

## Articulation of the Main Ideas of Afrocentrism in Relation to Science and Technology

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### ABSTRACT

*Afrocentrism's key concepts regarding science and technology are summarised in this paper. These concepts include reclaiming African contributions, opposing Eurocentric narratives, advancing African-centered knowledge systems, empowering marginalised communities, and encouraging interdisciplinary approaches. By showcasing the scientific and technological accomplishments of ancient African civilizations like Egypt and Mali, afrocentrism aims to correct historical omissions. It advocates for a more inclusive representation of human achievement by criticising Eurocentric narratives that marginalise contributions from non-Western cultures. The methods used to gather, examine, and present the data are also covered in this work. There is also a broad conclusion and a critique of the conversation. The study used a historical research design method to gather and examine data. The analysis was done by use of thematic and content analysis and its presentation was presented by use of themes. The paper concluded that the key concepts of Afrocentrism concerning science and technology provide a diverse strategy aimed at redressing past wrongs, contesting prevailing accounts, and advancing inclusivity and fairness in history. The paper recommends that, Reclaiming African contributions is essential for a more equitable and comprehensive appreciation of global scientific history.*

**Keywords:** Afrocentrism, Eurocentrism, Science, Technology

### I. INTRODUCTION

Studying science and technology involves not only examining empirical data and technological developments, but it is also deeply entwined with historical narratives about society, culture, and other topics.<sup>1</sup> In this complicated context, afrocentrism appears as a transformative framework that aims to challenge traditional Eurocentric ideas and strive to reform the discourse in general, with a focus on science and technology. Fundamentally, afrocentrism is an effort to recover and highlight African contributions to these domains, which are often overlooked or undervalued in popular narratives.<sup>2</sup> This involves rearranging historical narratives to highlight the agency and inventiveness of African peoples, in addition to recognising the scientific and technological achievements of earlier African civilizations. The core of the Afrocentric approach is the challenge of questioning Eurocentric myths that have long dominated academic discourse. These stories frequently present Western nations as the exclusive originators of scientific and technical advancement.<sup>3</sup> Non-Western civilizations are consequently consigned to the unimportant

<sup>1</sup>Deborah G. Douglas, *The social construction of technological systems, anniversary edition: New directions in the sociology and history of technology*. MIT press, 2012, p.16.

<sup>2</sup>Felix Kumah-Abiwu, "Beyond intellectual construct to policy ideas: The case of the Afrocentric paradigm." *Africology: The Journal of Pan African Studies* 9, no. 2 (2016): 7-27., p.12.

<sup>3</sup>Molefi Kete Asante, "Afrocentricity and the Eurocentric hegemony of knowledge: Contradictions of place." *Race and foundations of knowledge: Cultural amnesia in the academy* (2006): 145-153, p.149.

periphery of history, especially those of Africa. Afrocentrism is able to counteract this distortion by examining Eurocentric biases and emphasising the interdependence of human knowledge and invention across cultures and continents. Furthermore, a school of thinking known as "Afrocentrism" promotes the adoption of African-centered knowledge systems in the fields of science and technology.<sup>4</sup>

Incorporating indigenous African knowledge, practices, and viewpoints into mainstream discourse is necessary to achieve this. This will ultimately lead to a better understanding of these domains and the creation of a more inclusive methodology for knowledge generation. Afrocentrism is devoted to the empowerment of marginalised communities, especially those of African origin, and extends beyond the academic realm.<sup>5</sup> In order to give these communities a sense of pride, identity, and agency in an increasingly globalised world, Afrocentrism empowers people to navigate and mould their own futures. Reclaiming African achievements and honouring cultural heritage are two ways to do this. Furthermore, Afrocentrism emphasises how important it is to support the growth of interdisciplinary methods in the fields of science and technology. By combining ideas from many disciplines, afrocentrism offers a thorough grasp of subjects including history, anthropology, sociology, and cultural studies.<sup>6</sup> This understanding transcends the boundaries of certain fields and promotes the creation of novel responses to urgent societal issues. In its most basic form, afrocentrism provides a thorough framework for rethinking the part that science and technology play in promoting human happiness, social justice, and cultural equity.

## II. LITERATURE REVIEW

A thorough analysis of the body of research on Afrocentrism, science, and technology was done in order to shed light on the key concepts and points of contention in the area. In order to comprehend the context and content to be used in Afrocentric scholarship, the researcher examined academic works. To better understand Afrocentric viewpoints, research from a variety of fields was combined, including science and technology studies, anthropology, history, and sociology. The books under analysis served as authorities for the major topics covered in the work as a whole.

In 1980, as a methodical response to Western epistemology, Molefi Kete Asante's intellectual ideas gave rise to the concept of afrocentricity as knowledge. In order to address the lives and experiences of people of African descent in America, on the African continent, and in other diasporas, it first appeared in the African-American cultural panorama as a set of premises that would account for the understanding of an African sense of totality and wholeness in a network of multiple and particular manifestations of different fields of knowledge.

