AFRICAN LOGIC OR LOGIC IN AFRICA: REFLECTIONS ON CHRIS IJIOMAH'S HARMONIOUS MONISM

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Abstract
Reactions to Lucien Levy-Bruhl's assertion that Africans were pre-logical and contestations regarding logic that is peculiarly African abound. Amidst the view that logical principles are universal just as mathematical principles are and so do not need to be labelled African, Asian or Western, Chris Ijiomah, a Nigerian thinker, formulates the principle of harmonious monism as a peculiarly African logic. This paper aims to critique Ijiomah's perspective. I reflect on the alternative logics of Innocent Asouzu and Jonathan Chimakonam, bringing them to bear on Ijiomah's position. I bring the interculturality perspective to bear on inferiorizing other cultures' informal logic. I urge the view that beyond claims regarding the existence of African logic, as Ijiomah has done, concerted efforts should be made to show how logic can be employed to address the problem of bifurcation in the modern world. The paper employs the method of content and critical analysis.

Keywords: Logic, formal logic, informal logic, Africa, harmonious monism, interculturality

Introduction[1]

In the debate regarding the existence of African logic or logic in Africa, so much has been said about Aristotle and his deductive and two-valued logic. For many critics, Aristotle's logic fails the complementarity test and, as a logic that rests on opposition, is narrow, exclusivist and bifurcating. Consequently, it does not capture the entire reality of how other cultures, especially Africans, think. The impression one gets from the history of logic, which is said to have begun with Aristotle, is that logic is an element of culture both in pre-literate and literate societies (UDUMA 2015) waiting to be discovered. Reasoning and argumentation were part and parcel of people's lives before Aristotle articulated his two-valued logic. The pre-socratic philosophers employed logic in their philosophical speculations. What Aristotle, who is credited with inventing formal logic, did was to ground his work on his observation of the informal logic in operation found in philosophical works at that time, including Plato's dialogues, political speeches, mathematical proofs, and people's day-to-day life.

Amidst the view that logical principles are universal just as mathematical principles are and so do not need to be labelled African, Asian or Western, Chris Ijiomah, a Nigerian thinker, formulates the principle of harmonious monism as a peculiarly African logic. This paper aims to critique Ijiomah's perspective. I reflect on the alternative logics of Innocent Asouzu and Jonathan Chimakonam, bringing them to bear on Ijiomah's position. I bring the interculturality perspective to bear on inferiorizing other cultures' informal logic. I urge the view that beyond claims regarding the existence of African logic, as Ijiomah has done, concerted efforts should be made to show how logic can be employed to address the problem of bifurcation in the modern world.

As a branch of philosophy, the central focus of logic is on the nature of arguments and the rules and principles that can be used to evaluate them. Definitions that focus the central concern of logic on

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reasoning and argumentation abound (COPI 1972; SIMCO & JAMES 1976; HURLEY 2015). Argumentation is a process of giving reasons for and against the point at issue, especially in view of persuading someone. According to Bernadette Eboh (1983), argumentation could arise during dialogue, a debate, a case trial, discussions or meetings. Clearly, one sees this argumentative process in Plato's dialogues involving Socrates and his interlocutors even before logic became a science and was formalized by Aristotle. Such can also be said to be true of African societies, only that this was not formalized. This shows that human beings implicitly indulge in argumentation and, hence, logic, even without knowing it. "All human beings have ratiocinative propensities" (EBOH 1983, 65). Similarly, Oji Uduma (Inaugural 2015) affirms that logic is a natural disposition and, as such, an indispensable facility of the human personality.

This paper aims to reflect on Chris Ijiomah's formulation of the principle of harmonious monism as a peculiarly African logic. To accomplish its major aim, this paper is divided into three sections. Section one highlights the distinction between natural/informal and formal logic. Section two highlights the essential ingredients of African logic and logic in Africa as articulated by some African thinkers. This section also brings the perspective of interculturality to bear. In section three, the paper reflects on Ijiomah's perspective to show how relevant or irrelevant such is in addressing the challenges facing Africa at present. This section also embodies the conclusion.

