

Conservation Techniques and the Materials in the National War Museum, Umuahia: Challenges and Prospects

¹Uboegbulam Gideon
Chukwunwem &

²Adaora Peace Ezema
^{1&2}*Department of Hospitality
Management and Tourism
University of Port Harcourt,
River State – Nigeria*

Article DOI:
10.48028/iiprds/ijrjssmt.v10.i1.15

Keywords:
Conservation
techniques, Unity
Museum, Enugu,
National War
Museum, Umuahia

Abstract

Museums play a vital role in preserving and showcasing cultural heritage for future generations. The National War Museum in Umuahia is an important institution that houses valuable artifacts and historical objects. The study adopts a historical approach to examine the challenges and prospects of conservation techniques in the National War Museum, Umuahia. By examining the preservation methods employed at both institutions, the paper provides insight into the challenges and successes of maintaining cultural heritage in Nigeria. Additionally, this paper will shed light on the importance of conservation practices in ensuring the longevity of these valuable collections. Overall, this study aims to contribute to the field of museum studies and highlight the significance of preserving our cultural heritage for future generations.

Corresponding Author:
Uboegbulam Gideon Chukwunwem

ORCID Number: 0000-0001-6127-5866

Background to the Study

All over the world, there is a form of history that is aimed at reminding people about the past materials, traditions, way of life, and other tangible and intangible objects and relics of the past without which, history will be fable and fairy tales. A museum is a veritable and tangible way of conserving relics of the past human existence to explain the dynamics and changes that have occurred in the past to assess today and to be able to pass it on to the next generation. The museum is a non-profit making permanent, institution not existing primarily to conduct temporary exhibitions but open to the public and administer public interest to conserve and exhibit to the public instruction and enjoyment objects and specimens of educational and cultural value, including artistic, scientific, animate, or inanimate, historical, and technological material. A museum is an institution that collects, studies, exhibits, and conserves artifacts or objects for cultural and educational purposes (Okpoko, 2011). According to Eluyemi, (2002) “the first museum in Nigeria was created in 1945 at Essie known as *Ileere* (house of images)”, followed by other museums such as Jos Museum in 1954 Ife Museum built in 1954, Lagos Museum in 1957, Owo Museum in 1958, Benin museum in 1959 and Kano Museum in 1960 among all others. Preservation of Nigerian natural and cultural heritages during the colonial era is remarkable some commendable landmark achievements were made such as the creation of the “Nigerian magazine, the establishment of museums of antiquities, the creation of the post of the federal art adviser, the creation of the department of art” (Fasuyi, 1973).

Museums all over the world have challenges on how the problems of museum conservation can be fixed in our society. There are today a great number of museums in the world; their collections, represent the cultural history of mankind from the earliest times to the present time, including objects of art, history, archaeology, science, technology, and other subjects. Various types of materials, stone, metal, clay, wood, paper, ivory, and so on, were used for the creation of these articles. These cultural objects now in the custody of museums have different shapes and forms but one thing is common to them all, the materials of which they are made are liable to decay and deterioration which is due to natural factors as well as man-made forms of vandalism, negligence, and lack of proper care. The collections kept by a museum are influenced by the particular focus of that museum. A given kind of museum may be comprehensive, documenting a wide range of information on related subjects, or it can be specific and document information within a narrow scope. Some kinds of museums, however, such as science-technology museums, nature centers, and children's museums, do not rely chiefly on collections for their enlightenment programmes and exhibitions.

Most museums acquire their collections through gifts and bequests, and some have dedicated budgets for acquiring new objects. Museums may also lend objects to other museums on a short or long-term basis to boost their other programmes or exhibitions. This is also a means through which they can reach a wider audience (Hirzy, 2003). These objects in the museum must be kept safe and in good condition for upward use and that is the task of conservation. The field of conservation has outlived its traditional stage to include managing the objects that got damaged in the process of management and

handling. Stoner (1992), in his bid to capture the sophistication resulting from the world advancement in science and technology of modern conservation and tailoring it to the traditional scope opine. Sturman (1992) on his part saw conservation as encompassing all aspects of preservation; structural, consolidation, cosmetic restoration, scientific analysis, condition examination, or environmental evaluation and control. Conservation then is a method by which objects and artifacts are protected from decay and damage. It includes the preservation of all heritages such as sacred grooves, shrines, wildlife, and caves (and all other natural and man-made objects) resources (Edet, 1990).

Research Objective

The objective of this paper is to examine the conservation techniques and the materials in the National War Museum, Umuahia

Theoretical Literature

Systems Theory

A system according to Russell Ackoff (1999), is composed of regularly interacting or interrelating groups of activities. For example, in noting the influence of organizational psychology as the field evolved from "an individually oriented industrial psychology to a systems and developmentally oriented organizational psychology," it was recognized that organizations are complex social systems; reducing the parts from the whole reduces the overall effectiveness of organizations. This is different from conventional models that center on individuals, structures, departments, and units separate in part from the whole instead of recognizing the interdependence between groups of individuals, structures, and processes that enable an organization to function (Schein, 1980). Laszlo (1972) explains that the new systems view of organized complexity went "one step beyond the Newtonian view of organized simplicity" in reducing the parts from the whole, or in understanding the whole without relation to the parts.

The relationship between organizations and their environments became recognized as the foremost source of complexity and interdependence. In most cases, the whole has properties that cannot be known from analysis of the constituent elements in isolation. Béla H. Bánáthy (1997) argued - along with the founders of the systems society - that "the benefit of humankind" in the purpose of science, has made significant and far-reaching contributions to the area of systems theory. For the Primer Group, Bánáthy defines a perspective that iterates this view: The systems view is a worldview that is based on the discipline of system inquiry. Central to systems inquiry is the concept of system. In the most general sense, a system means a configuration of parts connected and joined together by a web of relationships. The Primer group defines a system as a family of relationships among the members acting. Von Bertalanffy (1974) defined a system as "elements in standing relationship".

Similar ideas are found in learning theories that developed from the same fundamental concepts, emphasizing that understanding results from knowing concepts in part and. Bertalanffy's organismic psychology paralleled the learning theory of Jean Piaget .