Asante's views on social change stemmed from the understanding that, while Eurocentricity is a valid worldview, it may be abnormal if it imposed its cultural particularity as universal while denying and demeaning other cultural views.<sup>7</sup> These goals included thoroughly examining and challenging the Eurocentric nature of knowledge, preventing the individual and collective annihilation of people of African descent, and reclaiming an African cultural system as the cohesive hub of all African historical and cultural pasts. The foundation of this revolutionary approach to history and culture, which he named Afrocentricity, was laid by Asante through historicizing concepts, perspectives, and common cultural traits among people of African descent; by identifying the symbols which, taken as a whole, will become a transformative agent for the empowerment of African people.<sup>8</sup> Afrocentricity challenges the orientation to history that is foreign to the history of the African subject; it demands an epistemological location that places the critic/scholar inside the African experience and African ideals and values at the centre of inquiry framed by African codes, paradigms, symbols, motifs, and myths, which give meaning to the history of the African subject and a sense of place in the global arena. By breaking free from the historical constraints of the fixed European historicism, Afrocentricity generates new interpretations, new criticisms, and ultimately new knowledge.

While some critics may view afrocentricism as little more than structured epistemological orientations generated from everyday praxis and "intended to explain universal phenomena across space and time," in accordance with an Althusserian idea (Althusser, *Lettre à D.*, July 18, 1966).<sup>9</sup> Afrocentricity is a revolutionary undertaking that goes beyond simple idea reorganisation. Idealistically based in the search for human knowledge from a culturally and

<sup>4</sup>Kmt G. Shockley, "African Centered Education." In *Oxford Research Encyclopedia of Education*. 2023, p.45.

<sup>5</sup>Paul Sillitoe, "Indigenous knowledge in development." *Anthropology in Action* 13, no. 3 (2006): 1-12., p.8.

<sup>6</sup>Winston Mano, "Afrokology as a transdisciplinary approach to media and communication studies." In *Routledge Handbook of African Media and Communication Studies*, Routledge, 2021, pp. 256-275, p.261.

<sup>7</sup>Molefi K. Asante, "Afrocentricity: The theory of social change." (*No Title*) (2003), p.61.

<sup>8</sup>Samuel KB. Asante, "Stability of Contractual Relations in the Transnational Investment Process." *International & Comparative Law Quarterly* 28, no. 3 (1979): 401-423., p.408.

<sup>9</sup>Yoshitaka Miike, "Non-Western theory in Western research? An Asiatic agenda for Asian communication studies." *The Review of Communication* 6, no. 1-2 (2006): 4-31., p.20.

historically situated viewpoint on the topic, it challenges political, moral, and intellectual defences of accepted universal principles in a glaring epistemological break with what is regarded as Westernity in this work. Afrocentricism indicates a blatant epistemological break with the Eurocentric paradigm by agencing the African subject in the speaking of his or her own history as opposed to being the object of research or the mere subject matter in the framework of Eurocentric disciplines.<sup>10</sup>

While it challenges racist scholars and colonising concepts that have presided over the triumph of Western thought, and it offers harsh criticism to the prevalent Eurocentric myths of universalism, it also presents the possibility of a non-hegemonic alternative perspective in the understanding of human expressions in our diverse multicultural society. Most crucially, though, is that Afrocentricity lacks the authoritarian spirit of Eurocentric theories because it does not aim to substitute "black knowledge" for "white knowledge".<sup>11</sup>

## 2.1 Theoretical Framework

Kete Asante initially proposed the formal theory of Afrocentrism, which serves as the conceptual foundation for the new technique that is being introduced here.<sup>12</sup> Afrocentrism, in its most basic form, is the assumption by the academic that it is his or her duty and right to present reality from their own point of view. From the creation of new curricula for Black children to the development of new research paradigms that question the regulations governing Eurocentric research practices, scholars have applied this basic premise to a wide range of applications.<sup>13</sup> One such addition to the new paradigm is Asante's Afrocentric approach, which is adapted in this article's methodology.

Ma'at and Nommo are two ideas that are fundamental to African cultures everywhere they may be found, according to Asante.<sup>14</sup> Ma 'at, which means "the quest for justice, truth, and harmony," alludes to the research project itself in this context, where it is employed in harmony with the researcher as a means of pursuing justice and truth. Ma'at's ultimate objective is to contribute to the development of a society that is more equitable and fair. Nommo, which translates as "the productive word," here refers to the process of knowledge creation as a means of fostering better interpersonal relationships. In his four principal works on Afrocentrism, Asante outlined a series of fundamental convictions that scholars must uphold in order to be classified as Afrocentric.<sup>15</sup>

According to Asante, the fundamental tenets of Afrocentric theory are as follows: (a) researchers should be accountable for exposing any implicit, subtle, or racist theories that might be present in current methodologies; (b) they should seek to establish the legitimacy of African ideals and values as a primary frame of reference for gathering and analysing data; and (c) they should continue to conduct inquiry based on a rigorous interpretation of place.<sup>16</sup> According to Asante (1990), these three prerequisites comprise the essential qualities that characterise the Afrocentric researcher and set the Afrocentric methodology apart from the Euro-centric approach.<sup>17</sup> The primary differentiator between these three traits is the emphasis on a precise description of place.

In other words, an Afrocentric investigation needs to be conducted from a precisely identified Afrocentric place and need to provide a detailed account of this area. Essentially, this definition of place is a defence of the rejection of the personal-theoretical divide, the inclusion of what may be considered an autobiographical perspective, and the necessity for objectivity. Therefore, Asante's principles mandate exposing biases, validating African values, and conducting research from an Afrocentric standpoint. This methodological framework is essential for advancing science and technology through a lens that prioritizes an accurate, autobiographical, and objective African context.

