MONOLITHS AND DIGITAL HERITAGE PRACTICE IN NIGERIA: OPPORTUNITIES FOR TOURISM DEVELOPMENT IN CROSS RIVER STATE

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Abstract

The debate of finding the best conservation practice for the Cross-river monoliths while preserving its environment has continued to linger. Many scholars have suggested a fence- protected open-air museum, while others have argued for the stones to be preserved in-situ. But there remain the problems, of exposure of these stones to extreme weather conditions, loss of original context, and inaccessibility by the local population and interested tourists, thus culminating into a conflict of use and conservation for the Cross-river monoliths. There is a balance to be struck between conserving the monoliths and the cultural practices tied to the stones by the local population, and providing high-quality experience for visitors. This paper seeks to suggest a three-fold conservation model to address this conflict for the local population which will in turn rekindle the passion for tourism development. This will involve a refined approach to conserve the stones in their original context; establishing a visiting centre housing amongst other facilities, a 3D facsimile of the stones; and creation of a new database for indexing the correct number of Cross-River monoliths that still exist. The implication is a sustainable balance between use and conservation of the Cross-river monoliths while providing the best host/visitor experience.

Keywords: Conservation, Use, Monoliths, 3D Facsimile, Database, Museum

Introduction

The nexus between conservation and use have been a topical issue on the minds of scholars concerned about the state of the Cross-river monoliths (Adekoya, 2005; Esu and Ukata, 2012; Miller & Edet, 2015). These Cross-river monoliths suffer neglect, and exposure to extreme weather conditions and these have continued to threaten their existence. This is not to say that there have not been concerted efforts to provide a lasting solution to this melee. Many works have been done in this regard – and some of them will be reviewed later in this work. The problem, however, is that the solutions suggested so far have proven insufficient and to a large extent do not solve the issue of adequate conservation for these monoliths. In answering the question of how best to conserve the cross-river monoliths, there has been an unconscious yet dangerous unconcern for the local population who use these stones for their central and social activities.

Cross-River is one of the 36 states in Nigeria with its capital in Calabar. Located in the South- South geopolitical zone of Nigeria, Cross-River is home to many of the best eco-cultural sceneries and leisure tourist destinations in Nigeria, including the popular Obudu Mountain Resort, the Colonial Museum and the Akwanshi or monoliths. Cross-river's anthropomorphic monoliths stand in silence but speak volumes about the achievements of their creators. The stone blocks with carvings showing a head, fingers, torso and legs, average between 3 and 5 feet tall and 14 tons, are a thing of wonder to all who have seen or heard of them. Most scholars suspect that the Akwanshi were created to honour ancestors, chiefs, or other important personages (Miller and Edet, 2015; Esu & Ukuta, 2012). However, it's impossible to be certain since studies are still going on to substantiate this claim. The monoliths with their geometric inscriptions could be compared to the rock Arts of Tanzania, the deer stones of Mongolia or the Moai statues of Rapanui, South America. The Drombey stone circle in Ireland, the Carnac stones in France and the Callanish stones in Scotland have quite similar attributes of the Cross- river monoliths as well. Particularly, the Cross-river monoliths share a symbolic similarity with the Stonehenge of England in the sense that the Stonehenge was a place of burial from its beginning to its zenith in the mid third millennium B.C. The cremation burial dating to Stonehenge's sarsen stones phase is likely just one of many from this later period of the monument's use and demonstrates that it was still very much a domain of the dead (Schmid, 2008). Also, the meanings of the codified symbol have been attempted and documented by Acholonu (2004) and her team. These are also associated with their origin, which is like most rock art works in Africa. Ikom monoliths could be West Africa's answer to United Kingdom's Stonehenge (World Monuments Fund, 2008).