Formal Vs Informal Logic
When one affirms that the history of logic begins with Aristotle, one does not intend to mean that before Aristotle, human beings were not reasoning correctly or that they were not reasoning at all. What one knows today as formal, codified or systematized logic was the invention of Aristotle. He transformed logic into a science worthy of investigation and study. Before Aristotle, the Athenians demonstrated the use of logic in their everyday life. The logic they practiced was natural, informal, and unconscious as they engaged in logical principles without understanding the principles governing their reasoning. Aristotle named argumentative types and formulated rules for evaluating their validity or invalidity. His is what is identified as formal logic.

Logic is essentially formal when it deals with the structure or form of argument in determining its validity or invalidity. Beyond the syllogism and its moods and figures (forms), the province of logic was further expanded by modern logicians to include the mathematical study of logic itself, in which a precise abstract language and a set of rules were created for a system of inference. In this type of logic, an artificial language was constructed to capture natural or ordinary language in symbolic form. This is what is called mathematical or symbolic logic. It is artificially contrived, its rules and principles well defined, structured and fixed by some sort of fiat that requires professional logicians to work within its purview and specifications. Propositional calculus and predicate calculus and their subcategories fall appropriately under formal logic.

Informal, material or natural logic deals more with the factual content or meaning of propositions constituting an argument. One does not need to study logic in a school or classroom situation in order to engage in this type of logic because it is inborn. It exists in every culture, whether pre-literate or literate. It guides the day-to-day discourses of people in their marketplace as decision-makers and business people, and the arguments and reasoning consistent with such are intuitive. A person can actually reason correctly and conform to the rules of correct reasoning from this perspective without acquiring formal training in logic. Essentially, informal or natural logic is inherent in the natural language of a people, their thinking, and the meaning they give to the realities facing them.

From the perspective of convergence, formal logic does not work without reference to informal logic. Aristotle, as already noted, built his formal logic from his observation of informal logic. Informal logic is stripped of material content in formal logic, while the latter is founded on a set of principles and serves as a model subsequent to observing the process of informal reasoning in our natural discourse.

Summing up the difference between formal and informal logic, Campbell Momoh (2000, 180) asserts that "while informal logic is natural and inherent in every human being, formal logic is artificial and as such can only be used by one who has mastered its technique through formal education." Victor Nweke (2012) concurs with him. According to Nweke, "[A] competent logician can use the rules of formal logic to adequately transform, symbolize, evaluate the validity of arguments expressed in any human language, this is because the

rules of formal logic are the rules of universal formal inference" (NWEKE 2012, 53).

The distinction between formal and informal logic has implications for the question regarding the existence of a peculiarly African logic in so far as logic is connected with the language of a people (EBOH 1983; NDUBUISI 2017; FAYEMI 2020) and the day-to-day running of their lives and their perception of reality. In the next section of this paper, I will examine the issues pertaining to African logic.

African Logic or Logic in Africa

In discussing African logic or logic in Africa, the basic question is not whether Africans reason logically. It is assumed that the capacity to reason is innate and the property of every rational human being (EBOH 1983; SOGOLO 1993; UDUMA 2015). The concern is to explore the contentions of some African thinkers regarding the viability or non-viability of an alternative logic in Africa and if there is anything that can be called peculiarly African logic. Specifically, can logic be regionalized or geographically categorized to produce, for example, Igbo logic, Yoruba logic, Ibani logic or Zulu logic?

In the above regard, speaking of logic in any context immediately brings to the fore matters of practical import to people as this pertains to their existential realities and worldviews. This is true of African logic (OGUGUA & OGUGUA 2015). It was in this connection that Eboh sets out to study Igbo logic in the context of dispute settlement using the institution of marriage and land transactions. She locates logic in "Igbo verbal discourse with its concomitant proverbs, paradoxes and imageries" (EBOH 1983, 101). She maintains that such should not be overstretched nor be made to fit into the Aristotelian or school logical system, though there is a possibility of convergence between some Igbo and Western argumentative models. Eboh affirms that the essence of logic is "in its coherence and in the correspondence between objective reality and the truth of an affirmation" (EBOH 1983, 74).