## III. METHODOLOGY

The research methodology used in the essay was historical analysis. This required tracking the evolution of Afrocentrism and its interaction with science and technology by looking through old books, records, and artefacts. In order to pinpoint important individuals, movements, and occurrences in Afrocentric discourse, the researcher examined secondary sources. The researcher discovered African contributions to science and technology by examining historical narratives and records. They then assessed how these contributions have been depicted in

<sup>10</sup>Samuel KB. Asante, "Over a hundred years of a national legal system in Ghana." *Journal of African Law* 31, no. 1-2 (1987): 70-92., p.78.

<sup>11</sup>Molefi Kete Asante, "The African American as African." *Diogenes* 46, no. 184 (1998): 39-50., p.41.

<sup>12</sup>Ibid., p.44

<sup>13</sup>Christine Oliver, "The collective strategy framework: An application to competing predictions of isomorphism." *Administrative Science Quarterly* (1988): 543-561., p.549.

<sup>14</sup>Samuel KB. Asante, (1987). *Op. Cit.*, p.82.

<sup>15</sup>Ibid. p.85.

<sup>16</sup>Molefi Kete Asante, "African Elements in African-American English." *Africanisms in American culture* (1990): 19-33., p.23.

<sup>17</sup>Ibid. p.26.

Eurocentric contexts. Thematic and content analysis were used to examine the data. Finally, themes were used to present the facts in writing.

## IV. FINDINGS & DISCUSSIONS

### 4.1 Findings

The paper presented its findings thematically. These findings were analyzed by use of thematic and content analysis. They are discussed as follows:

#### 4.1.1 Reclaiming African Contributions

Reclaiming Africans' contributions to science and technology has been made possible in large part by the philosophical and cultural movement known as afrocentrism. Scholars like Cheikh Anta Diop, Ivan Van Sertima, and George G. M. James have made a great deal of contribution to the effort of refuting the prevalent Eurocentric narratives and drawing attention to the rich scientific and technological legacy of Africa.<sup>18</sup> The groundbreaking study "The African Origin of Civilization: Myth or Reality," written by Senegalese historian and anthropology Cheikh Anta Diop and released in 1974, made important advances in the area. Although ancient Egypt is often portrayed in Eurocentric narratives as a society that did not originate in Africa, Diop maintained that Egypt had its origins in Africa.<sup>19</sup> He provided strong evidence that Egyptian culture and civilization originated in Africa, challenging the notion that African nations had contributed very little or nothing to the advancement of science and technology.

Similar grounds are addressed in Ivan Van Sertima's 1976 book "They Came Before Columbus," which offers proof of African ancestry in the Americas before Columbus's arrival.<sup>20</sup> Van Sertima looks into the cultural parallels, linguistic linkages, and archaeological finds between indigenous American and African civilizations. The aim of this study is to illustrate the breadth of African exploration and the flow of information before European settlers arrived. By recovering this past, Van Sertima undermines Eurocentric notions of European domination and discovery. She further highlights the contributions African civilizations have contributed to the global sharing of scientific knowledge.<sup>21</sup> In his 1954 book "Stolen Legacy," George G. M. James claims that Western philosophy and science have their roots in the ancient African civilizations of Egypt and other places.<sup>22</sup> James claims that the teachings of Egyptian scholars and priests were a major source of inspiration for Greek thinkers like Aristotle and Plato. According to James, Western academics have hijacked and misrepresented Egyptian knowledge and wisdom. James is striving to restore the rightful place that African contributions should occupy in the domains of philosophy, mathematics, and other branches of science and technology by means of recovering this legacy.<sup>23</sup>

These people, along with other academics, have been instrumental in reclaiming African contributions to science and technology and opposing narratives that are centred on Europe. Through their scholarly work and research, they have illustrated the brilliance and originality of African civilizations, underscoring the need for a more inclusive and authentic historical narrative. Afrocentrism's process of recovering African contributions improves our understanding of the past while also fostering a feeling of empowerment and pride among African people and those connected to the African diaspora. Afrocentric scholars have found a plethora of evidence that shows how advanced ancient African societies were in terms of science and technology. This evidence was found via scholarly investigation and investigation. These achievements challenge the conventional wisdom that holds that Western civilizations have benefited exclusively from technical growth. They include breakthroughs in the domains of mathematics, astronomy, medicine, and engineering. On the other hand, afrocentrism is the idea that Africa has made substantial contributions to science and technology that ought to be recognised globally.

One of the best examples of such contributions is the ancient Egyptian culture, which is well-known for its architectural wonders like the pyramids and the Sphinx. The pyramids are one instance of such a gift. Apart from their remarkable size and magnificence, these constructions serve as an example of the sophisticated mathematics and

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<sup>18</sup>Tenisha Howard, "" The Secret African City": Ancient Egyptian's Influences on Washington, DC's Planning and Architecture in the 18th And 19th Centuries." (2009), p.67.

<sup>19</sup>Anta Diop Cheikh, "The African Origin of Civilization: Myth or Reality." *New York* (1974), p.34.