There are carved stones/monoliths scattered across different parts of Cross-river state, Nigeria. These monoliths, commonly referred to as 'Akwanshi', are estimated to have been produced about 2000 – 500 years BP. They are also referred to as the 'Stonehenge of Calabar', but whatever name they may bear, the consensus is that they add more beauty to the cultural heritage of the people. The paintings on the monoliths have been interpreted to show fecundity, rain making, social and cosmic status of the ancestors of these host communities (Miller & Edet, 2015). The Cross-river monoliths can be found mostly in Alok, Nlol, Emangebe, Emandang, Neborokpa, Njemetop and Nkrigom parts of Cross-river state, Nigeria. Plagued with inaccessibility, unsustainable conservation practices, extreme weather conditions, fire, theft and even outright destruction, these heritage tourism potentialities and monoliths have remained untapped., . Where these are not the case, many of them have been removed from their original context, thereby making any archaeological investigation into their existence even more difficult.

Daily Sun (2010) alluded to the fact of the incomplete record of the actual number of stones, by noting that:

> Despite the return of two Ikom Monoliths recovered in France and formally handed over to authorities of the National Commission of Museums and Monuments (NCMM) on 26 January, 2010 by the French Embassy, this particular aspect of Nigeria's classical antiquity has been looted beyond imagination". By 1945, writings by a British anthropologist, Mr. Philip Allison, showed that Nigeria had at least 26 Ikom Monoliths but the NCMM had said there are about 119 of these stones. In another reveal, the March/April

> 1999 edition of "Akwanshi", a newsletter of the Calabar Museum Society had put the number at over 450. Curiously, there seems to be no reasonable explanation as to how the quantity of these priceless pieces of antiquity, which weigh between 50kg and 800kg and measure between 30cm and 2 meters in height; could have depleted so drastically, from 450 to "about 119".

The monoliths can be said to represent the lost opportunities of the present generation to document and understand their past (Miller, 2015). This very rare indigenous technology may be lost forever, not only to artificial and natural causes, but to unsustainable conservation practices if a more holistic approach that integrates digital heritage practice is not adopted.

Many researches that have been conducted in this regard have little or no mention of the incorporation of modern conservation technologies, such as 3D facsimiles and database indexing (Adekoya, 2005; Esu and Ukata, 2012; Miller and Edet, 2015). The current conservation efforts, which include housing of threatened pieces and cleaning with water or local oil, is not enough and has shown to be insufficient. How can the cross-river monoliths be conserved for posterity without secluding it from the very local population who host them? How can we provide an environment suitable for the stones to be accessible to both the host population and interested tourists without necessarily disturbing its matrix? How can we maximise the digital heritage conservation practices used elsewhere (like in the Stonehenge of England) for the benefit of the *Akwanshi*? Can the monoliths be so protected and yet so open to the host population and teeming tourists? This study tends to address these questions through a new model that will eliminate the conflict of use and conservation and measures to be taken to achieve a sustainable conservation of the Cross-river monoliths that is able to maximise its tourism potentialities will be discussed as well. The study will cover the nature of the monoliths as seen in Alok, Emangebe, Emandang, Neborokpa, Njemetop, Nkrigom and Nlol. The most immediate threats to the stones are erosion, exposure to humidity, heavy rainfall and extreme heat and sun, damage from falling trees and theft and vandalism

Conceptualisation of the Cross-river Monoliths: The Myths and Science

The Cross-river monoliths of Nigeria or the *Akwanshi* or *Atal, as they are locally called by thehost-communities,* are spread among around 30 communities in Cross-river state, Nigeria. In these communities, these stones are found standing erect in circles, facing each other. The Cross-River monoliths were recently added to the list of endangered sites by the World Monuments Fund's (WMF) and they continue to be considered for possible inclusion in UNESCO's list of World Heritage Sites (Original People, 2012). In Alok and Agba communities, for example, the stones can be found in the centre-square of the village or in their central meeting places. However, in Etinan and Neborokpa communities, the stones are located in bushes outside the villages. The majority of the stones are carved in hard, medium-textured basaltic rock. A few are carved in sandstone and shelly limestone. The stones range from about three feet in height, to about five and half feet. They are decorated with *Nsibidi* carvings and have stylized human features, notably two eyes, facial marks, an elaborately marked navel and an open mouth (Original People, 2012).