“Interdisciplinary perspectives are critical in breaking away from industrial age models and thinking where history is history and math is math segregated from the arts, and music separate from the sciences and never the twain shall meet” (Buckley, 1967). The influential contemporary work of Senge provides a detailed discussion of the commonplace critique of educational systems grounded in conventional assumptions about learning, including the problems with fragmented knowledge and lack of holistic learning from the "machine-age thinking" that became a "model of school separated from daily life." It is in this way that systems theorists attempted to provide alternatives and an evolved ideation from orthodox theories with individuals such as Max Weber, Émile Durkheim in sociology, and Frederick Winslow Taylor in scientific management, which were grounded in classical assumptions (Owens, 2004). The theorists sought holistic methods by developing systems concepts that could be integrated with different areas.

The contradiction of reductionism in conventional theory (which has as its subject a single part) is simply an example of changing assumptions. The emphasis with systems theory shifts from parts to the organization of parts, recognizing interactions of the parts are not "static" and constant but "dynamic" processes. Conventional closed systems were questioned with the development of open systems perspectives. The shift was from absolute and universal authoritative principles and knowledge to relative and general conceptual and perceptual knowledge (Bailey 1994), still in the tradition of theorists that sought to provide means in organizing human life; meaning, the history of ideas that preceded were rethought not lost. Mechanistic thinking was particularly critiqued, especially the industrial-age mechanistic metaphor of the mind from interpretations of Newtonian mechanics by Enlightenment philosophers and later psychologists that laid the foundations of modern organizational theory and management by the late 19th century (Checkland, 1997). Classical science had not been overthrown, but questions arose over core assumptions that historically influenced organized systems, within both social and technical sciences.

Empirical Literatures

A museum's distinctive mission is to collect and preserve objects, record information about them, study them, and make them available to the public. These objects are valuable sources of knowledge and understanding about humanity and the natural world around us. To this end, this work looks into the various conservative measures of the Unity Museum, Enugu, and the National War Museum, Umuahia. Some authors have written extensively on the various concepts and aspects of conservation which this section is poised to understudy. Conservation has been seen by Eluyemi, (2002, p.2) in his book '*The Preservation of Nigerian Cultural Heritage: Challenges & Prospects*' as “the promotion of cultural properties of concrete or non-concrete nature, past or present, written, or unwritten/oral. The objective of the study is to find out the Challenges & Prospects of the Preservation of Nigerian Cultural Heritage. He employed a qualitative approach to the study. He observed that preservation involves the identification, documentation (appropriate registration), and proper storage of cultural objects whether in private hands or museums. Preservation in Nigeria is arguably threatened by human activities,

natural forces, and biological and chemical agents among others. While exploring cultural heritages Eluyemi looked at it as the total of the people's cherished arts, customs, festivals, sacred or worship sites, norms, values, ideologies, dress and dress patterns, traditional monuments and architectures, technology and technological sites and other artifacts which are cherished and conserved for their historical, political, educational, recreational and religious significance among others and therefore the total of material and non-material cultures of a particular society transmitted across generations is, however limited to man-made artifacts and ideologies. Eluyemi in his finding distinguished cultural heritage from natural heritage. Cultural heritage is man-made while natural heritage is those material and non-material heritage bequeathed to man by nature. This work adopted a theoretic approach to conservation without using the comparative approach of museum study which this study is poised to address.

Anigbogu & Onyima (2013), discussing Nigerian cultural heritage in their work *New Technology and Challenges of the Blacksmithing Industry in Awka: Implication for Entrepreneurship Development*, studied the blacksmithing industry, brass-casting, bronze works, and metal-working industries practiced across Nigeria as the main objective of the study. Their illustration is on terracotta (wood carvers) constructed beautiful stools and doors, engravings on walls and rock, etc. They employed the use of questionnaires to elicit information from respondents. However, their observation is that these skills which served as good entrepreneurial and income-yielding jobs have been abandoned for foreign ones in the quest for civilization. They employed a qualitative method of data analysis. Their findings are that this local industry created an avenue for employment and entrepreneurship beginning from the miners to blacksmiths, distributors, and even users of products from the blacksmithing industry. The implication of this is that if these cultures are not preserved, the incoming generation will have problems dealing with their culture and heritage which eventually will erode their value system and identity. Though the authors specified the area of focus, the challenge here is that the exercise is based on entrepreneurial benefits rather than the interest of the museum and its artifacts for national relevance.

Ogundele (2014), in his work; *Understanding Contemporary Archaeology*, observed that the little successes made over the years in the preservation of Nigerian natural and cultural heritages have been attributed to conscious systematic and scientific efforts and research conducted by professionals in the disciplines of archaeology, cultural anthropology, linguistics, ethnography, palynology, paleontology, geology, geography, museum studies, among other cultural resource managers. He used the qualitative analytical approach in the study. His finding indicates that there are more gaps in the study to be filled by conscientious effort but the how and when was not discussed.

The British Museum Conservation Policy (2016) gave comprehensive ways museum objects should be handled. Referring to the British Museum Act (1963), the policy examined the residency of the collection. To it, the Trustees of the British Museum are responsible to Parliament for the safekeeping and care of the collection and for making

them available to the public. The objects in the collection are preserved for the benefit of the public, present and future. The policy observed that the purpose of conservation is to minimize the reduction of public benefit caused by deterioration or damage to the collection. Therefore, to ensure that the collections are preserved, it is the responsibility of the Museum to make conservation treatment available to allow objects to be used, where possible. The collections are preserved by reducing the potential for deterioration and damage rather than through treatment and repair. That is, preventive conservation methods are applied in preference to interventive conservation treatments. The gap to be filled in this context is how this could be incorporated into the Nigerian environment taking into consideration our environmental terrain and constraints.

Writing on *Methods for Conserving Archaeological Material Underwater Sites*, Hamilton's (1999) work provides a clear idea of the facilities required for conservation, the treatments available, the chemicals used, and various insights on conservation. This should help evaluate any conservation proposal or for assistance in establishing conservation facilities designed to conserve the vast array of materials found on marine sites. Estimating the costs involved is more complicated. With knowledge of what equipment and materials are needed, however, it is simply a matter of determining the variety of treatments to be performed and the level or volume of artifact treatment expected of the laboratory. The work that adopted a qualitative approach failed to specify the source of funding for the exercise since it is easy to identify problems, but good research should proffer plausible solutions to findings that should apply within the Nigerian context.