<sup>20</sup>Tiya Miles and Barbara Krauthamer, "Africans and Native Americans." *A Companion to African American History* (2005): 121-139, p.127.

<sup>21</sup>Jesse Ashiedu and Dhanela Sivaparan, "Seafaring Africans and the Myth of Columbus: Reflecting on Fourteenth-Century Mali and the Prospect of Atlantic Voyages." In *Education, Colonial Sickness: A Decolonial African Indigenous Project*, Cham: Springer Nature Switzerland, 2024, pp. 17-41, p.21.

<sup>22</sup>Mary Lefkowitz, "Africa, Mother of Western Civilization." *The New Republic* 206, no. 6 (1992): 29-37., p.34.

<sup>23</sup>Abraham Melamed, "The myth of the Jewish origins of philosophy in the Renaissance: from Aristotle to Plato." *Jewish History* 26, no. 1 (2012): 41-59, p.50.

engineering skills of the ancient Egyptians. For instance, the exact alignment of the pyramids with heavenly bodies indicates a highly developed mathematical and astronomical knowledge that was well ahead of its time. In a similar spirit, the West African kingdom of Mali was renowned for its lengthy history of technological innovation and scientific development.<sup>24</sup> Mali served as a centre for intellectual and cultural interchange, contributing to the growth of intricate urban settlements like Timbuktu as well as innovations in agriculture and metallurgy.<sup>25</sup> Among the most significant cities in the nation was Timbuktu. The mythical prosperity of Mali, epitomised by the reign of Mansa Musa, serves as more evidence of the economic and scientific supremacy of African civilizations.

Afrocentric academics like Cheikh Anta Diop and Ivan Van Sertima have been instrumental in drawing attention to these achievements and dispelling myths about African inferiority.<sup>26</sup> For example, Diop's seminal work on the African roots of ancient Egyptian civilization has spurred much discussion and reappraisal in scholarly circles. This is due to the fact that Diop's study was original. Similarly, Van Sertima's studies of African presence in the Americas have illuminated the global nature of human history connection and the flow of information between continents.

By promoting a sense of pride and identity rooted in their historical and cultural history, afrocentrism aims to empower oppressed communities. Not only that, but Africans have also been denied credit for their contributions to science and technology.<sup>27</sup> Afrocentrism aims to actively contribute to the growth of scientific knowledge and technological innovation by inspiring the next generation to seek jobs in STEM disciplines. This is achieved by emphasising their forefathers' achievements. In summary, Afrocentrism offers a potent paradigm for comprehending the development of science and technology from a more inclusive and varied standpoint.<sup>28</sup> Afrocentrism highlights the value of acknowledging the various contributions made by different civilizations to the progress of science and technology, as well as how it enhances our knowledge of human achievement. It accomplishes this by recovering African contributions and challenging Eurocentric perspectives.

#### 4.1.2 Challenging Eurocentric Narratives

The intellectual movement known as afrocentrism has been at the forefront of contesting Eurocentric narratives throughout the history of science and technology. Cheikh Anta Diop, Ivan Van Sertima, and Molefi Kete Asante are just a few of the scholars that have significantly influenced this conversation by offering opposing viewpoints that highlight the rich scientific and technological legacy of African civilizations.<sup>29</sup> Cheikh Anta Diop provides strong evidence to refute Eurocentric conceptions of ancient Egyptian civilization in his writings published in the middle of the 20th century, most notably "The African Origin of Civilization: Myth or Reality" (1974).<sup>30</sup> Diop makes the case that Egypt, which is usually depicted in Eurocentric narratives as a society that was solely Caucasian, actually had African roots. He uses language research, cultural parallels, and archaeological findings to back up his assertion that Egypt was essentially an African culture.<sup>31</sup> By rewriting the history of Egypt, Diop contests Eurocentric ideas of superiority and reasserts the importance of African contributions to early science and technology. This is achieved by presenting the narrative from a different angle.

Ivan Van Sertima's seminal work "They Came Before Columbus" (1976) upends the Eurocentric myths that have long dominated accounts of the exploration and discovery of the Americas.<sup>32</sup> Given the information Van Sertima provides, it would seem that Africans were in the Americas far before Christopher Columbus made his discovery. He highlights objects, linguistic ties, and cultural contacts between African and indigenous American civilizations in an effort to subvert the Eurocentric notion of European "discovery" and colonisation.<sup>33</sup> By highlighting these pre-

<sup>24</sup>Asher Benowitz, *Pyramids and Literature in Ancient Egypt: A History of the Oldest Architecture in the World*. DTTV PUBLICATIONS.

<sup>25</sup>Roderick James McIntosh, *The peoples of the Middle Niger: The Island of Gold*. John Wiley & Sons, 1998, p.63.

<sup>26</sup>Frank C. King, "Campaign for Edutainment: Afrocentric Philosophy and Hip Hop Pedagogy as a Method for True Liberation." PhD diss., Washington State University, 2013, p.106.

<sup>27</sup>Marcia J. Watson-Vandiver and Greg Wiggan, *The healing power of education: Afrocentric pedagogy as a tool for restoration and liberation*. Teachers College Press, 2021, p.82.

<sup>28</sup>Ebony Omotola McGee, *Black, brown, bruised: How racialized STEM education stifles innovation*. Harvard Education Press, 2021, p.76.