The monoliths are also known as "*Akwanshi*", a local language word among people of the Ikom community in Cross-river, which translates as "dead people" or "family stone circle". According to the

Calabar Museum Society (1999), these circles developed from the funerary practices of Akajuk, Nnam, Nde, Nta and Nsle. Whenever someone died in those areas, the bereaved would go and drop a stone in memory of the departed. The stones are regarded as representations of ancestors by members of the central Cross River communities, where *Akwanshi* are found. For reasons, which remain unclear, "the tombstones, which belong to two categories, basalt and volcanic rocks; were dropped in such a way that after a while, a circular pattern evolved" (p.12).

Though th*ese objects* have played an important role in the ritual life of successive generations of members of these communities in Cross River, their original purposes vary. Some communities believe that their *Akwanshi* represents spirits of deceased ancestors, and in other cases, stand in memorial of important political and historical figures. But there are some communities who maintain that the stones were created by otherworldly beings, or that the *Akwanshi* emerged out of the ground like trees. According to Bunshaft (1994), the difficulty that carving and transporting these stones would have represented to their makers – as compared to wood, which would have been more easily available and workable – is a further indication of their significance.

Esu and Ukata (2012) recorded the cultural significance of the cross-river monoliths as "places of sacrifice and community meeting. Also, the stones were arranged in circles and used as playground and community centres. They assert, as well, that the stones were created as memorials of departed heroes or beloved family members and that each family in the community has a representative stone. The monoliths also have religious significance. According to Esu and Ukata (2012), the supernatural powers are ascribed to the stones in that an annual sacrifice of "pounded yam and palm oil" are made on the paramount stones. Some of the stones are dedicated to different gods: the god of harvest, the god of fertility and the god of war. More so, the stones were used for counting the community market days and planting season for agricultural products.

The WMF says the stones date from 2000 BC, but it is not clear whether the Fund is using a number supplied by the Nigerian government or whether it has dated the stones independently.

Blood sacrifices anywhere near the stones are forbidden. But on September 14 of each year, the eve of the annual yam harvest festival, the stones are decorated with coloured powder. Only pre-pubertal children and post-menopausal women, described locally as "women who no longer go sexual" are allowed to do the decoration. The colours are white for peace, blue for fertility and red for bravery (Esu & Ukata, 2012).

A Brief Look at Previous Attempts

Esu and Ukata (2012) collected geo-data with the aid of GPS which was transformed into an interpretive map using Computer ArcView GIS Software. The map showed the location of the Emangabe Stone Circle and individual monoliths in space and in time. Apart from the coordinates used in developing the geo-maps, the physical attributes of the stones and entire circle showed the height, girth and distance apart. Although their works were based on the monoliths in Emangabe only, their recommendations included the building of a visiting centre housing a documented history of the host community and the proper indexing of the stones in Emangabe and the Alok Open Air Museum. In closing, they also suggested a community-based tourism development approach for the stones and the host community.

In October 2016, the Factum Foundation for Digital Technology in Conservation travelled to Cross-River State and collaborating with the Trust for African Rock Art (TARA) and the University of Calabar (UNICAL) on a project aimed at exploring, documenting and raising awareness about the 'Cross River' or 'Ikom' monoliths. The project's aim was to promote the cause of the monoliths internationally with a view to gathering support for an inter-disciplinary team that would enact 'rescue' archaeology and 3D-recording at the most damaged sites, whilst establishing appropriate preservation measures at those sites that have retained their original setting in a sacred forest.

In their study, they divided the monoliths into 3 categories, namely the severely damaged, partially destroyed and potential for preservation in original context. The Severely damaged include Neborokpa, Nejemetop, Ntitogo, Nlol and Edamkono; the partially preserved are Alok and Emangebe; and the sites with "potential for preservation in original context" are Nkrigom, Ntol and Amandag.

