

The Relevance of Drum Language via Big Data and Artificial Intelligence in Indigenous African Society

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DOI: <https://doi.org/10.5281/zenodo.18446948>

Citation: Emmanuel, S. E., & Effiong, J. E. (2025). The Relevance of Drum Language via Big Data and Artificial Intelligence in Indigenous African Society. *Transnational Journal of Arts, Humanities and Sciences*, 1(4).

Abstract

Drum language in African society is a sophisticated form of indigenous communication that transcends mere musical expression, serving as a vital medium for conveying messages, preserving history, and reinforcing cultural identity. Indigenous drums have historically been used for diverse purposes, including political announcements, religious initiation ceremonies, emergency alerts, and ancestral praise. This work examines the significance of drum-language communication in indigenous Akwa Ibom society, focusing on how the tonal patterns of drum language imitate the pitch and rhythm of spoken African languages, particularly in tonal linguistic communities such as Akwa Ibom. The study evaluates specialised forms of drum communication embedded within royal courts, secret societies, spiritual rituals, and historical recitations systems that require mastery and deep cultural knowledge for accurate interpretation. With the rise of digital technology, big data, and artificial intelligence, innovative tools have emerged for preserving and analysing these indigenous communication systems through conventional coding structures

in which pre-arranged signals represent specific messages. The paper argues that the effectiveness of drum language lies in the highly tonal nature of African languages; consequently, artificial intelligence-based sound analysis can decode drum signals, while big data archiving enables the storage and retrieval of extensive rhythmic patterns and cultural contexts. This technological integration not only supports the safeguarding of Africa's intangible cultural heritage but also revitalises indigenous knowledge systems, making them more accessible for education, research, and cultural continuity. The study adopts an empirical approach through engagement with existing texts and relevant scholarly journals. It concludes that the intelligibility of drum-based messages is often enhanced by rhythmic patterns that closely mirror spoken utterances, thereby improving comprehension among listeners.

Keywords: Drum Language, African Communication System, Intelligibility, Big Data, Conventional Signal, Oral Tradition, Indigenous Knowledge.

Introduction

The relevance of drum language for oral literature is not confined to utilitarian messages – messages with a marginally literary flavour alone. In many African societies, drum language represents or is more than just a musical expression; it is a sophisticated system of communication, cultural identity and social coordination.

Drum communication is widely recognised in Oceania, across African societies, and particularly among the Akwa Ibom people. The same underlying principle (representing the tonal patterns of spoken language through conventionalised phrases) is also applied in communication using other instruments such as horns, flutes, and gongs. Among communities such as the Akwa Ibom, drum language and its associated oral literature reach a high level of development, especially during cultural festivals such as *Ekpo*, *Mbok*, *Mbaya*, and *Ekpe*. In these contexts, drumming is often a specialised and hereditary practice, with expert drummers, well versed in the established vocabulary, drum language, and oral traditions, which are traditionally attached to royal courts.

From relaying messages across distances to marking rituals, ceremonies, and emergence, drum language has historically played a critical role in community lives, particularly among ethnic groups such as the Ibibio and Oron, Igbo, and Yoruba. However, modern technological advancements are rapidly transforming indigenous

cultural systems, analysing and revitalising these practices for future generations (Adekenla, 2015).

However, the emergence of big data and artificial intelligence presents new opportunities to document, decode and enhance the understanding of drum language in Africa. Big Data enables the collection and storage of vast amounts of rhythmic patterns, tonal variations, and performance contexts from different communities, creating comprehensive digital archives of indigenous knowledge, and sound recognition can be applied to analyse these data sets, identify patterns, and translate drum signals into human-readable language (Adeyemi, 2020).

This technological intervention not only aids in the preservation of intangible cultural heritage but also makes drum language accessible to younger generations and researchers worldwide.

Besides, by leveraging artificial intelligence and big data, scholars can study the role of drum language in governance, conflict resolution, religious practices, and social cohesion within indigenous African societies. This approach ensures that drum language is not just preserved as a relic of the past but is integrated into modern communication systems, cultural education, and digital innovation platforms (Agawu, 2003).

This type of expression is a highly skilled and artistic one and adds to the verbal resources of the language. This type of medium can also be used for specifically literary forms like proverbs, panegyrics, historic poems, dirges and, in some cultures, practically any kind of poetry.

Tonal patterns of Drum's Language: Tonal patterns are the foundation of drum language in many African societies. Unlike ordinary drumming for entertainment, talking drums, or drum speech, use specific tonal sequences to imitate the pitch and rhythm of spoken languages.