<sup>29</sup>François Ngoa Kodena, *Afrosopian Knowledge and Cheikh Anta Diop: Geo-ethical and Political Implications*. Rowman & Littlefield, 2023, p.84.

<sup>30</sup>Victor Oguejiofor Okafor, "Diop and the African Origin of Civilization an Afrocentric Analysis." *Journal of Black Studies* 22, no. 2 (1991): 252-268, p.263.

<sup>31</sup>Paul Bandia, "Cheikh Anta Diop." *Agents of translation* 81 (2009): 209 – 243, p.209.

<sup>32</sup>IVAN VAN, *They Came Before Columbus*. Random House, 1976, p.43.

<sup>33</sup>Ivan Van Sertima, *They came before Columbus: The African presence in ancient America*. African classics, 1976, p.32.

Columbian encounters, Van Sertima undermines the Eurocentric myth of Western primacy in exploration. Additionally, she underlines how important it is to recognise the contributions that African civilizations have made to the global flow of scientific knowledge.

Modern scholar Molefi Kete Asante has made strides in advancing Afrocentric viewpoints on science and technology. In his corpus of work, which includes the books "Afrocentricity" (1980) and "The Afrocentric Idea" (1987), Asante has argued that African experiences and viewpoints should be taken into account when examining human knowledge and invention.<sup>34</sup> He emphasises the need to reclaim African successes and bring them into the mainstream discourse in order to fight Eurocentric biases that marginalise or erase African contributions. The importance of taking a more inclusive and egalitarian approach to the study of the history of science and technology is highlighted by Asante's work. This approach should recognise the variety of human experiences and celebrate the contributions made by people of all different cultures.<sup>35</sup>

In summary, Afrocentrism offers a crucial paradigm for questioning Eurocentric narratives in the context of science and technology discourse. Afrocentrism is a philosophical perspective that highlights the noteworthy advancements in human knowledge and inventiveness that African civilizations have accomplished. This is made possible by the scholarship of people like Molefi Kete Asante, Ivan Van Sertima, and Cheikh Anta Diop. Afrocentrism, which is marked by the rewriting of history and the elevating of African perspectives, promotes a more inclusive and egalitarian understanding of science and technology. This comprehension acknowledges the interdependence of world history and honours the various contributions made by all peoples.

#### 4.1.3 Promoting African-Centered Knowledge Systems

Afrocentrism is a cultural and intellectual movement that supports the advancement of knowledge systems in science and technology that are centred on African culture. This point of view has been advanced by a number of scholars, including Molefi Kete Asante, Marimba Ani, and John Henrik Clarke.<sup>36</sup> They have underlined how important it is to include native African viewpoints, knowledge, and practices in popular discourse. In his 1980 publication titled "Afrocentricity: The Theory of Social Change," Molefi Kete Asante argues in favour of creating a framework that prioritises African experiences and viewpoints in the study of human knowledge and creativity.<sup>37</sup> According to Asante's theory, Eurocentric prejudices have led to the marginalisation or erasure of complex knowledge systems produced by African civilizations. Asante seeks to subvert the dominance of Western epistemologies and make room for African knowledge systems to be celebrated and validated. This is achieved by advocating for afrocentricity.

Marimba Ani's landmark essay "Yurugu: An African-Centered Critique of European Cultural Thought and Behaviour," which was released in 1994, critiques the influence of the Eurocentric worldview on African communities.<sup>38</sup> Ani argues that African viewpoints on science and technology have been warped by Eurocentric ideas, leading to the devaluation of local knowledge systems. Ani demands the revival of indigenous African modes of knowing as well as the recovery of African-centered knowledge. She accomplishes this by outlining the ingrained Eurocentric prejudices in Western philosophy. Prominent historian and proponent of Afrocentrism John Henrik Clarke emphasises how important it is to acknowledge the contributions that African civilizations have made to the progress of human knowledge and invention.<sup>39</sup> One of Clarke's books, "African People in World History," was published in 1993. It highlights the achievements of ancient African civilizations in a number of domains, including mathematics, astronomy, medicine, and other areas.<sup>40</sup> In addition to challenging Eurocentric narratives of perceived African inferiority, Clarke seeks to empower African communities and communities of African origin in the diaspora through reclaiming this past.

These scholars, together with others, support the advancement of African-centered knowledge systems in the domains of science and technology. Afrocentrism is a perspective that aims to improve our comprehension of human creativity and wisdom by introducing native African beliefs, practices, and knowledge into popular culture. This strategy fosters a sense of pride and empowerment among communities of African and African diasporic ancestry,

<sup>34</sup>Washington Marovatsanga and Paul Michael Garrett. "Afrocentricity and its critics." In *Social Work with the Black African Diaspora*, Policy Press, 2022, pp. 72-106, p.78.

<sup>35</sup>Charles Verharen, "Afrocentricity, ecocentrism, and ecofeminism: New alliances for socialism." *Socialism and Democracy* 17, no. 2 (2003): 73-90, p. 77.

<sup>36</sup>Molefi Kete Asante, *Afrocentricity in AfroFuturism: Toward Afrocentric Futurism*. Univ. Press of Mississippi, 2023, p.89.

<sup>37</sup>Molefi K. Asante, "Afrocentricity: The theory of social change." (*No Title*) (2003), p.33.