They informed that their study was only to serve as a guide for future studies which are expected to be more robust and comprehensive. David Coulson, founder of TARA puts it more clearly, thus:

> The October 2016 trip was intended as preliminary research intended to establish priorities and methodologies for a subsequent and more extensive project in the area. The shocking condition of many of the sites indicates the necessity for immediate action to halt the progressive degradation of these important monuments. A future trip would combine a training programme in heritage documentation with local operators aimed at creating a comprehensive view of all the sites as well as investigation into reports of sites at other locations."

In 2004, Acholonu and her team attempted to isolate and decode the letters from the inscriptions on the stones through comparative analysis with other known ancient languages. She would later use the Igbo Ukwu symbols to successfully decipher the first series of the inscriptions. Their joint publication on the subject was a 500-page book titled, *The Gram Code of African Adam – Stone Books and Cave Libraries, Reconstructing 450,000 Years of Africa's Lost Civilizations* (Acholonu, 2004). She further noted that:

> Ikom folklore says that dwarfs which they call Mong-kom (and which the Igbo call Nwa-Nshi) were the authors of the monoliths, known to the natives as Akwa-Nshi. Dwarfs were known in antiquity as adept workers of metal and great magicians. The link between the Ikom name of the monoliths - Akwa Nshi - and the Igbo name of the dwarfs - Nwa-Nshi - indicate that it was an Igbo-

> speaking Nwa-nshi community that authored the monoliths and invented the ancient sacred script known to thee Cross River indigenes as Nshi-biri – (which in Igbo means 'Written by Nshi'), used by the members of the Ekpe cult whose sacred temple is the monoliths capital located at the monoliths circle in the village Alok, Ikom (Acholonu, 2004; 155).

From the foregoing, one can observe that these attempts had focused on using technology to study other aspects of the cross-river monoliths (geography and linguistics). However, except for the Factum Arte project which is one primarily targeted at advanced technological conservation of the monoliths, effort to solve the problem of use and conservation both for the host communities and for posterity have been minimal. These communities have ancestral, traditional and even religious linkages to these monoliths and so great caution must be applied while conservation projects for the monoliths are being planned or executed, in order to factor this prime issue into consideration. It is this necessary yet uncomfortable balance that is advocated for in this study.

The Advocacy

The three-pronged approach we suggest includes a reappraisal of current conservation efforts, like the relocation of the *Akwanshi* to museums, while making a case for the introduction and implementation of digital heritage practices to conserving the cross-river monoliths. Simply put, this will involve a refined approach to conserving the stones in their original context; establishing a visiting centre housing amongst other facilities, a 3D facsimile of the stones; and creation of a new database indexing the correct number of Cross-River monoliths that still exist. As already discussed above, the three classifications made by Factum Foundation for Digital Technology in Conservation and their partners in describing the nature of the monoliths and their sites will be used to achieve this three-pronged approach. They are the Severely Damaged (Neborokpa, Nejemetop, Ntitogo, Nlol, Edamkono); the Partially preserved (Alok, Emangebe); and the sites with potential for preservation in original context (Nkrigom, Ntol, Amandag). However, for the purposes of the three-pronged approach, we will re-categorise these titles as badly preserved, worse preserved and worst preserved, respectively.

So far, the only attempt made by the Federal Government and other relevant agencies at conserving the cross-river monoliths is by gazetting and fencing the Alok and Emangebe sites where the 'open-air museum' have been established. But despite the age of each monolith, their ill-secured open-air gallery and their kilometres-apart scattered locations make this attempt fruitless and unsustainable. First, it does not serve the people who can no longer access these stones for their socio-cultural practices and it does not stop the theft and destruction of the stones either. Theft is not the only problem plaguing these monoliths, several of these stones are now covered by fungi. This infestation is most glaring at Alok Circle, where the whitish, dust- like, microbes thrive both on stones as well as the stems and foliage of surrounding plants. Aside theft and fungal infestation, the monoliths sometimes fall victim to man-made disasters. For example, certain locals do not really understand the importance of these stones and so such people frequently set fire to these priceless pieces of antiquity in the course of preparing the grounds for farming, (Daily Sun, 2010).

