in the west, have largely denied and rejected the concept of reincarnation, though some sub-sects still show interest in it. Also many mystic and esoteric schools like theosophical society have their unique description on rebirth. (Nagaraj, Nanjegowda & Purushothama, 2013)

Concept of Reincarnation
The word "reincarnation" is derived from Latin meaning, "entering the flesh again" and it’s Greek equivalent metempsychosis is derived from meta (change) and empsykhoun (to put a soul into), (Douglas, 2015). This term is attributed to Pythagoras. Reincarnation refers to the belief that an aspect of every human being (or all living beings in some cultures) continues to exist after death, this aspect may be the soul or mind or consciousness or something transcendent which is reborn in an interconnected cycle of existence (Keown, 2013). The reincarnation concept is considered in Indian religions as a step that starts each "cycle of aimless drifting, wandering or mundane existence"(Mark and Wade 2011). Reincarnation or the recycles of birth after death is a common concept in African societies with differential meaning and appreciation. However, according to Ikenga-Metuh, E (1999, 255)

Africans look forward to reincarnation as a desirable blessing. Men and women regard marriage and the begetting of children as sacred duty to their ancestors and to themselves, because not to do so would be to deny the ancestors the opportunity to reincarnate in their children, and deny themselves the chance of reincarnating in their own f grand children and great grand children”

The reincarnated spirit now a human being is named accordingly with special reference to the person that reincarnated. According to Mbadike, M. C. (2020) “anthroponyms, personal names, among the Igbo and other ethnic group are identificatory, classificatory and declaratory”. Progress in Science and advances made in Medical science have shown that heredity can account for the sameness between a new born child and the grand or great grand-parents. Heredity has been proved to be a natural rule governing the bodies which we must inhabit, just as the houses in a city will show the mind of the builders, as well as parents are the makers and influencers of offspring’s bodies, which has made it possible for ones thoughts and acts in which past lives have made it inevitable to incarnate with. Every mother knows that the children of a family are as different in character as the fingers on one hand - they are all from the same parents, but all vary in character and capacity, heredity as a great rule and as a complete
explanation is absolutely overthrown by history, which shows no constant transmission of learning, power, and capacity.

**Concept of Biological-Education and Heredity Sumptuously Palatable**

Education derived from two Latin words thus: *educere* is the process of leading one out of ignorance and from *educare* is the consequent act of cultivating or leading one into knowledge. Education is the bedrock of every successful country. As one of the oldest industries in human history, education is the main instrument employed by the society to preserve, maintain and grapple with its social balance; hence a society’s future depends largely on the quality of its citizens education. Biology is a discipline that deals with life or living things as such. Therefore, biological education is an applied discipline. It is therefore a form of education based on biology as a discipline that is concerned with life. It is leading into the science of life. This encompasses two seemingly paradoxical observations about organisms: the constancy or continuity of a species from generation to generation and the variation among individuals within a species. Constancy and variation are actually two sides of the same coin, as becomes clear in the study of genetics. Both aspects of heredity can be explained by genes, the functional units of heritable material that are found within all living cells. Every member of a species has a set of genes specific to that species. It is this set of genes that provides the constancy of the species. Among individuals within a species, however, variations can occur in the form each gene takes, providing the genetic basis for the fact that no two individuals (except identical twins) have exactly the same traits. Offspring from the same parents have the same chromosomes, but due to gene reshuffling, genetic variation can occur.

The set of genes that an offspring inherits from both parents, a combination of the genetic material of each, is called the organism’s genotype. The genotype is contrasted to the phenotype, which is the organism’s outward appearance and the developmental outcome of its genes. The phenotype includes an organism’s bodily structures, physiological processes, and behaviors. Although the genotype determines the broad limits of the features an organism can develop, the features that actually develop, i.e., the phenotype, depend on complex interactions between genes and their environment. The genotype remains constant throughout an organism’s lifetime; however, because the organism’s internal and external environments change continuously, so does its phenotype (Wikipedia).

**Reincarnation and Biology**

Gregor Mendel was the first person to describe the manner in which traits are passed on from generation to the next. Scientist refers to external resemblance as phenotype and the internal nature as genotype and an organism’s phenotype cannot be internal by simply observing its phenotypic. Although an individual gene may code for a specific physical trait, that gene can exist in different forms, or alleles. In some cases, both parents provide the same allele of a given gene, and the offspring is referred to as homozygous ("homo" meaning "same") for that allele. An online Wikipedia definition has it that:

An allele is a variant form of a gene. Some genes have a variety of different forms, which are located at the same position, or genetic locus, on a chromosome. Humans are called diploid organisms because they have two alleles at each genetic locus, with one allele inherited from each parent.

