

THE LOGIC AND SCIENCE OF INCANTATION IN YORUBA TRADITIONAL TECHNOLOGY

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Abstract

The phenomenon of incantation in Yoruba traditional religion has brought to fore the belief in and the reality of linguistic determinism as well as 'voice command' in the field of artificial intelligence. What the phenomenon of incantation has raised is the ability to use language to order and re-order reality from one form to the other. I argue in this paper that the act of using incantation in ordering reality is a field of artificial intelligence that involves the interrelationship between physical nature and humans. The aim of this work is to show that interconnectedness of things, humans inclusive have been a feature of Yoruba knowledge system before Nikolas Tesla theorized about the Internet of Things. The objectives here are first, to show that the scientific theory of functionalism and the logic of Eji-o'gbeta birthed incantation or 'voice command act'. Secondly, I also intend to decolonize the uncritical assumption that technology is purely an assemblage of machines based solely on western knowledge system. I shall adopt the methods of comparative analysis and conceptual clarification to show that incantation and voice commands related to advancements in artificial intelligence are two different dimensions of the same reality.

Keywords: Incantation, Yoruba logic system, Artificial intelligence, Functionalism, voice command.

Introduction

A long reign of colonial powers and the attendant neo-colonial legacy they left behind has conditioned many Africans including leaders to assume that Western science and technology are the sole basis of development such that African needs to perpetually tap into the knowledge system for its own development. This has led to the abandonment indigenous remedy to challenges and traditional innovations

that are capable of undergirding the much needed development across the continent. The resultant effect of this attitude is the problem of importation of ideas, many of which are contextually unsuitable thereby resulting in the waste of scarce resources and time, unfavourable exchange rates, inflation and other attendant economic crises.

In order to address the above problems,

this work espouse the belief that decolonization of the mind is paramount to solving many problems in Africa, especially when we believe that there are homegrown knowledge and technology that are equivalent to the Western's in terms of getting jobs done.

When materials like iron, wood, plastic or polyester are used to build machines that run on software people normally interpret them as machines but when we have assemblage of leaves, roots, back of trees, and horns of animals with capacities to perform equal task; such assemblage is seen as fetish or magical. This is the mentality that has relegated traditional technological intelligence in African *episteme*.

It is for the above reason that I posit the colonial mindset of seeing technology only within a Western prism must be addressed with African minds refocused to indigenous scientific traditions that can be of immense use for development in Africa. The tradition in focus here is incantation (voice command) which is a technique employed to re-order physical and social events. Incantation is a careful string of words or speech to cause changes in the environment or person. This phenomenon is predicated on the belief that language is of metaphysical origin rather than a creation of human beings. Voice command is also employed in smart devices like phones, Televisions, cars and doors to control gadgets to respond to the wishes of users. Before this issue is addressed there is a need to examine the origin and the use of language which makes such thing possible. Therefore this

paper has been divided into five parts to discuss the importance of language in human lives, the science and metaphysics of incantation, the logic of incantation and the last part being the conclusion.

The Origin and Importance of Language

The question of origin of language and the meaning it conveys has generated different opinions and theories over time. Arika Okrent¹ lists six theories about the origin of language. What can be deduced from them is that either language grows from a suggestion from natural noise about things and objects in the universe or it evolved through transmission or transfer of behavioral sound of animal in the lower stage of an evolution process. And because at each stage of evolutionary ladder there is a better property transfer from human progenitors, it concludes that human language becomes better than that of their progenitors.

For Arika, these early stories about language origin are products of hunches. However, modern theories of language cannot be totally severed from some basic ideas in those stories. The bow-wow theory, the pooh-pooh theory, the ding-dong theory, etc. have now given way to biological theory, religious theory etc. Most of these earliest theories of language leverage on sounds of human words. But later theories leverage on biological and social interaction between humans and the world. To some, language is used to describe the world or nature. While to others, language serves the purpose of organizing the world or reality.