Plate 1 & 2: The monoliths in bad condition

(Source: Factum Arte Foundation, (2016)

Also, because of the open nature of the stones, acid rain would slowly dissolve many of them with time. Calcium-based minerals such as marble and limestone are particularly vulnerable; this is due to calcium's reaction with the sulfuric acid in acid rain. Every type of rock and stone on this earth will go through stages of weathering. Weathering is a process that breaks down rocks and minerals on the earth's surface usually through rain and extreme temperatures. Physical weathering contributes to breaking down of rocks through the Earth's atmospheric conditions – temperature, wind, ice etc., while chemical weathering is the breaking down of rocks using the atmospheric chemicals to do so. This process can become intense where the climate is hot and wet – and the average weather conditions in Calabar are hot and wet. Because we have seen many of these Cross-river stones stand strong and beautiful, it makes us believe these stones will last forever. However, when closely examined one would realize that, deteriorating change is already taking place. This change is called weathering. It is needless to then say that the conservation practices so far have been grossly inadequate. Hence, it is time for a new approach that can serve the host community and the monoliths as heritage for posterity.

It is suggested here that some forest trees that can provide shades be planted in and around the stone circles at the Open-air museums in Alok and Emangebe. The forested or wooded environment surrounding the monoliths sites creates a desirable protective measure for the paintings as this minimizes the effects of the sun, wind and dusts. Whereas, it is essential to sustain the links with local communities, there is also a need to ensure that use and conservation do not conflict. There should be interactions with the host communities, intimating them of the objective and purpose of building fences around their heritage. These interactions should be informative and comprehensive and should not end until there is an elaborate plan showing time schedules when the premises can be opened up to the host communities – especially during such festivals as they may have - for the purpose of carrying out their socio-cultural activities. This too must be within the ambit of the conservation mandate, that is, no harm must be done to the stones while they are allowed access. The management of the property, a private body or government agent, will have to create a careful path between supporting the living heritage values of the sites and supporting the physical preservation of the sites.

Also, the museums must be treated like museums. For long, they have been under-staffed, under-funded and grossly mismanaged. Time has come for government at all levels to focus their attention on the huge tourism potentialities held by these monoliths and provide enough human and material resources for the upkeep and revitalisation of the museums. There is need to contract expert conservationists to treat the fungi and whitish substances degrading and defacing the stones due to their exposure to extreme weather conditions. There is also need for the Department of Antiquities, under the auspices of Nigeria's Ministry of Culture, to create a central database of all documentation of the stones. The only attempt at this was by Factum Arte Foundation in partnership with University of Calabar and TARA which is not enough. When this is done and the number of stones ascertained, then the subject of how many more open-air museums are needed to effectively serve the conservation and use objective can then arise.

This should, of course, cover the sites at Nkrigom, Ntol and Amandang as well, since they have relatively better conditions because of their original context (Miller, 2015). This expansive team must decide whether an open-air museum be situated in any of these villages to serve more interested viewers and the host communities alike. Whatever the decision, the monoliths at Nkrigom, Ntol and Amandang should be gazetted by Nigeria's Federal Government as pieces of national monument and consequently, access roads leading to these sites should be constructed, since there's no tourism activity without adequate accessibility to the attraction.

Digital heritage practice in Nigeria

The use of digital technology in the study, conservation and promotion of cultural heritage is gaining grounds among researchers in the social sciences. However, this same tool has been neglected and, in most cases, ignored in the conservation and interpretation of cultural finds. This tends to elaborate the role of digital technology in the conservation and interpretation of indigenous cultural stones as practiced in many countries, as well as make a strong case for the adoption of this practice through the concept of Digital Heritage in the conservation and the interpretation of the nation's huge cultural heritage. Tools like GIS, 3D facsimiles, Virtual Reality and how they can help in the representation, interpretation and conservation of reality, past and present, will be very useful (see Arnold, 2007; Bendicho, Gutiérrez, Vincent, & León, 2017). Concepts like virtual museums, cyberarchaeology or digital archaeology and how these new approaches to heritage studies can be used to conserve, interpret and promote the cross- river monoliths will be examined.