In other cases, each parent provides a different allele of a given gene, and the offspring is referred to as heterozygous ("hetero" meaning "different") for that allele. Alleles produce
phenotypes (or physical versions of a trait) that are either dominant or recessive. The dominance or recessivity associated with a particular allele is the result of masking, by which a dominant phenotype hides a recessive phenotype. By this logic, in heterozygous offspring only the dominant phenotype will be apparent.

A case in point has it that during Atlantic slave trade which involves transportation by slave traders of enslaved African people. Ship owners regarded the slaves as cargo to be transported to America as quickly and cheaply as possible (Mannix, 1962) there to be sold to work on coffee, cocoa, sugar and cotton plantations, skilled labourers and as domestic servants. Intermarriage occurred during the process and powerful west Africans used these marriages as alliance to strengthen their trade networks with European men by marrying off their women from families tied to the slave trade. And there was a case of two white Americans that got married and reproduced a black child and the man accused the woman of infidelity not knowing that her great-grand mother was an African and through intermarriage gave birth to white children and after many generations the phenotypic genes which has been recessive became dominant and so this cannot be seen as reincarnation but dominant expression of phenotypic genes in the newly born.

**Hereditity and Reincarnation**

According to Wikipedia, Heredity, also known as inheritance or biological inheritance, is the passing on of traits from parents to their offspring; either through asexual reproduction or sexual reproduction, the offspring cells or organisms acquire the genetic information of their parents. Through heredity, variations between individuals can accumulate and cause species to evolve by natural selection. The study of heredity in biology is genetics.

In humans for instance, eye color is an example of an inherited characteristic: an individual might inherit the "brown-eye trait" from one of the parents, and the genetically transmittable characteristics are hereditary. Inherited traits are controlled by genes and the complete set of genes within an organism's genome is called its genotype.

The complete set of observable traits of the structure and behavior of an organism is called its phenotype, which are physical traits. These traits arise from the interaction of its genotype with the environment. As a result, many aspects of an organism's phenotype are not inherited. For example, suntanned skin comes from the interaction between a person's genotype and sunlight; thus, suntans are not passed on to people's children. Online Wikipedia has it that some people tan more easily than others, due to differences in their genotype: a striking example is people with the inherited trait of albinism, who do not tan at all and are very sensitive to sunburn.

Heritable traits are known to be passed from one generation to the next via DNA, a molecule that encodes genetic information. Before a cell divides through mitosis, the DNA is copied, so that each of the resulting two cells will inherit the DNA sequence. A portion of a DNA molecule that specifies a single functional unit is called a gene. A Gene can be dominant or recessive; a gene is said to be dominant if it is always expressed in the appearance of an organism (phenotype), provided that one copy of it is present. For example, in peas the gene for green pods (G) is dominant to the gene for yellow pods (g); both GG (homozygote) and Gg (heterozygote) will have green pods. The gene for yellow pods is recessive, the effects are only seen when it is present in both chromosomes, gg (homozygote).
Culture and Reincarnation

The word "culture" derives from a French term, which in turn derives from the Latin "colere," which means to tend to the earth and grow, or cultivation and nurture. "It shares its etymology with a number of other words related to actively fostering growth," Culture is the set of patterns of human activity within a society or social group. Culture is how we act, think, and behave based on the shared values of our society. The Cambridge English Dictionary states that culture is "the way of life, especially the general customs and beliefs, of a particular group of people at a particular time." Alternatively, in a contemporary variant, "Culture is defined as a social domain that emphasizes the practices, discourses and material expressions, which, over time, express the continuities and discontinuities of social meaning of a life held in common. Culture is deeply rooted within the people of the same root, that is natus, nation.

The Yoruba believe in reincarnation within the family. The names Babatunde (Father returns), Yetunde (Mother returns), Babatunji (Father wakes once again) and Sotunde (The wise man returns) all offer vivid evidence of the Ifa concept of familial or lineal rebirth. There is no simple guarantee that a grandfather or great uncle will "come back" in the birth of another child, however, whenever the time arrives for a spirit to return to Earth (otherwise known as The Marketplace) through the conception of a new life in the direct bloodline of the family, one of the component entities of a person's being returns, while the other remains in Heaven (Ikole Orun). The spirit that returns does so in the form of a Guardian Ori. This is not to be confused with one’s spiritual Ori, which contains personal destiny, but instead refers to the coming back to the “Marketplace” of one's personal blood. The Urhobo people of the Southern part of Nigeria describe the rhythm of human existence as being cyclic. A child born grows old and dies to be brought into life again by his offspring or relations to repeat the same process as many more times as possible, which involves man's normal transitional cycle of life that implies decorporation and incorporation. Those who died here are decorporated from the physical interaction of their extended paternal and maternal family groups with elaborate burial rites and when reborn are incorporated into the stocks of these same families in the spiritual realm. It is the firm belief and hope of every adherent of Urhobo indigenous religion that when he dies he will join the members of his family groups who had gone before him and he would be reborn here on earth either by his offspring or his other affins. Reincarnation is a doctrine which tries to resolve the problem of existence after death and of character traces and physical resemblance of the departed found in the newly born ones into the lineage which is hinge on the fact of heredity and hope.