¹. Arika Okrent Six Early Theories About the Origin of Language in *The Week* Jan. 10, 2015 retrieved at <https://theweek.com> 28/7/2022

In Yoruba culture, language plays an important part in the way reality is organized. Language in their belief is a gift from the creator of the universe since the early speakers like Orunmila, Oduduwa, Obatala were gods who descended from heaven.² One can deduce that the language itself has a divine source. Therefore, it is a given rather than a creation or discovery of human beings. This myth is an indication that both language and nature are creation of a superior mind, which suggests that there is a connection between the two. According to the Yoruba story of creation the mind or soul which harbours thought is seen as an aspect of Olodumare who breathed into the clay effigy moulded by Obatala. This breath gave life to the image Obatala formed.

It is a fact that breathing produces wave and sound which also generates vibration in the objects that it comes in contact with. In the same vein, speech produces wave through the sounds of spoken words. O'Callaghan asserts that "Sounds frequently are characterized by the pitch, timbre, and loudness they seem to have. But this still tells us very little about what kind of thing a sound is or what ontological category it belongs to."³ Observation has shown that almost everything in existence makes or has sound. Alphabets, numbers, material

things are symbols represented by sounds in different dimensions.

What is mostly discussed in philosophy of language in the West is how words reflect reality, express thoughts, evoke feelings or are used to give commands. However, in Yoruba philosophy words do not just describe and express reality but they also change it. This metaphysical significance of words can be seen in the way Yoruba people use incantation to alter existing reality or human conditions. In tandem with this belief is Edward Sapir's linguistic determinism theory which claims that "humans do not live in the objective world alone or alone in the world of social activity as ordinarily understood, but are very much at the mercy of a particular language which has become the medium of expression for their society."⁴ Benjamin Whorf sums it up when he says "no individual is free to describe nature with absolute impartiality but is constrained to certain modes of interpretation even while he thinks himself most free."⁵ So, language exerts certain control on human activities and thought. For these scholars, language is a tool of categorizing objects, distinguishing events and creating our reality. So, when we think, express a thought and evoke our feelings we do them within the conceptual framework a particular language.

² Faminu, Oluwagbemisola "The Creation of the World: A Yoruba Myth", March 2018 @ <https://passnownow.com>

³ O'Callaghan Casey, Sounds: "A Philosophical Theory", Oct. 2007, p. 14 retrieved at <https://www.researchgate.net> July 2, 2022

⁴ Lefkoe Morty, "How Our Language Determines Our Reality", June 8, 2010 retrieved at <https://www.mortylefkoe.com> July 2, 2022

⁵ Cited by Cooper D.E in *Philosophy and The Nature of Language*, Longman group, 1973, P 101

The Conceptual Analysis of Sound and Incantation in Yoruba traditional thought system

Modern science, especially in the area of artificial intelligence has shown that some tasks normally done by human beings can be performed also by non-human materials or machines. In achieving this aim, softwares are being developed to give the required motivation or energy to the assemblage of materials that will do the necessary task. A control mechanism like a switch or button is fixed to the assemblage of the materials in order to make human control or operation of such machines possible. Recently control mechanism had graduated from manual switch to voice and facial control. Jesse Scardina defines voice command as the “ability of a machine or program to receive and interpret dictation or to understand and carry out spoken commands”⁶ The phenomenon of incantation too when looked at critically is related to identifying a task that can be performed by assemblage of materials with necessary human voice control. The software in this case is the chain of words and sounds used in given motivation or energy to the assembled natural materials like roots, leaves and animal parts rather than silicon materials. Incantation does not just work with any word used, require words are well put together in form of tautology, phoneme or synonymy to give command or order the aspect of reality in

focus. In other words, rhyme of sounds plays a major role in developing this software app. This in my interpretation is what can be called linguistic intelligence which has not been classified and analysed in African traditional epistemology or science.