For her, "the traditional Igbo man, untouched by school logic, can ascertain when an argument is valid and when, on the contrary, it is fallacious though he can neither rigorously analyze statements nor classify fallacies" (EBOH 1983, 75). The implication of this is that it is one thing to have intuitive knowledge and another to be able to give

a theoretical exposition of such. What Eboh is saying is that there is African logic from the perspective of the Igbo. This logic is natural and not acquired in the classroom. It is applied to their life experiences.

Looking at the existence of African logic from the perspective of Ibani people of the Niger Delta of Nigeria, Jones Jaja and Paul Badey (2012) affirm the operation of the two-valued logic of Aristotle among the people of Ibani. Specifically, the Ibani people conform to the three laws of thought that are found in traditional logic. This is evident in their position that "what is evil is evil." What is seen as virtue cannot be virtue and not virtue at the same time" (JAJA & BADEY 2012, 98). Clearly, African logic, from the duo's perspective, "is the application of the thinking process in the African world, language, culture, and objects. Every language has its inner logic and this applies to juridical, pragmatic and concrete problems in the existential reality" (JAJA & BADEY 2012, 96, 101). It is quite obvious from the point of view of Jaja and Badey that there is a link between logic and language as suggested by the etymological derivation of the word "logos" and contextualizing this among the Ibani people is tantamount to logic in Africa.

From the perspective of Peter Bisong and Joseph Odok, the proper logic of Africa consists of the complementarity of all the forms of logic (2013) For them, there is nothing like a distinctive African logic. In their view, "no one brand of logic could be designated as African or Western as there is a moment of oscillation between two-valued logic and three-valued logic in all cultures of the world" (BISONG & ODOK 2013, 1). For this reason, no culture can rightly hold one form of logic as distinctively peculiar to it. They assert that the classical two-valued logic cannot explain certain realities, thereby necessitating three-valued and multi-valued logics. Bisong and Odok base their discussion of African logic on three-valued logic. This is a logical system in which there are truth values indicating true, false and some indeterminate third values. In contrast to the two-valued logic, three-valued logic is at variance with the law of excluded middle, which holds that "A" is either "B" or not "B".

They admit, however, that the three-valued logic cannot possibly explain all beliefs in the African worldview and so cannot be distinctively African. A complementarity of all the different types of logic is the most valuable instrument for explaining the totality of the

African belief system. No single logic is adequate for the explanation of the entire worldview in a particular region of the world. Therefore, no logic could be designated as African logic, Western logic, or Asian logic. All the logic exists in a complementary relationship in all societies of the world (BISONG & ODOK 2013).

Bisong's and Odok's position is in alignment with what Meinrad Hebga said in his 1958 work, namely, that the sub-Saharan African peoples are not only capable of following Aristotle's logical reasoning but also capable of formulating a different but unique logic to explain certain aspects of their thinking, which were not covered in the Aristotelian framework. He shows that the new system will be universalizable. In this way, Hebga opposes the idea that Aristotle's logic, which was appropriated by the West, was the only universal tool.

In his *Ibuanyidanda* logic, Innocent Asouzu (2020) distinguishes between conjunctive and disjunctive modes of reasoning. The logic of *Ibuanyidanda* hinges on the harmony that embraces missing links in their comprehensiveness and interrelatedness, as well as integration. He asserts that disjunctive reasoning has the capacity to negate all known alternatives due to self-centredness. It elevates world immanence and fragmentation to absolute categories. Conjunctive reasoning makes it possible for missing links to be grasped within a mutually related complementary framework. This offers a viable option in mediating between contending alternatives, between the universal and the particular, between the absolute and the relative and other opposing entities. This makes room for the coexistence of opposites and transcends arbitrariness, imposition and dogmatic tendencies.