In the culture of Urhobo every human being is composed of two entities Erhi and Ugboma which means Soul/Spirit and body respectively (Adegbola, 1983) and Erhi gives reality to Ugboma. God's plan was that humans will grow old and shed off their skins like snakes with renewing of their physical nature and strenght. In the cosmos Erhi and Ugboma were supposed to live forever but man was cursed to die and so lost this mythical eternity (Nabofa, 1983). This was explained with a myth between humans (dog) and animals (toad) and God consented to toad's message because it out ran the dog and death came upon all creatures (Idowu and Bolaji, 1970). It has been suggested that the more clearly conscious a man is of the frailty, vanity and dreamlike nature of all things, the more clearly aware also of the eternity of his own true inner nature (Arthur, 1974).

The soul of the departed is said to stand near the body or hover around the premises where the corpse lies, watching over all the burial and funeral performances on its physical part. It remains there for about ninety days before it finally expires into the land of the dead (James, 1980) that is why full burial rites among the Urhobo are spread over such a period. The family
of the deceased especially those to take over his erstwhile responsibilities are required to remain in his home where he is buried for at least three months. They are required to remain there so that the soul of the newly departed will not feel lonely while still hovering around such practice is said to give the departed an assurance that though he is dead his place in the society has not become empty. In every burial rite the first few drops from each bottle of drink opened for the rites are poured out for the soul of the departed and his companions who came to welcome him into his fold and family with relations believe that they are still capable of exercising their parental roles though in a more powerful and unrestricted way over their survivors (Idowu, 1970). An aspect of their doctrine of reincarnation states that before birth the reincarnating soul goes through a process of self-predestination whereby it declares a more propitious destiny for itself, taking into consideration the reverses it suffered or enjoyed in the previous life, to lead a more successful one. The belief is that the person will really live according to the scheme of life which he mapped out for himself during this process of self-predestination (Nobofa, 1978).

There is a theory that only those who are not qualified to join the ancestors reincarnate with a view to fulfilling conditions to enable them enter the group of the blessed. While there is a concept of a father or mother coming back in a particular child, as the Yoruba concept of Babatunde (dead father has returned) Yetunde (dead mother has returned) (Otite, 1982). The inherited characteristics of an individual are determined by the chromosome content of his zygote and consequently all other cells in his body because they are derived from this zygote (James, 1980)

**Heredity Invalidates Reincarnation**

It’s a proven, obvious, and undeniable fact that so much about the nature of our physical body, our personal traits and characteristics, our propensity for certain types of illness and health conditions, etc. are all due to our heredity. In other words, they have been transmitted to us and become part of us through the genealogical line of the family into which we have been born. Since this is so, it would be mistaken and an act of ignorant to attribute those various things to Karma. It’s in our genes, it’s our heredity.

Having understood the meaning and concept of heredity or gene transmission, one can say that traits and characteristic features can be transferred from ancestor or parent down to the descendant or offspring from one generation to another. The specie, with its traits and characteristics features thereby surviving through the descendants in the succeeding generations, as the descendants keep exhibiting some of their features and characteristics, which could either be dominant or recessive at one point down the generation.

The resemblance we see between people and their ancestors or people of the past from their lineage could be an effect of heredity rather than reincarnation. Life begets life, like begets like and cell arises from pre-existing cell by cell division to continue the life.