Sounds are produced by different media. And findings have shown it numerous effects in the environment and humans. Sounds according to Roberto Casati *et al.* in *Stanford Encyclopedia* can be classified as occurring events, properties of a thing or dispositions of a person.⁷ Pythagoras in ancient Greece called attention to the healing power of sounds through music; the destructive power of sound was express in the Bible when the wall of Jericho fell by the sounds made by the Israelites. Sound was portrayed in the Bible as affecting dispositions to the effect that Saul always feels good whenever David played his harp. So the therapeutic and destructive powers of sounds are veritable.⁸ O'Callaghan reiterates that sound waves are the causal by-products of the activities of objects and interacting bodies and have among their effects the motions of resonating bodies and the auditory experiences of hearers.⁹

There are many theories of sounds: Proximal theories of sounds, Medial theories and Distal theories.¹⁰ However, the one that fits into our narrative is the

⁶. Scardina, J. “Voice Recognition (Speaker recognition)” at <https://www.techtarget.com> 31 Jan. 2018

⁷. Casati, R. Jerome Dokic and Elvira Di Bona, “Sounds” in *Stanford Encyclopedia of Philosophy*, April, 10, 2020 retrieved at <https://www.plato.stanford.edu.com> on July 27, 2022

⁸. Martinez Nate “What you need to know about Sound Healing”, with medical review by Gandhi Bindiya, October, 2021 retrieved from <https://www.mindbodygreen.com> on 18/8/2022

⁹. O'Callaghan Casey, *Sounds: A Philosophical Theory*, Oct. 2007, p. 13 retrieved at <https://www.researchgate.net> July 2, 2022

¹⁰. (see Casey O'Callaghan, 2009) cited by Casati, R. et al in *Stanford encyclopedia*, 2020.

medial theory which sees sounds as waves. Every sound has frequency and amplitude which produces motion that permeates objects or medium to produce auditory experiences.¹¹ One implication of the travelling narrative of sound is that sounds eventually become absolved by the receiving object or subject. If sound is a form of energy, one can conveniently asserts that when the producing object loses it, the receiving object or subject gains it. This explanation is in accordance with law of conservation of energy. Though humans do not see how sound travels through waves but its capacity to inform us of happenings around cannot be ignored. We can know the source of happiness, sadness, crisis, conflict, love when we know where a sound is coming from.

Incantation is a careful arrangement of words in speeches and sounds in a bid to pass a message, issue a command or order reality to suit the wish of a person. It has been analysed and explained by different scholars as a form of literature, a means of communication or a form of rap music.¹² In short many scholars have focused on the aesthetics of incantation rather than the scientific and technological relevance of incantation in Yoruba thought system.

Incantation as a phenomenon in Yoruba traditional society varies in form. One

variety of incantation is called *Ofo*. The term *Ofo* simply means talk or chanted words. The Ilaje people of Ondo state in Western Nigeria use the word *ofo* instead of *oro* (word). One can then deduce that *Ofo* and *Oro* are the same in terms of meaning. Oriloye, S.A describes it as a short string of words that is marked by terseness.¹³ *Ayajo* is another type of incantation which expresses an act of playing with words. It is a combination of two words: *Aya* and *Ejo*. *Aya*, in this context means similar or principle, while *Ejo* means speech or chant. So *ayajo* stands for similarity in speech or a speech based on a principle. To *wi ojo* in Yoruba indicates long or continuous speech. Another phrase that can help in the meaning of this is the word *Aya ojo oni* which means “a similar day or date”. So, *ayajo* is the 'citing of similar historical precedence or antecedent by going through particular historical facts', with a wish that such history should be repeated.¹⁴ *Ayajo* in this sense can be used to impress an opponent or evoke feelings, to express ones feeling or describe a reality. The third incantatory chant is referred to as *Ogede*. This is the weaving of words that involves combining natural preparation to elicit a command or order. It is normally refer to as positive incantation because of its affirmative nature rather than for the purpose it is performing. In other words even if incantation is used to

¹¹. O' Callaghan C. “The World of Sounds”, in *The Philosophers Magazine*, 2009. P. 3 retrieved at <https://caseycallaghan.com> on june 15, 2022

¹². Opoola Tajudeen “Incantation as a Means of Communication in Yoruba Land: Egun Alare as a Case Study” in *International Journal Of Comparative Literature and Translation Studies*. Vol. 7, Issue 2, 2019, pp. 67-71

¹³. Oriloye, S.A 'Contents and Features of Yoruba Incantatory Poetry' in *Journal of Communication and Culture*, Vol. 1, No.1 & 2, p. 35 retrieved at <https://www.icidr.org> june 16,. 2022