Asouzu links the disjunctive mode of reasoning to what he calls geographical categorization. This type of logic focuses on differences and embodies exclusivist ethnocentric quality. This explains why human consciousness tends to relate to the world in such categories as "Western science," "African science," "Chinese medicine," "American medicine,"… "Western logic," "Eastern logic," "Northern logic," "Southern logic," "Arabic logic," "African logic," "Igbo logic," "Zulu logic," "Bantu logic," "Hausa logic" and "Yoruba logic" (ASOUZU 2020, 277). Asouzu condemns geographical categorization when it comes to logic. This poses some

difficulties because it compels one to assume infinitely that there are different types of logic for various groups of people.

Asouzu affirms that the logic of geographical categorization is one thing that fuels all sorts of ethnocentric reduction. One's unreserved submission to geographical categorization makes access to *Ibuanyidanda* or complementarity difficult. He concludes that "the rules of logic are founded on the natural process of human reason inherent in nature and discovered by reason" (ASOUZU 2007, 75-78). His complementarity idea indicates that the nature of African logic varies from the bifurcating Aristotelian logic that emphasizes contradiction since, in *Ibuanyidanda* logic, every reality is a missing link of reality. Missing links show that no one reality opposes the other. It explains that all realities are necessary in existence.

Precisely, Asouzu projects his complementary logic as the quintessential logic for all kinds of relationships be they social or political since such does not allow programmes that bifurcate and polarize humanity and society. In the final analysis, he discountenances "the law of excluded middle and the law of contradiction which affirms that opposites contradict rather than complement" (CHIMAKONAM Ed. 2020, 260).

What Jonathan Chimakonam (2020) does in his attempt at building a system of logic from the African philosophical tradition is similar to what the Polish or the Australian logic traditions are doing, as well as Jan Lukasiewics's three-valued logic and Graham Priests's relevance logic, which are all attempts at system building. Chimakonam sees the alternative logic ranging from trivalent to multivalent as alternative ways of analyzing the relationships among realities and so it differs from the bivalent or the conventional logic that conforms to the three traditional laws of thought.

Clearly, Chimakonam does not see logic as culture-bound or geographically categorized. In fact, he rejects African logic as logic in Africa if such is meant to be a programme constructed for Africans alone. Chimakonam's version of African logic is called Ezumezu logic. His system of logic is trivalent and three-valued, consistent with the communitarian ontology of sub-Saharan Africa's cultural worldview. This logic rests on the communal nature of life that Africans practice (CHIMAKONAM 2020, 256). It is complementary in form and content. Chimakonam emphasizes that Aristotle's

position on contradiction is not to be used in all cases and cultures since there are contexts where such does not apply.

Chimakonam's Ezumezu logic is similar to Ijiomah's system in being three-valued. However, it is universalizable, whereas Ijiomah's system is not. Ijiomah's formulation is culture-bound. Unlike Ijiomah and Asouzu, who discountenance the three traditional laws of thought, his Ezumezu system of logic recognizes the viability of the three traditional laws of thought. However, he deems them inadequate to cover some contexts of reasoning in the African life world necessitating his formulation of the three supplementary laws: "njikoka", "nmekoka" and "onona-etiti", to make up for the lacuna. (CHIMAKONAM 2020, 306)

In Chimakonam's logical system, the agents of interaction are nwa-nsa, nwa-nju and nwa-izugbe, and the process of interaction that leads to nwa-izugbe is a creative struggle of autonomous variables. Inferences in Ezumezu logic could be "arumaristic" or "ohakaristic", upholding both conjunctive and disjunctive motions across two principal modes of inference: "contextual" and "complementary" (CHIMAKONAM 2020, 306). In sum, Chimakonam concurs with the view that there can be such a thing as African logic, not logic in Africa that is geographically categorized or regionalized.