<sup>38</sup>Marimba Ani, "Yurugu: An African-centered critique of European cultural thought and behavior." (*No Title*) (1994), p.67.

<sup>39</sup>Kwaku Person-Lynn and Wesley Snipes, "On my journey now: the narrative and works of Dr. John Henrik Clarke, the knowledge revolutionary." *foreword by Wesley Snipes* in *The Journal of Pan African Studies* 6, no. 7 (2014): 59-166, p.126.

<sup>40</sup>John Henrik Clarke, *African people in world history*. Black Classic Press, 1993, p.24.

while also acknowledging the contributions made by African civilizations. The promotion of African-centered knowledge systems in science and technology is ultimately necessary to foster a more inclusive and fair view of human history and achievements.

#### 4.1.4 Empowering Marginalized Communities

Afrocentrism is a cultural and intellectual movement that emphasises the need of strengthening marginalised populations, especially African-American communities, in the context of science and technology.<sup>41</sup> This is particularly valid in the context of science. The process of clarifying the key ideas of Afrocentrism in connection to the ideas of empowerment and social justice has been aided by academics like Maulana Karenga, Frances Cress Welsing, and Patricia Hill Collins. Maulana Karenga is most recognised for having created the Kwanzaa holiday, which has been attributed with bringing attention to the value of cultural pride and identity in the process of strengthening historically marginalised people.

In her 1982 book "Introduction to Black Studies," Karenga argues that developing a feeling of self-worth and group empowerment requires an appreciation of and acknowledgement of one's cultural ancestry and history. Karenga argues that if marginalised populations regain African traditional values and traditions, they may overcome oppression and achieve more social and economic equality.<sup>42</sup> Frances Cress Welsing is a well-known psychiatrist and author who has gained notoriety for her examination of the ways that racial injustice and white supremacy are pervasive in Western culture.<sup>43</sup> In 1991, Welsing published her groundbreaking book "The Isis Papers: The Keys to the Colours," which delves into the psychological components of racism and its effects on African Americans' mental health and overall wellbeing.<sup>44</sup> She argues that in order to empower marginalised communities and promote self-awareness and group action, it is critical to comprehend the historical context of racism.

The development of the Afrocentric perspective has been greatly aided by the work of feminist researcher and sociologist Patricia Hill Collins on intersectionality and social justice.<sup>45</sup> When Collins published "Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment" in 1990, she began examining the ways in which social categories—like gender, race, and class—interact to shape people's experiences of oppression and resistance. Collins supports an approach to empowerment that is more intersectional and inclusive, recognising the connections between different types of oppression.<sup>46</sup> He accomplishes this by emphasising the range of experiences that disadvantaged communities have.

These scholars, among many others, have expounded upon the core ideas of Afrocentrism concerning the empowerment of marginalised communities in the context of science and technology. The concept of afrocentrism aims to strengthen underprivileged communities and promote a more inclusive and equitable society. It accomplishes this through promoting intersectional approaches to social justice, recovering African cultural legacy, and studying the psychological aspects of racism. Ultimately, in order to reduce systemic injustices and provide opportunity for everyone to thrive, it is critical to empower marginalised communities in the fields of science and technology.

#### 4.1.5 Fostering Interdisciplinary Approaches

Afrocentrism supports the development of transdisciplinary methods in the study of science and technology. This is done in acknowledgment of how different fields are interconnected and how important it is to take into account different viewpoints.<sup>47</sup> Some members of the academic community, like Sylvia Wynter, Alondra Nelson, and Martin Kilson, have been instrumental in helping to define the basic ideas of Afrocentrism in connection to interdisciplinary approaches.<sup>48</sup> In 1966, Martin Kilson wrote "Political Change in a West African State: A Study of the Modernization Process in Sierra Leone," which highlights the value of interdisciplinary research in understanding complex social

<sup>41</sup>Ifatimehin Olayemi Olufemi, Olumorin M. Olukemi and Omale Danjuma, "Afrocentrism and Eurocentrism: The Case of Artificial Intelligence." *ASRIC JOURNAL ON SOCIAL SCIENCES AND HUMANITIES* (2023): 290 – 330, p.298.

<sup>42</sup>Eric R. Jackson, *An Introduction to Black Studies*. University Press of Kentucky, 2023, p.26.

<sup>43</sup>Pamela Newkirk, *within the veil: Black journalists, white media*. NYU Press, 2000, p.65.

<sup>44</sup>Frances Cress Welsing, *The Isis papers: The keys to the colors*. CW Pub., 1991, p.89.

<sup>45</sup>Patricia Hill Collins, *Black feminist thought: Knowledge, consciousness, and the politics of empowerment*. Routledge, 2022, p.28.

<sup>46</sup>Ibid. p.31.

<sup>47</sup>Geri M. Augusto, *Knowing differently, innovating together? An exploratory case study of trans-epistemic interaction in a South African bioprospecting program*. The George Washington University, 2004, p.78.

<sup>48</sup>Paul Tiyambe Zeleza, "The disciplinary, interdisciplinary and global dimensions of African Studies." *International Journal of African Renaissance Studies* 1, no. 2 (2006): 195-220, p.207.

phenomena.<sup>49</sup> Kilson draws on political science, sociology, anthropology, and history to present a thorough knowledge of the modernization process in West Africa through his examination of political transformation in Sierra Leone. Kilson demonstrates the usefulness of interdisciplinary approaches by incorporating a range of scholarly viewpoints to illuminate the complex nature of social change.