¹⁴. Oriloye, S.A 'Contents and Features of Yoruba Incantatory Poetry' in *Journal of Communication and Culture*, Vol. 1, No.1 & 2, p. 35 retrieved at <https://www.icidr.org> june 16,. 2022

cause disruption of life it is still positive since the structure of the words used affirm something rather than deny something. Oriloye succinctly confirms that “Ogede relies for its efficacy, on the immutable laws of nature many of which could be observed, verified and proved empirically in the environment...”.¹⁵ It expresses general laws of nature which serve as the basis for intended occurrence. The scientific character of ogede cannot therefore be denied since it is borne out of observations and the reality around us.

Ogede incantation is the focus of this work because it harnesses “the power of sounds to integrate materials of nature”¹⁶ Spadaro's position is also buttressed by the wave theory of sounds which admits that the movement or vibration of vocal cord creates a disturbance in the surrounding medium...and the motion propagates to neighbouring particles at the same frequency.¹⁷ For Spadaro, when “we apply certain sounds to an object or an organism we can change its condition for better or for worse”.¹⁸

For instance an incantation that say:

1. Ohun awi fun ogbo ni ogbo ngbo
Eyi ti a wi fun ogba ni ogba ngba
Kose kose ni ti ilakose
Asun fon fon ni ti fon
Asun ma parada ni ti igi aja
Lagbaja, ma sun!

Another Ogede:

2. Mo siju wo apa mi otun
Mo ri igba erin ti won fi eyin lu eyin
ke ke ke
Mo siju wo apa mi osi, mori igba
efon ti won n fi iho lu iho
Igbongbon, igbongbon. Won ni kin
ma do aya alara mo do aya alara.
Won ni ki n ma do aya ajero mo do
aya ajero. Mo wa di iko ide ti n tu
yebe yebe. Bi e ba sun ema wo mi ni
Bi e si sun ema wo mi ni. A wonu
lekun n wo eye loke.

Translation 1: What we tell the ogbo leaves is what it would hear. What we tell the fence is what the fence will accept. It must be so, is the essence of *ilakose*. The *ifon* insect always sleeps without sensation. The Aja (roofing) wood always sleeps without turning. So, I command you my audience to sleep.

Translation 2: I looked right, I saw two hundred elephants locking their tusks which were making keke sound. I looked left, I saw two hundred buffalos locking their horns which were making *igbongbon* sound. I was warned not to sleep with the wife of *Alara* (king) but I did. I was warned not to sleep with the wife of *Ajero* (king) but I did. I then became like a fragile feather. If you are asleep you will be motionless. And if you are not asleep, you will still be motionless (overlook my action).

¹⁵. Ibid. p. 36

¹⁶. Spadaro Patricia, “Metaphysics of Sound” in *The Spirit of Ma'at*, Vol. 3, oct. 2002 reprinted in *Practical Spirituality with Patricia Spadaro*, 2004. Retrieved at <https://www.practicalspirituality.info> Aug. 10, 2021

¹⁷. Casati, R. Jerome Dokic and Elvira Di Bona, “Sounds” in *Stanford Encyclopedia of Philosophy*, April, 10, 2020 retrieved at on July 27, 2022

¹⁸. Spadaro Patricia, “Metaphysics of Sound” in *The Spirit of Ma'at*, Vol. 3, oct. 2002 reprinted in *Practical Spirituality with Patricia Spadaro*, 2004. Retrieved at <https://www.practicalspirituality.info> Aug. 10, 2021

The first incantation place a principle of identity between *Ogbo* (a leaf) and *Gbo* (to hear). Likewise between *Ogba* (fence) and *Gba* (accept). This identity is in the sound we make when they are pronounced. Consequently *ewe ogbo* must have capacity to *gbo*, i.e ogbo leaf must have capacity to hear. And *ogba* must have capacity to accept. And since the audience of the speaker or the one chanting incantation a material entity and s/he is also capable to hear, then s/he must accept the verdict of the speaker. The observed materials like *ogbo* leaf, *ogba*, *ilakose* and *igi aja* become the components of this incantation which will be integrated and bound together with the power of sound wave from incantation.