Looking into the relevance of conservation and various ways our cultural heritage has been passed on to us from past generations, Fasuyi (1973) in his work *Cultural Policy in Nigeria: Studies & Documents on Cultural Policies* saw conservation as being very vital because of its capacity to promote the past ways of life that are useful to contemporary societies. He employed the use of qualitative tools in the study. The past is essentially the key to the present and a platform for the future. He classified the preservation of Nigerian heritages into three dimensions namely the pre-colonial, colonial, and post-colonial. Nigerian heritages during the pre-colonial era were preserved in royal palaces of tribal kingdoms and empires by kings, heads of families, and kindred, deity priests in charge of shrines and sacred grooves among others. The cultural activities, arts, and festivals were managed by the traditional rulers and chiefs in the council through the delegation of powers to talented specialists. For instance, the carvers made masks for masquerades, the traditional costume designers made royal regalia, beads, and dresses, other crafts makers made baskets, local talking drums, and other musical instruments; the music and dance specialists made music, praise songs to celebrate valiant warriors and trained dancers for annual festivals. These skills were preserved through oral tradition and training of these craftsmen and women, and then the skills were handed over from generation to generation.

Aremu (2008) while discussing the challenges of preservation and conservation of our heritage in his book "Preservation of Land, Culture & Wildlife for the Development of Ecotourism in Africa" noted that this generational pattern of preserving Nigerian heritages was completely or partially truncated in most parts of Nigeria due to the incursion of colonialism. The result used interviews for the research. The observation is that colonialism ushered in an era of unrestricted negative human activities such as looting, vandalism, thefts, unscientific excavation of graves, goods, iconoclasm, wars, and illicit trafficking of cultural objects among others. He x-rayed the period 1900 to 1960 to mark the era of colonization in Nigeria. He stated that the most remarkable of these destructive human activities on Nigerian cultural heritage climaxed during the punitive expedition in 1897 when the British colonial administration attacked the Benin culture area, looted the rich bronze works and art treasures of the Benin royal palace, and exiled the King to Calabar where he later died in 1914. He concluded by saying that Colonialism thus, waned the influence of traditional rulers and their role in preserving Nigerian natural and cultural heritages. For instance, during the colonial period, western educational systems were introduced to replace traditional educational systems such as *Irumgbede (tales by moonlight)* among the Igbo. In schools, English language and foreign literature were taught and read to the detriment of Nigerian indigenous languages. To him, these acts have grossly eroded the Nigerian heritage conservation and blown up a great deal of cultural heritage.

A study by Nyame (2002), in his article "Conservation of Cultural Heritage in Nigeria: A Study on National Museum Esie reveals that it is the first national museum established by the Federal Government of Nigeria in 1945 as part of the effort to safeguard cultural heritage in the country. The museum was established in Esie because of several pieces of soapstone artifacts that were found in the community. This study investigates the situation around the first National Museum in Nigeria. The study which adopted secondary data and interviews to elicit information was carried out to determine how collections in the store and gallery are faring under the conservation care of the museum. Many scholars of note have written about the Esie soapstone figures but most failed to consider ways to improve the state of their conservation in the museum. Other studies were merely on the origins and makers of the artefacts but Nyame considers the conservation aspect. The museum ensures that reasonable collections are passed to future generations in good and safe condition. To achieve this, special attention must be paid to the body of knowledge of preventive conservation techniques and environmental protection against natural and manmade causes of deterioration in the museum. On how collections in the museum are being treated, the conservators use different types of soft brushes to dust off dirt on the objects. There is a weekly inspection and routine check on collections in the store by the team of curators and conservators since the materials used are mainly stone but in other museums, where there are different kinds of material collections, the conservation routine check-up is every day. The gallery and store should be protected against dust and excessive light. The study also observed, contrary to people's belief that the Museum houses only stone objects, that there are few other objects of organic materials, carved wood, and iron in the museum. She recommended among

others that the store and gallery should be illuminated with good lighting systems and ventilation and air-conditioning to prolong the life of the soapstone figures and other objects in the museum, organise training and workshops for staff to restore many of the broken pieces, expand the scope of the exhibition in the museum.

Onyejegbu (2014) in the *Journal of Tourism and Heritage Studies*, examines "Cultural heritage and tourism development in Nigeria and the need to maximize museum potentials. The objective of the study which employed a qualitative approach and eyewitness account is on four key concepts namely: culture, cultural heritage, tourism development, and museum. Spanning from the findings of the poor conservation practices in Nigerian museums, she recommends that in maximizing and revitalizing museums in Nigeria for tourism, the management of the museums should take steps to revive their museums and make them presentable and inviting, damaged furniture should be refurbished, clean the objects, showcases and the floor regularly, provide clean refuse bins, repaint and clean the walls among others. There should be museum craft shops that are stocked with replicas of Nigerian cultural objects, indigenous crafts, artworks, and postcards for sale to tourists who always demand souvenirs manned by polite and competent shopkeepers. Museum kitchens should also be first-class ones with good, clean, and polite cooks. Very important too, is the guaranteeing of the security of visitors and tourists. The work advocates for environmental aesthetics and reorientation of staff on the museum objects without considering the techniques and materials to use in doing this.

A work on documentation and storage of museum objects by Andah (1988) in his book *African Anthropology* disclosed that when an object arrives at a museum, it begins a "new life." It will be studied, positioned, exhibited, restored, loaned, and transferred and will be placed alongside other objects. The value of the collection, its safety, and accessibility depend largely on the quality of the documentation associated with it. The study which combined qualitative and quantitative approaches to elicit information finds out that documentation is the organization of information on the properties of the objects being documented and it is needed for the "administration" management of collections. It enables the museum to quickly and effectively: establish proof of ownership, locate a specific object, find out the total number of objects in the collection, carry out an inventory, establish the unique identity of an object, contribute to the safety of the objects, and carry out an insurance valuation, among others. The work majored on the need for conservation and failed to address the way of conserving these objects.

Onyima (2016), writing on *Nigerian Cultural Heritage: Preservation, Challenges, and Prospects in Ogirisi: A New Journal of African Studies* vol 12 descriptively uses a qualitative approach to present a historical, anthropological, and archaeological account of the Nigerian cultural heritage. She observed that efforts at preserving these heritages are obstructed with daunting challenges, particularly human activities such as trafficking and exportation of Nigerian arts, thefts and looting of museums, vandalism, iconoclasm, Christianity, civilization, commerce, change, and developmental projects among others.