The *Akwanshi*, Nigeria's mysterious ancient monuments, are one of the country's most important archaeological treasures and some of the most spectacular expressions of ancient human ingenuity anywhere in the world. These stone monoliths standing 1 to 2 meters high, are scattered in unprotected sites throughout Calabar, Nigeria. The Akwanshi bear elaborate depictions of human figures, showing the head, hands and feet – perhaps representing spirits of ancient chiefs and clan leaders. With the assistance of the Nigerian Commission for Museums and Monuments and other interested private bodies, like Factum Arte and TARA, a multidisciplinary team with a mandate to introduce digital heritage practices to study, protect, and preserve these monuments in their natural state, and to capture their pictorial information with 3D laser scanning will help alleviate, if not eradicate, this problem of conservation. The information gotten from this effort will be available virtually through the Web to researchers studying the monoliths' iconography.

Undoubtedly today, 3D technology (either virtual reality, augmented reality or mixed reality) helps in the representation and interpretation of reality, present and past. The use of 3D laser scans will serve also as a snapshot of the condition of the stone monuments, with resolution in the millimetre range, pinpointing not only the surface decorations but also the physical evidence of damage. Using GIS techniques, a sketch map marked with today's visible damage can be wrapped like a skin around the resulting 3D image.

1. Improving the Current State of the Cross-river Monoliths

In addressing the worst preserved areas of Neborokpa, Nejemetop, Nlol, we suggest that a visitor centre be built in one of these areas with the best proximity, where people can enjoyreconstructed ancient houses (as accommodation), a 3D/360 view centre, eat the local foods, visit a museum with more history about the stones and a café.

As stated in preceding paragraphs, there is a balance to be struck between protecting and conserving the Cross-river monoliths and providing a high-quality experience for visitors. If there are too many people too close to the monuments, visitors will find the experience unpleasant. If too many visitors are allowed into the site, they could damage the stones or cause erosion. The National Commission for Museums and Monuments and its Department of Antiquities team has to balance conservation of the monument with the provision of the best visitor experience. The advocacy here for the new visitor centre illustrates this point. There are currently no elaborate visitor facilities located close to or around the stones, even in Alok where the museums are. Since putting up signs and fences on the sites can damage the scenery, the proposed visitor centre will be few kilometres away from the stone monoliths, so that the proposed new operation will not damage the monument which is designed to have a minimal impact on the surrounding landscape. Instead of a brief visit from far distances through bushes and cramped path or no requisite provision for visitor, visitors would rather spend much longer time in learning about the *Akwanshi* landscape and the inconspicuous but archaeologically important elements to it. The stone monoliths in Calabar is a place of emotional experience, a place to see a famous stones and make certain discoveries.

The first duty of those to whom the cross-river monoliths are entrusted is to preserve the place and its setting. The case for careful conservation management of all the *Akwanshi* and the wider surrounding landscape need not be rehearsed again. Like Baxter and Chippindale (2002) stated in their piece about conservation practices of the Stonehenge, UK, the relationship of conservation science and management activity yields sustainable site development. Also, they opined that the philosophies derived from the environmental/landscape protection can be applied in conserving sites like the Stonehenge, while noting issues like carrying capacity and set limits of acceptable change. It is stressed here that an acute awareness and understanding of the carrying capacity of the Cross-river monolith sites, is required for this approach to fulfil its objectives.

The conservation gaze falls on those people who are or who ought to be thoroughly interested in a site which offers a tourist experience and acts as an educational resource (Cathersides, 2001). Hence, to appreciate the cross-river monoliths as part of a much wider historic environment and natural landscape and to gain a fuller understanding of its cultural significance for the local area, Nigeria and the world, planned development at these monoliths' sites should involve constructing access roads and offering world-class visitor facilities. Interpretative facilities will be provided to foster understanding of the monument in its landscape, and provide all the necessary creature comforts required of a modern

visitor facility (car-park, catering, retail). It would be hard, if not impossible, to attract visitors who are prepared to make that effort to visit the monument where there may be no toilets, no shop, no catering and no shelter – and still no direct access amongst the *Akwanshi* themselves.