One query people normally raised is that there is a difference between the audience who is human and the *ogbo* leaf or *ogba* fence, as such they cannot obey the same law or behave similarly. This query also bothers on the methodological problem between the natural science and the social science. Scholars have argued that the operation of causal principle on physical objects cannot be adopted in relation to humans because humans are minded while natural objects are not. However, people argued this way because they do not understand the logic of inclusiveness. Things can be different in certain respect but they are similar in other respect, at least in material respect. Some philosophers had shown over the centuries that the human mind is reducible to certain physical processes in the body as such human beings are not radically different from material objects.

It is therefore not surprising that the first incantation places principle of identity between *Ogbo* (a leaf) and *Gbo* (to hear).

Likewise between *Ogba* (fence) and *Gba* (accept). This identity is in the sound we make when they are pronounced. Consequently, *ewe ogbo* must have capacity to *gbo*, i.e ogbo leaf must have capacity to hear. And *ogba* must have capacity to accept. And since the audience of the speaker or the one chanting incantation is a material entity and s/he is also capable to hear, then s/he must accept the verdict of the speaker. In the same spirit, African philosophy argues that material objects possess spiritual forces, as such can behave like minded human beings. Material objects and humans are in this regard interconnected thereby having capacity to affect each other.

This way of thinking is supported by the logic of Eji-O'gbeta which will be exposed in the later section. Nevertheless it important to make the point that functionally, wood, iron and plastic as used in Western technology are similar to root, leaves, animal skin and stem as used in African tradition. So, they are scientific materials in the same way Western silicon materials are. After all technology is the practice of using materials in nature to produce products that allow human beings to use little effort to carry out greater task.

Some Scientific Features of Incantation

Incantation is generally referred to as poetry or a piece of spoken art. While it may share this feature, a careful study of incantation will expose its scientific nature. It is this scientific nature that explains its technological relevance. First, from the incantations above it is incontrovertible that observation plays a great role in its formulation. The value of observation became explicit in the incantations because the characteristics of these objects or animals are product of

experience. The phrase to *si'juwo* (perceived) in the second incantation underscores the importance of visual perception while the sounds from lurking of tusks of elephants (igbongon and kekeke) is transmitted through wave to the ear. Human senses of sight and hearing become an integral part of knowing which words to string together and elements to use in preparing this components that is necessary for desired result. The character of observation and inference resonate with the theory of naturalism which holds that there should be some kind of close connection between scientific theories and philosophical theories, even when not all naturalists agree on what this connection should be like. Following from this, Inductive generalization has at its foundation perceptual character and inductive inference of physical experience. In other words, science without logical theory does not exist. It is in this vein that I argue that the acts of incantation which though harness material character from observation do so because it subscribed to the logic of inclusiveness.

For the Yoruba people material nature has shared characteristics that can be explored to alter nature. In essence if a particular characteristic is found in physical objects, human beings too can be made to exhibit the same characteristics since they are part of material nature. Godfrey-Smith opines that:

But “observation” is being understood in a very broad way here, to include all kinds of sensory contact with the world,

all kinds of perception. Empiricists have agreed that observation is our source of knowledge about the world. Despite a good deal of disagreement within the empiricist movement, observation has generally been seen as *theory-neutral*. This neutrality, or absence of bias, is often the basis for the claim that observation is an “objective” way to settle disagreements.¹⁹

Nevertheless, observation does not only help us describe the world, it also helps us to change the world through counter inductive inference. For example, the knowledge of gravity notwithstanding, scientists still finds a way of building machines that defy gravity.

Another scientific character of *ogede* incantation is its capacity for repeatability. For the Yoruba *ogun ti o je ewe re lo ku ikan* (a composition of leaves that is not efficacious is an incomplete one). It follows that once all the necessary and sufficient ingredients are combined the required result must be achieved. Onigbinde²⁰ buttress this position when he argues that at the point where certain result could not be replicated, it means something along the line which was present in the first research is missing in the second one, thereby forming the basis for not being able to replicate the same result. So, it is an impersonal operation as long as the required ingredients or components are present.