There are two types of cells in the body; germ cells and somatic cells. The sex cells; female ovum & male sperm are germ cells – they are the outcome of meiotic cell division (meiosis), while all body cells are somatic cells -the outcome of mitotic cell division (mitosis). Mitosis is the process of making new body cells, while meiosis is the type of cell division that creates egg & sperm cells. Mitosis is a fundamental process for life. During mitosis, a cell duplicates all its contents, including its chromosomes & split to form two identical daughter cells. Because this process is so critical, the steps of mitosis are carefully controlled by many genes. When mitosis is not regulated correctly, mutation might occur which could result to health problems such as
tumor or loss of characteristic feature. The other type of cell division meiosis ensures that humans have the same number of chromosomes in each generation. It is a two-step process that reduces the chromosome number by half, from 46 to 23 to form germ cells, which are sperm & egg. When sperm & egg cell unite at conception each contributes 23 chromosomes, so the resulting embryo will have 46. Meiosis also allows Genetic variations through a process of DNA shuffling. During sexual reproduction, fertilization of the ovum (n=23 chromosomes) by the sperm (n=23 chromosomes) restores diploid number & creates a zygote (2n=46) that divides & grows by mitosis to form a multicellular human (Shrikant, 2018).

Heredity as one of the Possibilities of Reincarnation

Heredity is the sum of all biological processes by which particular characteristics are transmitted from parents to their offspring. Some urge that heredity invalidates reincarnation. Reincarnation and genetic engineering is a breakthrough in human genome project of mapping human DNA between the past and future (a passing life and a future life). Reincarnation, a doctrine that claims the perpetuation of one’s identity beyond one life span, was regarded as a reality in the traditional society. The doctrine of reincarnation and the results of genetic engineering have in common identity, genetic makeup, characters, behavior and personalities of an originary primogenitor in the structure of psychologically distinct individual. Today, cloning as an aspect of genetic engineering offer the possibility of scientifically perpetuating individual identities beyond one span of life (Joseph, 1988).

DNA (Deoxyribonucleic acid) is a biomolecule that holds the blueprint for how living organisms are built. DNA is made out of two long, twisted strands that contain complementary genetic information. A gene is a segment of DNA that is passed down from parents to offspring. Genes are organized and packaged in units called “Chromosomes”. Humans have 23 pairs of chromosomes, one set of chromosomes of each pair comes from a person’s mother and the other set from the father. Some conditions can only be inherited in autosomal recessive or autosomal dominant pattern that is passed to the child if both parents have a copy of the faulty gene that is; both parents are carriers of the condition and there is a one in four chance (25%) of each child inheriting the genetic disorder and in the case of autosomal dominant pattern only one parent needs to carry the mutation for the condition to be passed on to the child and there is a one in two chance it will be passed on to each child the couple has. An example of genetic condition inherited is sickle cell anaemia.

In Igboland when a particular child keeps coming back to life in the same family it is believed that the child reincarnates which is called “Ogbanje” which was before the advent of science but medical dynamics explained it as dominant expression of genotypic characteristics (internal nature) called sickle cell anaemia which can result in passing out of the child. In a situation when a man with genotype AS marries a woman with genotype AS or SS, there is a great tendency of the offspring becoming SS (sickle cell anaemia) which is a condition where the Red blood cells become rigid and sticky and are shaped like sickles or crescent moon. These irregularly shaped cells can get stuck in small blood vessels which can slow or block blood flow and oxygen to parts of the body and this condition was not known in the olden days and the best way they could explain it is with the word “Reincarnation”. We are bound to admit that peculiarities are transmitted from father to son, and to all along down the line of descent. There might be inheritance of mental trait, physical peculiarity in great-grand children, habits of an ancestor reproduced. Hence, "heredity" is a very serious matter of reincarnation.
Conclusion
It is pertinent to note that reincarnation is a mere belief for lame man understanding. Just as Gregor Mendel described the manner, traits are passed on from generation to the next through parents; by external resemblance as phenotype and internal nature as genotype and an organism’s phenotype cannot be internal by simply observing its phenotype. By this, in heterozygous offspring only the dominant phenotype will be apparent and so the ideology of reincarnation should be completely annihilated.

From the scientific (biological) perspective, human behavioral tendencies should follow some kind of nature plus nurture causal combination. The nature aspect being DNA-linked, while nurture is environmental exposure-linked. People pass down their traits and features unto their descendants through gene transmission, rather than being reborn in another body after death.

Recommendation
In this contemporary world, the religious concept of reincarnation should be annihilated because it is a mere belief due to lack of knowledge and understanding of the revolution in science which has proven the transmission of genes from parents to offspring that is hereditary which could either be phenotypic or genotypic that must reflect in an offspring just as the case may be in resemblance.

And in a case where children are born and die shortly after or later in their youthful age, the parents should go for laboratory examination to determine their genotype whether they are compatible for reproduction in order to prevent disorders in the offspring as in the case of sickle cell anemia (SS) where the offspring’s RBCs becomes rigid and sticky having a sickle shape which slows or blocks blood flow and oxygen to parts of the body thereby resulting to death. Therefore, the researcher recommends that couples should go for laboratory examination for total health checkup for the sake of their offspring and generations to come.

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