This is especially significant in tonal languages like Yoruba, Ibibio, Oron, Igbo and Efik, where the meaning of words changes with pitch and intonation.

Some features of tonal patterns in indigenous drum language are pitch imitation, rhythmic phrasing, repetition and redundancy, cultural encoding, message transmission, call and response, etc. (Euba, 1990).

However, tonal patterns in African drum language represent a unique fusion of music and speech, serving as a powerful communication tool. They are a living archive of history, social values and linguistic tradition. Modern technologies like artificial intelligence and sound pattern analysis can help document and preserve these tonal systems, ensuring that future generations can study and appreciate this remarkable form of human communication (Bello, 2021).

Types of communication sent through drum language in African society: Drum language in African societies represents a multi-dimensional communication system, integrating political, social, religious, emergency and cultural messaging. Each pattern or rhythm is embedded with meanings that are recognised by the community, often requiring both linguistic and cultural knowledge to interpret. The use of big data and artificial intelligence in capturing and decoding this communication can preserve this heritage and provide new ways to study and understand the African indigenous communication system (Blacking, 1973).

Drum language in African societies is a functional communication system, not merely a musical art form. It is used to transmit messages across distances, signal social events, and convey emotional or spiritual content. Some of the main types of communication sent through indigenous drums are:

- i. Royal announcement: this is used to proclaim the arrival of kings, chiefs or dignitaries.
- ii. Summoning Assemblies: African societies are called to meetings, town halls, or political gatherings through specific drum codes.
- iii. Public orders or warnings: African drums are used to broadcast commands in some situations, such as curfews, to alert the people in times of danger or war or to political emergencies.
- iv. During both announcements: Specific drum rhythms celebrate the birth of a child, particularly in royal or noble families.
- v. Marriage and Naming Ceremonies: African drums are used to signal important societal events, inviting community members to attend.
- vi. Obituaries and funerals: When a prominent person dies, the drums announce it by playing mortal, recognisable patterns, ritual summoning, spiritual warnings, ceremonial transmission, plan signals, war drums, storytelling, etc. (Carrington, 1949), specialised forms of African Drum's language (Carrington, 1949).

In indigenous African societies, drum language goes beyond basic communication. It often takes a specialised form tailored to specific social, religious, political or cultural contexts. These specialised forms are designed to convey coded messages, ceremonial expressions or esoteric knowledge that require specific skills and cultural understanding to interpret (Chernoff, 1979).

Some of the specialised indigenous forms of drum language are seen in, for instance, ceremonial drum language; this form is used during rituals, religious ceremonies and festivals, and the drummers communicate: - praise-singing for duties or ancestors, invocation clients to summon spiritual beings, and coronation or initiation

codes. In genealogical and historical drum language, drums are used to recite lineages, clan histories, and ancestral praises; only trained drummers or griots can perform this function. Tonal patterns mimic names, proverbs and historical events linked to families or communities in war or military drum language. Specialised drum codes are used for military communities, including declaring war or peace, summoning warriors, and directing battle formations of movements (Chikere, 2022).

The specialised forms of drum language in African societies reflect the rich diversity of indigenous communication systems. They not only transmit information but also preserve cultural heritage, reinforce social structures, and uphold spiritual traditions. Mastery of these drum codes requires extensive knowledge, training, and cultural literacy, making drummers important custodians of cultural knowledge. With modern technologies such as artificial intelligence, machine learning, and big data analytics, these forms of drum language can now be systematically documented, analysed, and preserved, supporting educational, cultural, and technological advancement.

How is drum language used in praise in Indigenous African society? African drum language for praises is one of the most respected and intricate forms of communication in African musical and cultural traditions. This specialised form of drumming is used to honour individuals, deities, ancestors, royalty and notable members of the community.

It is deeply tied to the oral traditions of singing praise, telling stories and cultural memory. However, praise drumming serves the following purposes:

- i. Recognition of status: To acknowledge the social rank, achievements, or authority of an individual, e.g., kings, chiefs, warriors, or community elders.
- ii. Ancestral veneration: To honour the spirits of the ancestors by recalling their names, deeds or clan histories.
- iii. Religious praise: To glorify deities or spiritual beings during festivals or religious rituals,
- iv. Community motivation: To inspire and unite the community through reminders of shared values, history and heroes, etc. (Chude, 2016).

Praise drumming is a cultural expression of respect, honour, and social recognition in African societies. It combines music, language, poetry, and performance into a tonal communication system that celebrates both individual identity and community values. With the aid of big data and artificial intelligence, these intricate drumming patterns can now be digitally recorded, analysed, and preserved, ensuring that this important tradition continues to thrive and remains accessible to future generations (Collin, 2004).