Her findings are for proper preservation and conservation due to an avalanche of prospects derived from an adequately preserved cultural heritage. She goes on to discuss what constitutes associated records resulting from an archaeological excavation. This article is concerned only with cultural material or collections resulting from an archaeological excavation. There are established standards of conservation that are quite similar in many ways to the federal standards established for archaeological material. What is important is that all relevant documentation be recorded from the start, including all records about conservation treatment, and that a complete set of records accompany the collection, or any artifact separated from the collection.

Ugwuanyi (2014) in his unpublished MA thesis on the topic, *Conserving the Heritage of Zik of Africa: A Framework for the Establishment of a Zik Centre* advocated for proper conservation of Nigerian cultural and natural heritage. The work examined heritage making and the importance of heritage conservation. It adopted the use of a questionnaire to elicit information and a quantitative approach in the data analysis. The work is a conscientious effort to encourage documentation of historical materials to immortalize our foremost leaders who have fought tirelessly to bring the country to its present reality. Conservation in this context serves as a means of heritage assembling of a wide and varied mixture of past events, culture, personalities, folk, mythologies, and surviving physical relics, together with places – towns sites, and landscapes with which they can be symbolically associated for academic realization and also history and heritage creation and making. He observed that Zik's heritage has not been made by any stakeholder to value and immortalize him, thus, he advocated for such a monumental exercise to be carried out to eulogize and commemorate our past heroes for future African generations.

Oloruntimehin (2010), in his book *Arts and Heritage as a Catalyst for Development in Africa* saw heritage conservation as a way for the development of mankind. The objective of this research is to find out what distinguishes most developed nations from the developing nations which from the observation of the study is the ability of the formal to realize their potential in their heritage conservation which has led to their developmental efforts. The work adopted the qualitative approach of information collection and analysis. The work expressed the obvious examples of developed nations that have exploited and are still exploiting their arts and other heritage and even those of other nations to create wealth for their nations and promote intellectual life. The findings of the research exercise are on the wealth of knowledge of the developed nations which the developing or underdeveloped nations are yet to appreciate in their ability to take hold of the past artifacts and heritage to create wealth which may not come in terms of financial benefit but knowledge and evidence of their pre-existential facts which is exhibited their heritage conservation.

Bezerra (2012) is another author who made a conjecture into heritage conservation in his book; *Indicators of Conservation of Significance of Natural/Cultural Heritage* which focused on what he termed natural and cultural goods that are unique representatives of diversity of human self-expression and ways of life which he predicted are vulnerable and fragile and are at the verge of extinction. The study is a qualitative study that made use of secondary

data and eyewitness accounts. These goods in his perspective are exceptional, physical, and visual aspects of landscapes and cultural inheritance represented by human processes incorporated within nature. Bezerra here observed that heritage conservation placed natural cultural heritage in high esteem by recognizing records analyzed and protecting these natural and cultural properties of historical importance to inculcate wide decisions on development and one's personal and collective quality of life.

Chemello, Daub, et al (2011) researched Archaeological conservation in their article and discussed the professions devoted to the preservation of objects, structures, and sites that constitute the archaeological record. Their research majored in the conservation and preservation of archaeological findings. These materials are primary resources for understanding and interpreting the past. Archaeological remains from their findings may come from terrestrial or marine environments and can be made from a wide variety of inorganic and organic materials including metal, stone, ceramic, bone, wood, plant fiber, and skin. The moment these materials are uncovered, they are at risk of rapid and irreversible deterioration. Archaeological conservators work to ensure the long-term preservation of these materials for future study and research. They concluded that beyond the treatment of freshly excavated finds, archaeological conservation includes strategies for ongoing collaboration with archaeological colleagues, adequate curation methods, management of and access to these materials, as well as exhibition and display.

Charlotte (2012) researched "The Politics of Heritage Management in Mali. The objective of the study is to critically examine how the politics of heritage management, conservation, and authenticity play essential roles in the construction of Djenné's past and its appropriation for contemporary purposes. She observed that despite its great renown, most residents remain desperately poor. And while most are proud of their cultural heritage, they are often troubled by the limitations it places on their day-to-day living conditions. Charlotte argues for a more critical understanding of this paradox and urges everyone to reconsider the moral and philosophical questions surrounding how we use the past in the present. "How does an urban population of poor African Muslims best confront narratives imposed from the outside about their cityscape to improve their lives? The findings of this study which made use of secondary data reveal the contradictions between Eurocentric notions of preservation and survival for people whose poverty has reduced to one meal a day. Charlotte ties together history and life in a "heritage site," home to living populations, whose rights to self-determination have taken a back seat to the "universal value" of the buildings in which they live."

The Environment Department of the World Bank in their Environmental Sustainment Sourcebook Update (1994) article on Cultural Heritage in Environmental Assessment draws attention to the importance of cultural heritage in the environmental assessment process and suggests ways in which the environmental assessment process can help protect heritage. It saw Cultural heritage as a record of humanity's relationship to the world, past achievements, and discoveries. Much of this heritage in developing countries is now under threat, partly because of modernization and development. If archaeological

and historical sites and structures are allowed to disappear, important testaments to a society's creativity and the knowledge base for shaping the future will be lost. It observed that the loss of heritage is irreversible but often avoidable. Effective protection is based both on an understanding of cultural heritage issues and appropriate assessment and action to minimize damage or loss. The article concluded by stating that cultural significance is a concept in estimating the value of a site which includes aesthetic value, historic value, scientific (research) value, social or economic value, and the concept of amenity value. Its finding is that sites that are likely to be significant are those that help our understanding of the past or enrich the present and that will be of value to future generations.

Saunders (2014) in the article "Conservation in Museums and Inclusion of the Non-Professional" in the *Journal of Conservation and Museum Studies* observed that the transformative quality of the museum environment and display format, about objects and object relationships, is fundamental to the socio-cultural responsibilities of the institution and their ability to affect social issues. To understand the potential utility of heritage conservation in this respect, it is necessary to explore the complexity of the relationships that can form between objects and people and so establish some key issues and implications of conservation activities. This paper which used a quasi-comparative approach and quantitative approach first addresses the role of materiality and material interactions in the construction and communication of identity aspects and considers professional conservation about these relationships. The article shows that material interactions can have great significance concerning identity and that the subjectivity of object values is a key issue in the conservation of material heritage. It saw that though the management of heritage can be problematic, the resonance of heritage status gives museums a unique capacity for addressing both intangible and tangible social needs.