The growth of Afrocentric philosophy has benefited from the work of Jamaican philosopher and literary critic Sylvia Wynter, who has explored the linkages between science, technology, and society.<sup>50</sup> A critique of Eurocentric narratives of progress and development may be found in Wynter's 2003 paper "Unsettling the Coloniality of Being/Power/Truth/Freedom: Towards the Human, After Man, Its Overrepresentation—An Argument." She also calls for a more comprehensive view of human existence. Wynter promotes an interdisciplinary approach that takes into account a variety of cultural viewpoints and opposes the reductionist notion of humanity as defined exclusively by Western epistemologies. She accomplishes this by incorporating knowledge from a variety of fields, such as sociology, anthropology, and postcolonial theory.

The sociologist and novelist Alondra Nelson examined the relationships between race, science, and technology in her 2011 book "Body and Soul: The Black Panther Party and the Fight against Medical Discrimination."<sup>51</sup> Multidisciplinary approaches are important for tackling socioeconomic disparities and enhancing community health, as Nelson's examination of the Black Panther Party's health activism shows. By fusing ideas from public health, sociology, and history, Nelson offers a sophisticated understanding of the ways that gender, race, and class interact to influence people's experiences of medical discrimination and access to healthcare.<sup>52</sup> Nelson is able to present a more thorough grasp of the subject as a result.

These academics have been among the most well-known among the many who have stressed the value of encouraging multidisciplinary approaches within the study of science and technology. The goal of afrocentrism is to encourage creative responses to urgent problems and to offer a more thorough grasp of intricate social phenomena. Insights from several intellectual areas are integrated to achieve this. In the end, it is crucial to support the development of interdisciplinary approaches in order to advance knowledge and meet the many needs and perspectives of communities worldwide.

## 4.2 Critique

As an intellectual movement, afrocentrism provides a forceful critique of the dominant narratives in the discourse around science and technology. Afrocentrism is criticised for how it approaches recovering African contributions, challenging Eurocentric narratives, promoting African-centered knowledge systems, empowering marginalised communities, and encouraging interdisciplinary approaches—all of which run counter to its core principles of correcting historical omissions and empowering marginalised communities.

To recover African contributions to science and technology, Afrocentrism refers to the research of renowned scholars like Ivan Van Sertima and Cheikh Anta Diop. In his groundbreaking study "The African Origin of Civilization: Myth or Reality," Diop argues that Egyptian civilization has African roots and refutes Eurocentric views of ancient Egypt. Comparably, research by Van Sertima for "They Came Before Columbus" challenges Eurocentric myths of European discovery and domination by providing strong evidence of pre-Columbian African presence in the Americas. Though Afrocentrism correctly highlights the significance of appreciating African accomplishments, opponents like Stephen Howe warn against simplifying history and ignoring the intricacies of cross-cultural communication and interaction.

Moreover, the views of academics like as Edward Said and Franz Fanon inform Afrocentrism's critique of Eurocentric narratives. The psychological impacts of colonialism as examined by Fanon in "Black Skin, White Masks" offer a fundamental knowledge of the power dynamics that shape Eurocentric discourses. In a similar vein, Said's studies on Orientalism reveal the Orientalist prejudices evident in Western depictions of non-Western cultures, such as those of Africa. Critics such as Ato Quayson warn against essentializing African identities and maintaining binary oppositions between Africa and the West, even as Afrocentrism questions Eurocentric narratives.

African-centered knowledge systems are promoted by afrocentrism, which draws inspiration from the writings of intellectuals like bell hooks and Ngugi wa Thiong'o. It is crucial to recover indigenous knowledge and languages in order to fight colonial oppression, as Ngugi's concept of decolonizing the mind in "Decolonising the Mind: The

<sup>49</sup>Martin Kilson, *Political change in a West African state: A study of the modernization process in Sierra Leone*. Harvard University Press, 1966, p.82.

<sup>50</sup>Liam Harry Wilby, "The Posthuman in Contemporary Black African Diasporic Science Fiction." PhD diss., University of Leeds, 2021, p.119.

<sup>51</sup>Catherine Bliss, "Body and Soul: The Black Panther Party and the Fight Against Medical Discrimination." (2013): 98-100, p.103.

<sup>52</sup>Ibid. p.107.



Politics of Language in African Literature" emphasises. In a similar vein, hooks' critique of the capitalist patriarchal and white supremacist system emphasises the interdependence of oppressive institutions and the necessity of intersectional methods to knowledge production. Critics such as Walter Rodney warn against romanticising pre-colonial Africa and undervaluing the autonomy of African peoples in determining their own fates, even as Afrocentrism promotes African-centered viewpoints.

Afrocentrism takes inspiration for its goal of empowering underprivileged communities from the writings of academics and activists like Paulo Freire and Angela Davis. Davis's defence of intersectional feminism in "Women, Race, & Class" emphasises how critical it is to acknowledge the multiple forms of oppression that marginalised groups—African Americans included—face. Similar to this, Freire's pedagogy of the oppressed places a strong emphasis on how education can enable oppressed people to examine their social circumstances critically and seek emancipation. Afrocentrism aims to strengthen African and African diasporic communities, but detractors like Achille Mbembe warn against oversimplifying African identities and ignoring the range of experiences that these cultures have to offer.