Different kinds of drum communities in African society: Drum communication in African societies is a multipurpose language system that serves both practical and symbolic functions. It operates as a medium of information transfer, cultural expression, social regulation, and spiritual connection. Each drumbeat or rhythm conveys specific meanings depending on the context, event or audience (Conklin, 2017).

These are how different kinds of drums are used in communication practice in African cultures.

In royal contexts, drums announce the arrival, movement, or commands of kings and chiefs. Public drums summon people to meetings, market days, or other communal gatherings and can also communicate political decisions, changes in leadership, or important decrees.

In religious and spiritual settings, drums serve multiple purposes. Specific rhythms are played to invoke deities or ancestral spirits during rituals, while sacred drumming accompanies initiation rites, purification ceremonies, and festivals. Certain drum patterns convey prayers, offerings, or messages to the spirit world, facilitating communication with the supernatural realm.

Drums also play a central role in social communication. They are used in celebrations such as weddings and childbirth, as well as in greeting and farewell ceremonies. Special rhythms are performed to welcome guests or bid farewell to travellers, dignitaries, and other important visitors.

Drum communication in African societies is diverse in form, sophisticated and deeply embedded in cultural life. It serves as a social, political, spiritual and historical tool, making it one of the oldest and most creative forms of human communication. With modern technologies such as artificial intelligence, digital sound analysis, and big data archiving, researchers can now preserve the code and revitalise these various forms of drum language, ensuring them the remaining part of Africa's living heritage (Edewor, 2014).

The sort of communication that can be sent using these drum phrases can be illustrated from the Ekong drum representation of a simple message. It will be noticed how much longer the drum form is, both because of the repetition necessary to make the meaning clear and the use of the lengthy stereotyped phrases. The message to be conveyed can be “the missionary is coming up to our village tomorrow”, “there will be a traditional marriage tomorrow”, and “women are to bring firewood to the house”. Another message is: Dance to the left, to the right, come forward and bow (Ekwueme, 2024).

The expression through drums, which was thought to be so mysterious by visitors who did not grasp its sound and principles, thus turns out to be based directly on

actual words and their tones. In essence, drum language fulfils many of the functions of writing in a form furthermore better suited to tonal languages than an alphabetical script. Its usefulness too is undeniable in regions of densely populated African settings where the only possible way of communicating, apart from sending messengers, was by sound (Finnersan, 2012).

This type of drum communication is known to occur widely in the southern part of Nigeria, Akwa Ibom State, particularly among the Oron and Ibibio people. The same principle, that of representing the tones of actual speech through stereotyped phrases, is also used for spoken communication through other instruments such as horns, flutes or gongs. Among some people, such as the Annang, Ibibio or Oron, traditional drum language and literature are very highly developed indeed.

In such cases, drumming tends to be a specialised and often hereditary activity, and expert drummers with a mastery of the accepted vocabulary of drum language and literature were often attached to a king's court. This type of expression is a highly skilled and artistic one and adds to the verbal resources of the language (Floyd, 1995).

The relevance of drum language for oral literature is not confined to utilitarian messages with a marginally literary flavour. As will emerge clearly from some further examples, this type of medium can also be used for specifically literary forms, for proverbs, panegyrics, historical poems, and dirges, and in some cultures practically any kind of poetry. Something of the range and variety of this literature can be seen in the following way through the application of big data and artificial intelligence, beginning with a relatively simple message, more typical of the Akwa Ibom area, and going on to some of the complex poetry found most characteristically in the southern area of Nigeria (Godoy, 1991).

Among the Akwa Ibom people, indigenous drum communication is used for formalised announcements. There are drum messages about traditional outings, births, marriages, deaths and forthcoming hunts or wrestling matches. A death is publicised on the drum by a special alert signal and the words beaten out in drum language, for example,

You will cry, you will cry, you will cry.

Tears in the eyes, wailing in the mouth.

Followed by the name and village of the dead man. The announcement of an enemy's approach is also transmitted by a special alert and the drummed tones which represent the words (Hale, 1998).

Indigenous drum language announces African names

Besides messages and announcements, drum language is also used for the mentioning of indigenous names. This is one of the most common forms of drum expression and occurs even among people who do not seem to have other more complicated drum poetry. Among the Ibibio people, for instance, praise names and titles of rulers are poured forth on drums or horns on certain public occasions, and the Ibibio proverbs are commonly performed in the analogous whistle language; in both cases this amounts to special praise and flattery of the individuals named.