Mason and Avrami (2000), in their work, "Heritage, Values, and Challenges of Conservation" argued that heritage has different values and facets which span from historical, educational, economic, cultural, and spiritual to political in society. They argued that the variety of these values ascribed to any heritage is matched by the range of stakeholders participating in the heritage conservation process. The work which used a qualitative approach concluded by saying that balancing values is a great challenge in making conservation decisions that satisfy the needs of many stakeholders. It could be inferred from this work that the museum protects more of the artifacts the museum has a special interest in than others.

Jones and Holden (2008) handled research on people's value of conservation in their work a book, "It's a Material World". Their work which is more of an analytical exercise made use of qualitative techniques to approach the study. They observed that it is what people care about that they conserve, so in choosing what things to conserve, and how to conserve them, we simultaneously reflect and create social value. How things are kept and cared for demonstrates their significance not just as objects, buildings, or landscapes, but in terms of how much value we place on them. They went further to discourse that the

things we conserve are a statement of what we respect, who we are, and who we wish to be. Conservation therefore not only sustains and refreshes the values of the past – giving us an understanding of where we have come from – but also reflects values for the present and the future. Conservators provide a paradigm not just for fixing things when they are broken, but for a wider social ethos of care, where we individually and collectively take responsibility and action. The solution to conservation's challenges that the writer suggests is that conservators themselves must find new ways to demonstrate the connection between their work and the wider social and cultural values that caring for the material world engenders. These values see the way that innovation in conservation practice spills over into technological advances in industrial processes. The writer recommended among others, a new policy agenda focused on the social importance of caring for the material world, an adviser who would convene a conservation steering group – the Material World Board, a steering group whose core objectives should be to sustain the UK's conservation education base for the future and identify areas beyond the cultural industries in which conservation can be supported and encouraged to contribute to policy agenda at a cross-departmental level, in particular communities and innovation, a nationwide initiative to communicate and celebrate the values of conservation, etc.

Ardakani and Oloonabadi (2011) in their work on “Collective memory as an efficient agent in sustainable urban conservation”, wrote extensively on sustainable urban conservation. They employed quantitative data analysis to compare the urban and the rural environments. They observed that to progressively conserve historic cities for a sustainable future, recognizing and retaining all the tangible and intangible social and cultural values is vital. Collective memory is a repository of culture and because of its social nature, it can be used as a suitable driver of sustainable conservation in historic cities. This paper seeks to explain how collective memory can be developed in line with the notion of sustainability in urban conservation interventions. The work recommends the consideration of the social and cultural aspects, of collective memory to emphasize the social features of the notion of sustainability by consequences such as enhancement of the place attachment among the inhabitants. Collective memory will then become an agent for linking generations through which it is possible to give further importance to the place where the events are unfolded, and the past, present, and future mental dimensions of the inhabitants of the historic cities are related.

History of the National Museum of Unity

The antiquities commission stressed that it is obviously in the public interest that Nigeria should have a national museum in its capital city, hence in 1974 the then Head of state, General Yakubu Gowon (Rtd) came up with the concept of the Museum of National Unity to be located in the capitals of the four Geo-political zones of the federation, Sokoto, Maiduguri, Ibadan and Enugu after the devastating effects of the 1967-70 civil war in attempt to establish the spirit of reconciliation, unity and harmony among the heterogeneous cultural group in Nigeria. He saw the museum as one of the instruments that could be used to unite the people of Nigeria. The antiquities established a museum office in Enugu in 1971 whose office was offered temporal accommodation by the

National Archives and in 1975, the East Central State Government allocated a building to the museum along Ogui Road, Enugu, but was grossly inadequate. In 1975, a suitable and strategically located piece of land covering an area of about 13.628 acres where the museum now stands was discovered and allocated to the defunct Federal Department of Antiquities by Late Brigadier Ochefu then a colonel and the military governor of the then East Central state. The museum is said to have been in a strategic land along Abakaliki road because the proposal suggested that in an age of increased leisure and cultural awareness, museums of this type will become popular both in recreational and educational terms, in serving their communities and forging links with every level of the society. This is reflected in large space acquired for refreshment areas, children's playgrounds, and other recreational facilities. This vision did not come to reality until 3rd May 2006 when former President Olusegun Obasanjo inaugurated the museum to commence operations after 34 years the initiative was shot. The National Museum of Unity Enugu is the only flourishing museum in the country devoted to the No Victor, No Vanquished slogan of post-war. The museum serves as a unifying force that binds the Nigerian nation and as such has three main galleries: the Unity Gallery, the Igbo world view gallery, and the Coal City Gallery ((<http://www.nigeria-law.org/national-commissionformuseumandmonuments>)).

The National War Museum is a war memorial. The purpose of this is to protect and preserve war materials or relics and to be known as an information-gathering center, for warfare and could be known as a research, center for military sciences. The idea of initiating this National war museum to protect and preserve the Nigerian war relics came from Chief of Army Staff, General Theophilus Yakubu Danjuma (Rtd) after his official traveling from Yugoslavia in 1977. The idea of this establishment was presented to the council in 1977 for approval. The actualization of this fact was handled by the National Commission for Museums and Monuments with the official launching of the National War Museum in January 1985 by the then Chief of Staff Supreme Headquarters Major General Tunde Idiagbon (Rtd).

Individuals and groups have contributed to the growth of the war museum which culminated in its formal commissioning on Thursday, 14 September 1989. Because of the proper role Umuahia played during the civil war, it was chosen as the capital, after Enugu was captured. Another thing that made Umuahia unique was the railway route for transportation; through which goods could be distributed to other places, cattle, and palm produce in the trade between the Southern and Northern parts of the country.

Finally, national war museum exhibitions illustrate Nigeria's war efforts through the ages. The purpose is not to glorify the country's effort at war but to enable the public to see from a historical perspective the evolution of Nigerian military technology, highlight the inventive ingenuity of Nigerians, as evident in the war relics, and emphasize the need to guard jealously our national unity.