Comparing African logic with Western logic, John Egbonu and Gwatana Judith (2022, 252) argue that "African logic derives from the worldview of African people. It is more accommodating rather than opposing and emphasizes the place of convergence more than the opposing or contradictory aspect." The central point of African logic, according to them, is that "it is complementary and accommodates the physical and the spiritual worlds…" (EGBONU & GWATANA 2022, 254). Consequently, the two-valued logic of Aristotle would run into crisis because it would be unable to explain such realities.

Chris Ijiomah's Formulation of African Logic
In his perspective on African logic, Ijiomah formulates an alternative logic that could explain super-naturalistic experiences. This is what he calls the logic of harmonious monism. Ijiomah views harmonious monism as a kind of three-valued logic. Essential to his position is the view that logic is the science of relation or explanation that deals with

statements or assertions, as well as a product of "a particular way people perceive reality" (IJIOMAH 2014, 140.)

Clearly, Ijiomah's perspective on African logic accepts "the coexistence of seemingly opposing realities that are contraries, which complement each other" (IJIOMAH 2014, 130). Precisely, according to this logic, "nothing can realize itself without what it is not." (IJIOMAH 2014, 130). This simply means that everything actualizes itself only when it absorbs what it is not. In this regard, he asserts that the relationship he is articulating disallows contradiction which states that "if there is an "X," that "X" cannot combine with "-X" to produce truth (IJIOMAH 2014, 130).

He highlights in his system the idea of African science of relation that accepts that everything in the world, including "X", has a missing link. For "X", this missing link is something other than X, it is not X. According to him, "X" yearns and struggles to capture the 'missing link' (IJIOMAH 2014, 131). "It is only at the time of "complement" with this that "not X" (-X) realizes itself. When the missing links come together with the realities that are missing in them, a unity is formed" (CHIMAKONAM Ed. 2020, 269). This does not seem to agree with the principle of non-contradiction.

The question is, does it mean that Africans do not recognize contradictions? If the components are spirit and matter, the result becomes spirit/matter. Ijiomah, thus, rejects the three laws of thought as non-viable but fails to propose alternatives to the three laws.

Ijiomah's idea of harmonious monism makes sense in the context of African ontological realities that rest on the relationship between the physical and the spiritual. For him, the logics of the West and harmonious monism differ because the logics of the West do not allow extremes, materialism and spiritualism to meet. In harmonious monism, extremes meet and none superimposes itself on the other or feels inferior or superior to the other. The relationship is one of reciprocity. He, therefore, contrasts the logic of the West, which rests on the contradiction of opposites, with that of Africa, which rests on the principle of missing links and integration.

Concretely, Ijiomah agrees with Udoh Etuk that communitarian principles affect Western logic in Africa. He cites Etuk's example thus:

1. If anyone cuts another person's palm fruits, he will pay fine.

2. S has cut another person's palm fruits.

If it is in the Western worldview, with the two premises above, it does follow that S should pay fine. But, according to him, in the African worldview, if S is the grandchild of the "other person" in the community, S will not pay fine. The question is: is this the way the communitarian logic functions and is rendered unworkable?

It is tendentious to assert that the Western principle of *modus ponens,* like the one used by Etuk and cited by Ijiomah, breaks down in the face of the communitarian values of the African extended family system. It is important to note that even the uneducated Africans employ or conform to this principle in their dealings with one another. Consider the following scenario.

In the Ubakala community of Umuahia in Abia state in Nigeria, palm trees in the village farmlands (Ubi) are not harvested individually, even if they are found in one's farmland. When the fruits are ripe for harvesting, the elders meet to decide on a day the community members can go en masse to harvest them. This is called iwunkwu (palm harvesting rule). Normally, men and women who are interested in harvesting palm fruits go to contract palm tree climbers from other places to come and cut for them at a fee. Harvesting the palm fruits outside the approved time by the elders, even if such are in one's farmland, is frowned upon and can attract sanctions from the community. The argument can be formulated in syllogistic or hypothetical form as:

1. If anyone harvests palm fruit from the farmland outside the approved time, then he will face sanctions.
2. X has harvested palm fruit outside the approved time.
3. Therefore, he will face sanctions.