Additionally, academics like Sandra Harding and Kimberlé Crenshaw provide insight on Afrocentrism's support of interdisciplinary approaches in the study of science and technology. In order to develop more comprehensive and equitable knowledge, Harding's feminist viewpoint theory emphasises the significance of incorporating multiple perspectives—including those of marginalised groups—into scientific investigation. In a similar vein, Crenshaw's theory of intersectionality emphasises the importance of taking into account how people's intersecting identities and experiences affect how we understand social occurrences. Afrocentrism encourages multidisciplinary methods, although critics like Achille Mbembe warn against ignoring important ideas from non-Western intellectual traditions and favouring some types of knowledge over others.

Lastly, despite the fact that Afrocentrism provides insightful criticisms and analyses of the interactions between science, technology, and society, it is not without flaws and drawbacks. We can develop a more nuanced understanding of Afrocentrism's potential benefits and drawbacks by critically examining its strategies for reclaiming African contributions, refuting Eurocentric narratives, advancing African-centered knowledge systems, empowering marginalised communities, and encouraging interdisciplinary approaches. The ultimate objective should be to foster a more egalitarian and inclusive method of producing knowledge that acknowledges the variety of human experiences and viewpoints.

## V. CONCLUSIONS & RECOMMENDATIONS

### 5.1 Conclusions

Conclusively, the key concepts of Afrocentrism concerning science and technology provide a diverse strategy aimed at redressing past wrongs, contesting prevailing accounts, and advancing inclusivity and fairness. During this investigation, we have explored the ideas of African contributions being reclaimed, African-centered knowledge systems being promoted, Eurocentric narratives being challenged, marginalised populations being empowered, and interdisciplinary methods being fostered.

First of all, recognising the rich legacy of African civilizations depends on Afrocentrism's emphasis on recovering African contributions to science and technology. To overcome centuries of marginalisation and misrepresentation, Afrocentrism highlights scientific accomplishments from ancient African nations like Egypt and Mali in subjects like mathematics, astronomy, medicine, and engineering. The efforts of scholars such as Cheikh Anta Diop, who authored "The African Origin of Civilization: Myth or Reality," have played a significant role in revealing and emphasising these contributions.

Second, Afrocentrism challenges the idea that Western civilizations are the only forces behind advancements in science and technology by taking aim at Eurocentric narratives that have traditionally dominated academic discourse. By presenting proof of pre-Columbian African presence in the Americas through works such as "They Came Before Columbus," figures such as Ivan Van Sertima challenge Eurocentric myths of exploration and discovery. Afrocentrism contributes to a more inclusive and truthful representation of human achievement by decentering Western ideas and emphasising the interdependence of global history.

Thirdly, in the study of science and technology, Afrocentrism promotes the development of African-centered knowledge systems. Academics who support the use of native African knowledge, customs, and viewpoints in popular discourse include Molefi Kete Asante. Afrocentrism promotes a more comprehensive vision of science and technology that embraces the diversity of human experience by valuing traditional African ways of knowing.

Fourthly, Afrocentrism has a strong commitment to uplifting underprivileged groups, especially African Americans. Afrocentrism aims to provide these groups a sense of pride, identity, and agency by appreciating cultural heritage and reclaiming African accomplishments. Through writings such as "Black Feminist Thought," Patricia Hill

Collins and other influential figures draw attention to the ways in which race, gender, and class intersect to shape people's experiences of oppression and resistance. They also advocate for a more inclusive and intersectional approach to empowerment.

Lastly, Afrocentrism highlights how critical it is to support interdisciplinary methods in the study of science and technology. Afrocentrism provides a more thorough understanding of various topics, including history, sociology, anthropology, and cultural studies, by incorporating insights from these fields. Academics such as Sylvia Wynter contest Eurocentric viewpoints on advancement and growth, promoting a more comprehensive comprehension of human existence.

Afrocentrism, in its most basic form, provides a comprehensive framework for comprehending and expanding scientific and technological knowledge in ways that are egalitarian, inclusive, and representative of the variety of human experience. Afrocentrism advances a more complex and equitable understanding of science and technology in the larger context of human history and society by reclaiming African contributions, refuting Eurocentric narratives, advancing African-centered knowledge systems, empowering marginalised communities, and encouraging interdisciplinary approaches. We may investigate and magnify the revolutionary potential of Afrocentrism in influencing the direction of science and technology via ongoing interaction and critical inquiry.

## 5.2 Recommendations

The thematic and content analysis of the findings in this paper underscores the critical role of Afrocentrism in reclaiming African contributions to science and technology. This research advocates for a more inclusive historical narrative, celebrating African achievements and fostering a sense of pride and identity among African communities and the African diaspora. By promoting Afrocentric perspectives, these scholars have empowered marginalized communities and inspired future generations to pursue STEM fields. The paper emphasizes the importance of interdisciplinary approaches, integrating diverse perspectives to enrich the understanding of human knowledge and innovation. Reclaiming African contributions is essential for a more equitable and comprehensive appreciation of global scientific history.

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