The National War Museum Umuahia has the following sections,

1. Exhibitions: Museums play a unique role in showcasing important duties, such as entertainment and educative purposes to the public. According to Kerri (1994:6), the museum Exhibition connotes communication, ideas, and the use of visual concepts to the public. An exhibition usually occupies a large space due to the nature of those war relics in an open-air museum. At each time of the exhibition, the persons in charge would display where the major sensitive work would go into designing.

A lot must be taken into consideration, for example, the quality and how is it to be designed. Kerri (1994:7) noted that the need for architectural effects, graphic design, lighting design, painting, colour schemes, photography, audio-visual and educational objectives could be ascertained. The National War Museum Umuahia displays objects, and materials inside the museum, and it goes with glasses, with beautiful pictures pasted on the wall –the origins. Since researchers, visitor's tourists that come from different walks of life could pick interest in all these things, it could be fascinating to make objective (Okpoko, 2006). In the National War Museum, there are four galleries where objects are displayed and exhibited:

1. Traditional warfare galleries
2. The Armed Forces Galleries

2. Traditional warfare Gallery: The gallery displays the evolution of weapons in the great battles of Africa and Europe over the years. The exhibition in this gallery illustrates the low level of technology in weaponry used by Africans and Europeans during their earliest formative stages of historical warfare development. The weapons of traditional technology in the holdings of the National War Museum are in the form of missiles, shock weapons, and staff weapons. The concept behind the invention of war weapons over the years and even now remains the same. The only difference, however, is in the complex nature they have evolved in terms of higher technological development.

3. Missiles: Stones were the first weapon of offense and defense. Pebble stones were the first missiles developed by man. Stone throwing was therefore, during the early formative stages of society, a system of aggression. Later varying types of lithic implements evolved. A core or block of stone was flaked by removing a bit of stone from it. The chopper was the first product of this flaking process it was a pebble from which one or more flakes are removed. Then the polyhedral and spheroidal tools. The polyhedral is a prepared core pebbled flaked around, giving it a polyhedral shape while the spheroid has a rounded shape like a stone ball. The stone pick reflected man's realization of his need for a bigger and better-fashioned tool. Pick is a crude stone tool with shallow flake scars. Later, our earlier ancestors developed the stone hand axe. After a long time, the hand axe was perfected giving it a smooth and straight edge, lenticular in sections with shallow flake beds.

Apart from lithic tools and weapons, wooden tools were used contemporaneously, and clubs and sharpened sticks were in common use during the formative stages of society.

Bones also featured prominently. The use of bone hammers in the manufacture of certain stones. Bone and arrows heralded a basic development in traditional technology. They were a common element in the traditional society's weaponry. The first type of arrow used was wooden, but later, metal tips were used to replace the wooded tips. Bows and arrows provided man with one of the first weapons of long-range power, especially in less wooded savanna regions. Crossbow is a modification of the bow.

4. Shock Weapons: With the discovery of metallurgy and ironworking, the range of traditional weaponry increased to include such shock weapons as swords and daggers. Swords in their various forms have been used in wars and close contact battles. Weapons that are shorter for example taggers and broad-bladed swords were wildly used also. In the gallery their typical two-edged swords of Kastina – “gajere”, the “Bayajida” swords of “Daura”, the sword of “Ajaka” in Owo Yoruba town known as “Uda arara”, it is the ceremonial swords that usually have various decorative motives, form part of the regalia of Emirs, Obas and chiefs in the present century.

5. Staff Weapons: Spears, lances, and javelins are known in military parlance as staff weapons. They have a longer fighting range than shock weapons staff weapons form the major weapons of infantry in the traditional army. Spears are made of a metal blade and shaft, made from varying materials (wooden or metal) some spear blades displayed in the gallery of the National War Museum are broad and leaf-shaped, some have barbs, while some are fitted with nonbutts that provide the user with forward and backward stroke against an enemy. Javelins are usually lighter and were the favourite weapons of the cavalry unit of the traditional army.

6. Firearms: product of modern technology: The firearms were also displayed in the gallery. Early imports of firearms were guns and muskets, and they were of three types. The wheel lock; the flint lock and trade guns or Dane guns. The Dane guns were the most common of all these firearms and it was also the techniques for the manufacture of other Dane guns that were first mastered by traditional cavers and smiths.

7. Costumes: Costumes were also displayed in the traditional gallery. Various costumes were used for protection by combatants, chain-mail was on display too, and it was used by a horseman to cover himself from his neck to his knees and head. Shields made of fabric materials or hardwood or hides and skin etc. clothes were also used as costumes of war. Other costumes include boots, combat kits, camouflage uniforms, etc.

8. Charms: Africans believed in the efficacy of charms for protection, even in battle. The charms; functionally boost the ego and morale of the combating soldier possessing it. Charms have come to form part of our war heritage as held in the war museum collection. Such charm may be worn around the neck or even tied to the gun. Some are worn around the waist.

9. Music: Some of the musical instruments were displayed also in the traditional warfare gallery which is like warfare in the traditional society. These instruments are metal gongs called “Nkong Ekpe” by the Ibibio, the Igbo call it “Igbugbo”, and a wooden slit gong called “Ekwe” by the Igbo. Drums of various types and sizes were collected from different parts of Nigeria, but all with the unifying element of being associated with war; a distinct big trunk drum called “Ude-agma” by the Ngwa clan of Igboland and horn of Elephant tusk. The music in the traditional society in Nigeria most especially served the useful purpose of information dissemination in times of war and even in peacetime.

10. Armed Forces Gallery: On the visit of Her Majesty Queen Elizabeth 11 to Nigeria in 1956, the Nigerian army was known as the “Queens Own Nigerian Regiment”. It consisted of five infantry battalions stationed throughout Nigeria. The other fighting supporting arms consisted of one battlefield artillery and a squadron of field engineers all stationed at Kaduna.

Conservation strategies in the National War Museum, Umuahia

The National War Museum is managed by the National Commission for Museums and Monuments (NCMM). NCMM was established, among other things, to preserve the history of Nigeria, putting the ugly episode of the war behind us and speeding up the process of national reconciliation and healing. Delivering a keynote address on the launch of his book on the National War Museum, Umuahia the then president of the Federal Republic of Nigeria, General Dr. Yakubu Gowon said:

I am of the view that we all must continually strive to put history in its proper context whenever we get the opportunity to do so. The National Commission for Museums and Monuments, since its establishment, has been consistent in playing a lead role in the drive to dispassionately put the history of Nigeria and the people in its right perspective. It is no surprise, therefore, that the National War Museum, which is in Umuahia as part of the NCMM network, was established to preserve the relics of the Nigerian Civil War, 1967–1970 as well as serve as a center for research and information on warfare in the country.