^{19.} Godfrey-Smith, P. *Theory and Reality: An Introduction to the Philosophy of Science*. Chicago and London: The University of Chicago Press, 2003, p. 156

^{20.} Onigbinde, A.. *Philosophy and the Social Science*. Ibadan: Frontline Books Ltd, 2000, P.

Incantation is reliable as its users know the effect it could produce. Scientific knowledge must be able to fully attain its proposed goal; this is what Edeh²¹ called accuracy in scientific features. On this ground, incantation produces accurate and expected results when its rules and procedure are systematically followed.

A Yoruba saying which goes thus; *Saa bi ologun ti ni ko saa, ko ba le ri bi o se ye ko ri*, (adhere to the instructions of the medicine man, so as to obtain the desired result) also shows that incantation follows; a systematic pathway, it is reliable and can be replicated if its procedures are strictly followed step by step, it is objective laden as it is done with a specific goal and its end result is not based on emotion or personal character.

Inclusive Technology and Yoruba Three Value Logic System

The development in technology especially of the Western type in the last decades is worthy of enumeration. For the purpose of this task, technology is defined as a means or act of getting things done with little effort. It is a practical process of producing things for human needs and consumption. Technology has been a tool of changing human conditions, lives and societies.

Modern technology especially, in the area of artificial intelligence has as its

foundation on three-valued or multiple value logic which promotes the laws of inclusive middle and inclusive identity rather than excluded middle of Aristotelian logic. Logic gate in artificial intelligence employs Boolean logic which blurs the black and white dichotomy of reality. In Boolean logic the law of identity allows any variable OR'ed with an 0 as an input to have the variable as an output. In the same way any variable AND'ed with a 1 as an input must have the variable as the output.²² The implication of this law is that the affinity between a variable and any reality can make the variable to represent this reality in inclusive circumstance. John McCarthy reiterates the importance of logic when he writes that “Logical AI involves representing knowledge of an agent's world, its goals and the current situation by sentences in logic. The agent decides what to do by inferring that a certain action or course of action is appropriate to achieve the goals”²³

Eji-o'gbeta as espoused by Akande and Emmanuel²⁴ is a three value logic system of thought that is taken from the personality of Esu, a Yoruba divinity. The Yoruba believe that Esu's abode is *Orita*; a junction where three paths meet. In metaphorical interpretation, these three paths represent three modes of thought: true opinion, false opinion and possible opinion. It has three laws of thought: 1. Inclusive middle 2. Inclusive identity and

²¹ Edeh, S. A. “10 Characteristics of Scientific Knowledge/research” 2021. Available at <https://bscholarly.com>

²² Laws of Boolean Algebra and Boolean Algebra Rules 4/10/2020, p.3

²³ John McCarthy “Concept of Logical AI” in *Logic Based Artificial Intelligence*, Kluwer Academic Publishers, Dec 2000 p. 37

²⁴ Akande Aina and Ofuasia E.. “Esu and the Logic of Ejiogbeta in Yoruba Traditional Thought System” in Danoye Oguntola-Laguda, (ed) *The Evil Personae in African and African Diaspora Religions*, Lagos: Free Enterprise Publishers 2021 pp.98-112

3. Non-contradiction.

1. Inclusive Middle: Inclusive middle means things may be different but they are related.
2. Inclusive Identity: Inclusive identity means things are identical if they are physically alike, or serve the same purpose or have the same content
3. Non-contradiction: Non-contradiction means things can be connected but they are distinguishable

Whereas Western Aristotelian logic displays:

1. Excluded middle: Everything is distinguishable and unconnected
2. Excluded identity: A thing can only be identical with itself
3. Non-contradiction: Things are unconnected therefore separable

In this wise, while Western dual logic promotes the black and white dichotomy *Eji-o'gbeta* abhors the black and white or I and they, dichotomy. It is a logic that portrays inclusiveness. It believes in unity in diversity. In other words, when things are different, it does not follow that they are unconnected or not related. According to Okoro Chiedozi²⁵ in African cosmology the material and the immaterial are interrelated such that there is no separation between the two worlds. Consequently, there is no 'exclusive identity' in traditional Yoruba laws of thought as portrayed in Aristotelian logic where a thing is *only* identical with itself. Some interpretations of this ontological

position termed it harmonious monism, integrative metaphysics, binary complementarity or binary system as against a dualism.²⁶ This is suggestive of a system that prides itself in interdependency of things rather than independency.