The current visit to the cross-river monoliths is a calamitous tourist experience: visitors need to go through thick and thorns, literally, in order for them to see what they have come to see, and it is rather uneventful. However, implementing the advocacy made here will have visitors drivenear to the site; park their car close by; enter the visitor centre and see acute representations of the monoliths they have come to visit before. As an icon representing Nigeria's unique 'antiquity' to foreign visitors, the cross-river monoliths should be well packaged for tour itineraries.

The Cross-river monoliths as it stands do not have the required facilities for visitors; it lacks a good format and aesthetic appeal. Redevelopment on the current site is a good step taken to conserve the site for the benefit of both the visitors and the host community.. As an environmentally-friendly approach, what we propose here will manage impact on these pieces of national monument, and avoids new impact on areas previously unaffected in the wider landscape.

2 In-house Museum, Film Theatre/Education Room

Among the facilities that will make up the visitor centre, are a museum and a film theatre/education room. In the museum, there will be displays of 3D facsimiles of the *Akwanshi*, while the remnants of the stones recovered from the worst preserved sites of Neborokpa, Nejemetop, Ntitogo, Nlol, will all be gathered, conserved and put on display as well. It is here that the visitors will be encouraged to go out from the visitor centre, then explore the entire landscape as well as other monolith sites; the majority, certainly, will not choose so to do, and therefore the pressure of visitors on those landscape hoped to preserve will not be great. The displays will give about equal space to historical *Akwanshi* as to the prehistoric Stones, and will display the multiple and emotional responses to the place. Leaving the displays, the visitor will be invited to go back and have another look at monoliths before their brief encounter with it ends.

Factum Arte Foundation has already begun the process of making 3D representations of the cross-river monoliths, but there is need to add the creation of life-sized facsimiles of these stones to the efforts being made. It can be recalled that in the state capital, Calabar, giant versions of the stones - 20 or 30 times the size of the originals - were constructed last year, under the auspices of the state government, to decorate a roundabout. So, facsimiles are not new to use and can help to drive home the picture, nature and feel of this precious antiquity without destroying its beautiful landscape as a result of tourists' activities. It is important to note here in this approach that not all the Cross-river monoliths will be kept in the museum/visitor centre; actually, just those that fall under the 'worst preserved' category will be displayed here. Again, this will have to be done after due consultations with the host communities and other stakeholders in order to avoid any conflict of interests.

The three-pronged approach presented here serve as an alternative and a sustainable solution. This gives two extreme options (and many others exist in between): one cheap, one more expensive, one whole and comprehensive experience, one short and uneventful experience – both very different. But both can be developed with the hope that we should not only manage these sites with a 'light tread', while others are encouraged to tread appropriately as they explore what they want to across the unique prehistoric landscape.

3 *Creating a Database for the Akwanshi*

The last part of the three-pronged approach involves the establishing of a database that will have the correct indexing of every stone that makes up the cross-river monolith masterpiece. A team should be contracted to survey the locations, take slides – build and equip an archive – digitize slides of these *Akwanshi* which can be published or hosted on popular digital platforms like the Andrew Mellon Foundation's site, ArtStor. Even, the Nigerian Commission for Museums and Monuments can collaborate with the foundation themselves to preserve and promote these exceptional masterpieces of Nigeria's cultural history.

During the last nine years, TARA has surveyed sites in sixteen countries, logged GPS locations, taken more than 70,000 slides, made some 500 ink reproductions, built and equipped an archive and is currently digitising slides for the Andrew Mellon Foundation's website, ArtSTOR (Campbell, 2004). Their archive and database offer new possibilities for research, education and appreciation of the art's magnificence. This means private partners like TARA, Factum Arte and others can help out with this aspect of indexing and archiving as regards the cross-river monoliths. Campbell (2004) also noted that:

> Since the development of new recording methods, photogrammetry and laser scanning, extend conventional photography and has prompted us to branch tentatively into these fields, using the results obtained, models can be made of the engravings both as permanent records and for purposes of display. Although both methods of reproduction, photogrammetry and modelling from laser-scanned imagery are expensive, we believe the high costs are well worth the results.