Personal drum names are typically long and elaborate. In the South-South region of Nigeria, for example, they often incorporate references to a man's paternal lineage, significant events in his life, and his personal name. Similarly, among the Oron people, all prominent men in the village (and sometimes others as well) possess drum names. These names usually consist of a motto highlighting an individual characteristic, followed by the person's ordinary spoken name (Hasty, 2015).

These drum names play a significant role in the societies where they occur. Their function in conveying messages is clear: the complexity of the names serves a practical purpose, allowing tonal patterns to be distinguished without ambiguity. Drum names are also commonly used in dances, entertainments, and festivals, calling on participants to encourage or praise the named individual by singing or intoning their name.

As an Akwa Ibom informant explained, when an African hears his name drummed, he may leap for joy even from his sickbed. The literary and poetic qualities associated with personal names are often particularly prominent in drum names, owing to the elaboration, conventions, and public performance inherent in this medium (Horn, 2018).

In certain areas, particularly among the Ibibio and Oron, drum literature becomes even more specialised. It includes drum proverbs, panegyrics, and other forms of poetry, while drums, horns, or flutes may also transmit state histories (Ibrahim, 2021).

Proverbs, for example, are commonly performed on drums in southern Nigeria, often accompanying dance. In the Akwa Ibom area, drums convey the philosophy and history of the community during large dances. When a dancer or masked performer moves to the intoned proverbs and historical narratives, he is said to express them through his body, a process carried out with conscious intent.

Education in such matters is necessary for membership in the men's societies. Among the Akwa Ibom people, every ordinary proverb can be reproduced on drums, and in drum poetry in general there is frequent use of proverbs to provide encouragement and incitement. But there are also extended proverbs specifically intended for performance on the drums. Thus, the common Oron proverb, "If a river is

big, does it surpass the sea? Can be played just as it is or appear in the special drum form:

“The path has crossed the river,
The river has crossed the path.
Which is the elder?
We made the path and found the river.
The river is from long ago.
From the ancient creator of the universe.”

The Akwa Ibom people have a distinctive cycle of proverbs linked to the Ibibio and Oron dances, specifically designed for performance on drums. These proverbs follow a regular metrical structure and feature repeated words, phrases, and sentences, creating pronounced rhythmic and musical effects (Johnson, 2013).

Panegyric poetry is a genre particularly well-suited to public and ceremonial performance in drum language, whether the medium is drums, gongs, or wind instruments. In parts of Southern Nigeria, praise poetry performed on drums and other instruments can take highly complex and specialised forms and is especially prevalent during public or state occasions. For example, in Southern Nigeria, one such performance takes place in the royal court of the clan head of Ubodung, where a flute delivers the poem. Throughout the performance, the chief is celebrated through the imagery of a leopard.

In some cases, for example, from the Akwa Ibom area, it will illustrate how drums can speak of the history of a community. This is from the drums' history of the Ibibio clan. This type of poetry is performed on the public occasion of the Ekpo Festival; it has a deeply sacred significance (Jonnes, 1959).

Conclusion

In conclusion, it must be stressed again that what is transmitted in drum language is a direct representation of the words themselves. This is worth repeating, because for someone unacquainted with this medium, it is not easy to grasp that the drums speak words, that from the point of view both analyst and of the people involved, the basis is a directly linguistic one. This follows that the content and style of drum communication can often be assessed as literature and not primarily as music, signal codes, or incidental accompaniment to dancing or ceremonies.

Some of the items of drum language that have been mentioned, for example, proverb-like phrases of Akwa Ibom people, drum language, for instance, or the whistled names in the Ibibio, are only marginally literary. Other forms, however, the drum poems of the Oron people, unmistakably fall into the category of highly developed oral literature.

But whatever the assessment of individual examples, it is both correct and illuminating to analyse drum language in terms of its literary significance. Among the people who practise it, drum literature is clearly a part, albeit through a highly specialised and usually medium, of their whole oral literature.

Recommendation

This paper recommends acknowledging the limitations of drum language, particularly the types of communication it can convey. To make this art more accessible, drum language should be redefined in ways that allow laypersons to understand it. Additionally, drum literature is a highly specialised and esoteric form of expression understood by only a few; efforts should be made to interpret and present it in ways that are accessible to the public. Panegyric poetry, a genre particularly suited to public and ceremonial drum performances, should also be introduced to ordinary citizens to broaden their appreciation and understanding of this cultural heritage.

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