The Museum has resources on the evolution of warfare in Nigeria, from the use of bows, arrows, and spears in the past to today's more sophisticated weapons like cannons, artilleries, and Armoured Personnel Troop Carriers. It also contains details on the shift from traditional 'shock weapons' like stones to firearms and modern-day missiles. Beyond these, the museum provides several interesting historical details and colourful illustrations of the Nigerian Civil War. The National War Museum, Umuahia provides as much quality information as would interest any visitor with a hunger for an unbiased history of Nigeria.

While the civil war lasted, various sophisticated weapons were used. Some of these deadly weapons were fabricated due to the exigencies of the war. Outside the appurtenances of war, civilians were also involved in the process of not just fighting, but

psyching up the minds of the people to forge ahead despite the deprivations that came with war. Different media of mass communication were used. The war was a watershed in the history of Nigeria as a country. The experience, many agree, is such that makes the resort to arms and war as a means of conflict resolution, not an attractive option. It is in this spirit that the Nigerian War Museum, Umuahia was established (Okorie Uguru, March 7, 2015). Some of the conservative techniques used in the museum are;

Wooden Objects

There are three basic methods used in the Enugu Museum.

1. Treatment of wood with Method Spirit
2. Surface cleaning with Aceton. Aceton is a universal cleaning solution. it does not contain or leave moisture after cleaning.
3. freezing techniques
4. Rumination method

Iron Objects: Corrosion affects iron material, coronation produces roosting, and collections of iron are preserved against water, rain, and relative humidity. The iron object is kept in a dry environment to avoid moisture or high relative humidity. high relative humidity produces excessive heat which under condensation will produce excess, moisture that can trigger up coronation.

Technique: Iron metals can be cleaned by using an Acetone solution. The following can be cleaned and used to prevent an iron object from corrosion dissolve 5ml of ammonia in 95ml of water to form 100ml of solution to clean the corroded iron object. Note: cleaning with this chemical solution in the museum is done with extra caution to avoid destroying the shape, material, and texture of the object and the design and the pattern.

Bronze Object: Aceton solution can be used to clean bronze objects. A cleaning solvent called Brasso which is a metal polish can equally be used to polish bronze objects.

Brass Object: Acetone can be used to clean a brass object and to use of Amionia 5m with 95ml of water to form 100ml can also be used to clean the surface of the brass object to avoid termites.

Textile Material: The treatment of textile is done with caution because of the texture of the fabric in other to protect the textile from being directly eliminated by violent rays (sunshine), one should also protect the material from dust infestation, rodents, lizards, flying insects e.g wasp, moth, and spider.

Techniques: A textile in the museum is not routinely dusted or cleaned from dust using a Flyfisher. Finally, dust or textiles that are heavily infested with dust or any other host can be cleaned or conserved using a vacuum cleaner.

Bones Object: Bones can be destroyed by manhandling, objects, etc. Finally, in conserving a Bone object you can use Acetone chemical, or finally one has to place the object in a stable environment.

Raffia Object: Rodents do attack raffia objects. While conserving a raffia object fresh sweet palm wine is used to sprinkle on top of the raffia material then the material spreads under the sun light this makes them retain their original texture.

Leather/Skin: Rodents do attack skin/leather objects and the conservative technique is a wrinkled or shrunk leather object placed on top of boiling water to make the skin come alive. Another method is the linseed oil or soya oil, the oil is rubbed on the skin.

Stone object: Dust does affect stone objects and the conservative technique is cleaning and dusting using soft brush or dusting brushes or condemned oil the condemned oil is used to polish the stone against cracking.

Beds Object: Beed objects are inorganic materials and acetone solution is used in conserving Beeded objects.

Feather Object: Feather object is an organic material and chloroform used to preserve dead bodies is used to preserve feather object. Secondly Air conditioning system helps to maintain an optimum temperature.

Conservation Challenges in the National War Museum, Umuahia

Some of the challenges that affects the conservation of artifacts in the National War Museum are,

1. Impact of Climate Change on Environment and Museum Object

Climate change has always been very hazardous in major parts of the world. Agents such as water, frost, chemical fumes, various acids, and even salt are responsible for the change of materials in the environment, all these are caused by man and nature and over long periods metamorphose into what is referred to as climate change and in turn affect materials that are susceptible to its effect. Though climate change varies from continent to continent its effect remains the same in areas of damage. For instance, the climate of the temperate region is different from that of the tropical region therefore their climate change varies.

The likely impact of climate change includes challenges to public health, increased population movement, diminishing state capacity, obstacles to development and environmental damage, loss of biodiversity, reduction of suitable gases, geological instability, etc. All these when broken down further have consequences for humans and the environment they inhabit. Climate change brings about evolution as observed in the theory of evolution and environmental change as witnessed in the period of the ice age (glacial period). These impacts as earlier observed are caused either by human activities

or nature, therefore, to reduce the impact of climate change the contribution of man's activities would have to be curbed to its barest minimum and alternatively substitute these inducers of harm to a more suitable source.

2. Lack of Public Appreciation

There is general lack of public appreciation of the value of cultural resources and inadequate preventive measures against the destruction of such resources. The importance of cultural heritage is not seriously appreciated at any level in Africa, be it among the policymakers, the educated elites, or developers. Hence a considerable number of cultural heritages are being destroyed in most parts of Africa.

There is also the fact that the developers are more interested in getting their construction works done as quickly as possible and therefore cannot spare time for the examination or retrieval of cultural materials. Even though laws exist in some parts of Africa like on the exploitation of archaeological resources they are no laws to prevent such resources from being destroyed by construction and other developments. These construction companies whether privately owned or owned by government agencies bulldoze through archaeological sites with no hindrance.

3. Lack of Comprehensive Register

There is also a lack of a comprehensive register of historic cultural property (including archaeological sites, objects, and works of art of historic value), these registers should form the solid foundation for promulgating viable and strong cultural property legislation within and outside Africa. Such registers are useful guides for carrying out salvage archaeology works. This register of historic cultural property with details of archaeology sites (prepared with the aid of aerial photography) makes it possible and easier for the commissions to know that a site through which a dam or a road is being constructed is a cultural site and therefore will order for rescue work to be carried out before any construction work begins.