Ruther (2004) also agrees that "the photogrammetric approach, is generally suitable for the quantitative documentation of the cross-river monoliths. It provides a permanent, accurate and objective three-dimensional record as well as a means to visually present the data on a computer screen for inspection."

Plate 3 & 4: the better-looking monoliths *in-situ (Source:* Factum Arte Foundation, (2016)

More specific to the introduction and application of digital technologies in heritage conservation and management is the inclusion of Article 5 of the Krakow Charter (2000) – Principles for the Conservation and Restoration of Built Heritage which indicates that "In the protection and public presentation of archaeological sites, the use of modern technologies, databanks, information system and virtual presentation techniques should be promoted". This reference emboldened the use of more sophisticated digital technologies in the conservation and presentation of archaeological heritage. Also, in 2003, UNESCO approved the Charter on the Preservation of Digital Heritage, with the objective of protecting, conserving and improving access to products of digital origin. This UNESCO declaration came about in the face of the real danger of losing an immense wealth of cultural heritage existing in electronic format. This heritage includes virtual reconstructions, 3D digitisations and a whole set of products derived from the practice of virtual archaeology, rendering this document of great interest (Abdulqawi, 2007).

In guiding the methods and parameters to be followed while applying digital technologies in heritage conservation, the London Charter as cited in Benedicho, et al., (2017) stated that, "the creation and dissemination of computer-based visualisation should be planned in such a way as to ensure that maximum possible benefits are achieved for the study, understanding, interpretation, preservation and management of cultural heritage" (p.9). Section 6.1 of the same Charter goes on to state that, "the aims, methods and dissemination plans of computer- based visualisation should reflect consideration of how such work can enhance access to cultural heritage that is otherwise inaccessible due to health and safety, disability, economic, political, or environmental reasons, or because the object of the visualisation is lost, endangered, dispersed, or has been destroyed, restored or reconstructed" (Benedicho, et al., 2017). There are many cases in which access to cultural heritage is impossible for both researchers and the public in general and the cross-river monoliths are no exception, which is why this approach is suggested here. To further buttress the point, the Seville Charter as cited in Benedicho, et al., (2017) stated that:

> Any project involving the use of new technologies, linked to computer-based visualisation in the field of archaeological heritage, whether for research, documentation, conservation or dissemination, must be supported by a team of professionals from different branches of knowledge. Given the complex nature of computer-based visualisation of archaeological heritage, it cannot be addressed only by a single type of expert but needs the cooperation of a large number of specialists (p.11).

There should be relevant public authorities responsible for promoting and sustaining these databases through their respective ministries or directorates.

Conclusion

The three-prong approach we have suggested as a panacea to the conflict of use and management in the conservation of the cross-river monoliths include the reappraisal and remodelling of the already existing open-air museums, the establishing of a visitor centre with accommodation facilities, a museum and an education room where 3D photographs and facsimiles depicting the monoliths are displayed, and the careful and comprehensive indexing of all the monoliths within the select areas to be added to the list of World Heritage Sites. We have seen similar things adopted and being implemented in other stone sites around the world, including but not limited to the UK's Stonehenge. It is pertinent, at this point, to note that new techniques such as photogrammetry or laser scanners can be used to increase the quality of scientific documentation in the way that better metric documentation of archaeological heritage is carriedout.

It is also pertinent to note that, without the local communities where these monoliths exist, there will most likely be nothing to write, study or promote about the *Akwanshi* or even no *Akwanshi* at all. Therefore, wide consultations with the stakeholders in these communities while implementing the three-prong approach, is paramount. Community awareness, through public archaeology and other means of public outreach should be employed in the reorientation and sensitisation of the host population on the need to help preserve and conserve these 'stones' for cultural revitalisation and tourism promotion in the area and for posterity.

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