Similarly, marriage gifts and bride price are not viewed as just the parents of the bride affair since the community has a share in the gifts. Each community has a sharing formula that apportions a part of the gifts to the *Umunna* and a part to the bride's parents, with the latter having no say in the marriage gift negotiation. There is a rule in the community that those whose daughters absconded with a man without being properly married and those men who have not gone to properly marry their wives in accordance with the marriage custom of the

community are automatically excluded from participating in the sharing of such gifts. The *Modus Ponens* argument is stated thus:

1. If any woman's daughter absconded with a man without being properly married, then such a woman will be excluded from the sharing of the marriage gifts.
2. <u>X's daughter has absconded with a man without being properly married.</u>
3. Therefore, X will be excluded from sharing in the marriage gifts.

This kind of deductive reasoning guides the activities of the villagers. For instance, in the case of palm fruits harvesting, an individual dares not to harvest palm fruits from the farmlands located at a place called *Ubi (even if such are on his property)* because such would be sanctioned. As the locals would not make this rule and watch it violated, they are the ones who enforce the punishment or sanctions that are attached to it. They refuse to live in contradiction. The same applies to the rule they have laid down regarding who participates in the marriage gifts.

One is reminded of what happened in Chinua Achebe's *Things Fall Apart,* where Okonkwo accidentally killed someone while exploding the native gun. The law in the village was that anyone who killed someone would be banished for seven years. Okonkwo was banished for seven years regardless of the fact that what happened was an accident, and his social status was irrelevant in the matter.

Looking at Etuk's example, as cited by Ijiomah, even amidst the communitarian ontology, S could be fined if cutting the fruits of the grandmother was done without the latter's knowledge or consent and it is well known in the community that S is a disobedient grandchild and not in good terms with the grandmother.

It is for the reason of violations of such rules of logic in contemporary Nigeria that corruption is rife. Scenarios abound where constitutional rules are violated because of extra judicial considerations. For example, the constitution says that if any member of parliament defects to another party, he loses his parliamentary seat. But one finds a scenario where lawmakers defect to another party and yet people are advocating that such should still occupy their seats in parliament against the constitutional provision because the party

defected to happens to be the ruling party. What about a scenario where a corrupt politician who should be in jail is told that if he defected from his party and joined the ruling party, his sins would be forgiven against all the rules to the contrary. The spirit of *onyeaghalanwanneya* (don't leave your kin), which is a communitarian principle, can be pleaded in this regard. Several reasons for such violations of standard rules of logic may be religious, ethnic, membership of the same cult group or political affiliation. The point I am making is that Africans recognize and reason in conformity with the formal principles of logic. It is actually not keeping with such principles that is the problem.

Reflections

I take three pronged approaches in my reflections on Ijiomah's harmonious monism, namely, (1) his repudiation of the three traditional laws of thought (2) the question of universalizability of his formulation and (3) the question of relevance.

Repudiation of the Traditional Laws of Thought

The process of judging involves conjoining and disjoining notions. In its conjoining mode, judgment is affirmative, while it is negative in its disjoining mode. For instance, "some realities are spiritual" is an affirmative judgment, while "some realities are not spiritual" is negative. Here, two laws emerge: one conditions the affirmative judgment and the other conditions the negative judgment. The law which permits affirmative judgment is the law of identity, while the law that allows a negative judgment is the law of contradiction. The law of excluded middle combines the other two in "either or" mode.

In his formulation of harmonious monism, Ijiomah proposes the three-valued logic as an alternative to the Western (Aristotelian) logic that is two-valued and rests on the three traditional laws of thought. He argues that these laws are non-viable in the African context due to the complementarity of the physical and spiritual realities. The question is, granted that certain realities in the African setting cannot be explained using the three laws of thought, does that render these laws nugatory? Must the formulation of three-valued logic necessarily lead to the repudiation of the three traditional laws of thought? Is the three-valued logic peculiarly African?