The connectedness in nature as seen in the Yoruba tradition is a vivid play out of the role of observation within the system. According to a Yoruba proverb *Ohun to ba jo ra la fin we'ra won, epo epa jo posi eliri* (it is only what look alike we can use to compare with one another, the pod of groundnut is similar to the coffin of a rat). It is on this structure incantation is premised. Certain observation in nature will reveal the affinity between two or more entities or variables and on the basis of this affinity experts will construct speeches laced with poetic rhyme that will be common to these entities. These always form the basis of the components that will be used in giving a command. For instance, the word *eta* (porcupine) and *ta* (sell) have the 'a' sound at the end and because of this the Yoruba people believe such relationship between words can be explored to change the fortune of someone who is a trader or marketer. Once the relationship of sound and behaviours are established between things, they become part of the ingredients that can be explored to change a certain economic reality because *ta* (sell) also means to prosper in trade. This to us underscores the metaphysical character of sounds or language albeit through observation in Yoruba traditional thought.

²⁵. See Akande and Ofuasia, "Esu and the Logic of Ejiogbeta in Yoruba Traditional Thought System" in Danoye Oguntola-Laguda, (ed) *The Evil Personae in African and African Diaspora Religions*, Lagos: Free Enterprise Publishers 2021 pp.98-112

²⁶. see Oluwale, Sophie *Socrates and Orunmila: Two Patron Saints in Classical Philosophy* 2017, Pp 51

Functionality is also a key aspect of this scientific enquiry. Functionalism as a philosophical theory has been at the core of artificial intelligence. Functionalists argue that if two things perform the same action then they share the same essence. It is for this reason some scholars have argued that computers are minded since they ordinarily perform the functions human mind would perform. Despite the fact that the human mind is made of different materials from the software in computers, functionalists assert that it is the function that they perform that matters rather than their material build up.

In the same vein, people do not think the combination of roots, leaves, water, animal parts and so on can be referred to as a machine because the different materials make up of a typical machine in the West are made up of plastics, iron, aluminum and silicon. However, if we take functionality into consideration there is little or no difference in combination of these materials in both cultures.

“Machines' are instruments for doing the apparently impossible or difficult tasks.. A machine is any device which enables energy to be used for the performance of work in a convenient way...machines are usually designed so a small effort will overcome a large load”.²⁷ This is exactly what voice command or incantation is designed to achieve. It helps to surmount problems that may want to militate against human beings either in war or crisis situation. For instance, the first example of incantation above was exhibited when two war veterans in ancient Yoruba kingdom fought each other in a supremacy

battle. Gbonka Ebiri and Timi Agbale by the order of Sango had to fight to show who was better. Timi by the story was a sharp shooter of the arrow. He never missed any target. Gbonka being aware of this, discovered an incantation to make Timi sleep and as such Timi was unable to shoot his arrow. Due to the effect of the incantation Timi Agbale slept in battle and Gbonka had the opportunity to cut his head off his neck. That was how with little effort, without the strength of bullet or gun, a war came to an end.

Conclusion

The universe to the Yoruba though stratified is a connected whole where the lives of the plants, the sun, the moon, the seas, animals and humans form a balanced system. This system is responsible for the belief that what happen to one aspect of nature can happen to any other aspect. This observed behaviour of nature made the Yoruba to developed linguistic rhyme using sound waves to harmonise material nature that can reorder nature or life of human beings. The development of this rhythm is made possible through observing the behavior of nature and things within it. This paper has not been able to establish the necessary properties of the combined materials that could be responsible for the effect of ordering nature; this is a subject of further research. What I have done here is to espouse the scientific and logical factors in incantation as a prototype of artificial intelligence.

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