Three-valued logic is not the child of Ijiomah's construction. As far back as the 1920s, the Polish logician, Lukasiewicz had articulated a three-valued logic that admitted a third value other than true or false, in which the three traditional laws of thought were found to be inadequate. However, this did not necessitate throwing these laws over board. It is not correct to say that Africans do not reason in conformity with Western logic, specifically, the three laws.

It would have been safer for Ijiomah to only emphasize the limitedness or inadequacy of these laws in explaining the connection between physical and spiritual realities instead of repudiating them as non-viable in the context of Africa. For the avoidance of doubt, the two-valued logic has a place in the African scheme of things and has instances where they apply. Thus, consistent with the logic of complementarity, such can be said to complement the three-valued logic. Ijiomah's position is not in keeping with interculturality, which requires respect and tolerance for other cultural perspectives for the purpose of mutual enrichment.

The Question of Universalizability
When it comes to logical thinking in any context, the relevant questions raised include: (1) does all of this fit together logically? (2) Does this really make sense? (3) Does that follow from what you said? (4) How does that follow from the evidence? (5) Before you implied this, and now you are saying that I don't see how both can be true? This implies that thinking logically requires bringing a variety of thoughts together in some order.

Anywhere people have to deliberate on issues that concern them, be they social or political, it is taken for granted that questions related to the above will be thrown up. This is bound to happen irrespective of whether the society is pre-literate or literate. This is what it means for logical thinking to be universalizable. Bringing this to bear on one's discourse here, Ijiomah's harmonious monism cannot pass this test. His system of logic is culture-bound and would make sense only to a particular cultural group. This is not the goal of African logic or logic in Africa.

The Question of Relevance
The idea of missing links and complementarity permeates Ijiomah's formulation. I find this quite relevant to the Africa of today, which has

been beleaguered by ethnic and political conflicts. The principles of complementary logic that promote open-mindedness, cooperation and seeing the other as a missing link rather than an opponent will go a long way in addressing the challenge of ethnic conflicts and wars in Africa, if properly propagated through education and political campaigns. Complementarity results in the unity of contraries harmonizing with each other.

However, Ijiomah's idea of the physical dovetailing into the spiritual and the spiritual dovetailing into the physical as adumbrated in his harmonious monism will not sell in the globalized world of the 21st century with its stupendous scientific achievements and hyper-technological growth. In this regard, African logicians should seek ways to use their discipline as an instrument for problem solving. Formalizing systems of African logic that speak to the multifarious problems assailing the African continent is a major way to make a contribution to the development of humanity.

Conclusion

In this paper, I set out to reflect on Ijiomah's formulation of African logic. In pursuant of this aim, I made an effort to highlight the distinction between formal and informal logic. The paper noted that the logic of a people has a connection with their existential realities and that this is also true of African logic, which many thinkers refer to as deriving from the worldview of Africans and used to explain their ontology. Thereafter, an attempt was made to discuss the various perspectives on African logic highlighting the views of Asouzu and Chimakonam. It was noted that the alternative logics articulated herein see Aristotle's binary two-valued logic as inadequate and incapable of explaining certain realities in Africa.

Reflecting on the essential ingredients of Ijiomah's harmonious monism, the following facts emerged, namely: that Ijiomah views logic as culture-bound and that a peculiarly African logic is a possibility; that he posits a three-valued logic that can be used to explain supernatural realities; that his so-called three-valued logic is limited and consequently suffers the crisis of relevance in the 21st century globalized world. However, it is my position that the idea of complementarity embedded in the logic of harmonious monism is relevant to Africa as it is the recipe for addressing internecine wars. This is because it is the key to breaking barriers and bifurcation

created by the "we and them" mindset that does not allow for accommodation and reconciliation. In this respect, it is a good attempt at expanding the frontiers of African philosophy and its logic.

Declarations
*The author declares no conflict of interest or ethical issues for this work.

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