Also, this comprehensive register of historic cultural property enables the community to have a good idea of the nature and number of cultural sites and monuments available within its territory. It is only after this that a community can determine the cost and types of resources required for the conservation of its cultural heritage. In other words, a comprehensive register of historic cultural property enables a community to work out efficient plans on how to protect its cultural heritage.

4. Funding and Equipment

Another problem of the conservation of cultural heritage is inadequate funding and lack of equipment needed to attain the greatest height in terms of cultural heritage growth in Africa since the museum is a nonprofit making organization. The present acute demand on the limited financial resources for various socio-economic projects slowly the place of cultural heritage growth. It also brings about discontinuity in carrying out effective heritage conservation functions. Sufficient funding results in sufficient work, laboratory

equipment, insufficient documentation, and a paucity of trained laboratory and museum technicians.

Apart from inadequate finances and lack of equipment, there is a noticeable shortage of trained personnel to carry out the routine work in cultural heritage. Hence there is also the need for proper counseling of the town's policy makers on the value of cultural heritage conservation so that they can be influenced to create more awareness among the people.

5. Ineffective Conservation

Some of the few cultural heritage available are poorly conserved cultural heritage conservation is a process of planning organizing, directing, and controlling cultural resources to accomplish stated goals or laid down objectives through the coordinated use of human and material resources available. But in this area, cultural heritage conservation lacks overall proper efficient and very effective conservation because effective conservation could be seen as a process or kind of work that involves the guidance or direction of a group of people towards some predefined motives or objectives with an organization setting, that is conservation is a way of producing results for basic functions planning.

Conclusion and Prospects for Improvements

In conclusion, the conservation of museum objects is meant to be conserved for future use. An effective service strategy must be based on legal and legislation that is often unpopular with private owners of significant cultural property. In most cases, they would like to dispose of their property once they know the market source. The legal and administrative framework is inevitable to assist the archaeologist or museum professional when they are faced with the protection of materials from unauthorised agents, rapists, and poachers. There should be effective cooperation among professionals for a better management strategy. This includes research and the definition of the conservation task as well as carrying out the work.

References

- Ackoff, R. (1978). *The art of problem solving*, New York: Wiley.
- Allan, D. A. (1960). *The museum and its functions*. UNESCO Press.
- Andah, B. W. (n.d.). Special book issue. *West African Journal of Archaeology (WAJA)*. Ibadan: Nigeria, 20.
- Andah, B. W., & Okpoko, A. I. (1993). Special book issue. *West African Journal of Archaeology*. Ibadan: Demos Printers, 20.
- Andah, B. W. (1988). *African anthropology*, Shaneson C.1. Shaneson C.1. Ltd.

- Anigbogu, K. C., & Onyima, B. N. (2014). New technology and challenges of the blacksmithing industry in Awka: Implication for entrepreneurship development, *SSRN Electronic Journal*. doi:10.2139/ssrn.2466839
- Ardakani, M. K., & Oloonabadi, S. S. A. (2011). Collective memory as an efficient agent in sustainable urban conservation. *Procedia Engineering*, 21, 985–988. doi:10.1016/j.proeng.2011.11.2103
- Aremu, D. A. (2008). *Preservation of land, culture & wildlife for the development of ecotourism in Africa*, Ibadan: Spectrum Books Limited.
- Arinze, E. (1980). *What can museums*.
- Ash, M. G. (2002). Cultural contexts and scientific change in psychology: Kurt Lewin in Iowa. In *Evolving perspectives on the history of psychology*, doi:10.1037/10421-019
- Crossman, A. (2017). *Understanding modernization theory: A brief overview updated*.
- Bailey, K. D. (1994). *Sociology and the new systems theory: Toward a theoretical synthesis*. New York: State of New York Press.
- Banathy, B. H. (1993). *Systems design: A creative response to the current educational predicament*. In *comprehensive systems design: A new educational technology*. doi:10.1007/978-3-642-58035-2_2
- Banathy, B. H. (1992). *A systems view of education: Concepts and principles for effective practice*. Educational Technology.
- Banathy, B. H. (2014). *Designing social systems in a changing world*. New York, NY: Springer.
- Bertalanffy, L. V. (1968). *General system theory: Foundations, development, applications*. New York: George Braziller.
- Bertalanffy, L. V. O. N. (1950). An outline of general system theory. *The British Journal for the Philosophy of Science*, 1(2), 134–165. doi:10.1093/bjps/i.2.134
- Bertalanffy, L. V. (1955). An essay on the relativity of categories. *Philosophy of Science*, 22(4), 243–263.
- Bertalanffy, L. (1968). *Organismic psychology and systems theory*. Clark University Press.
- Bertalanffy, L. (1974). *Perspectives on general system* (E. T. G. Braziller, Ed.). New York.
- Binford, S. R., & Binford, L. (1968). *New perspectives in archaeology*. Chicago: Aldine Press.

- Bluestone, D., Klamer, A., Throsby, D., & Mason, R. (1999). *In their work "The economics of Heritage Conservation: A Discussion*. Los Angeles: Getty Conservation Institute.
- Cambridge Advanced Learner's Dictionary (3rd). (2008). Cambridge University Press Armada.
- Charlotte, L. J. (2012). *The politics of heritage management in Mali: From UNESCO to Djenné*. UK: Routledge.
- Checkland, P. (2013). *Systems thinking, systems practice eBook for Usma*, Wiley.
- Cleere, H. (1997). Approaches to the archaeological heritage conservation study of world cultural resources management systems. *Conservation*, 12(1).
- Ekechukwu, L. C. (1990). Disappearance of nigeria's cultural property! need for increased security. In *Cultural Resources Management*.
- Oladunmoye, O. M., & Department of Architecture University of Ibadan Ibadan, Nigeria. (2023). Light weight laterite bricks stabilised with cement and sawdust for multi-storey construction. *Advances in Multidisciplinary & Scientific Research Journal Publication*, 11(3), 39–44. doi:10.22624/aims/digital/v11n3p3
- Eluyemi, O. (2002). *The preservation of Nigerian cultural heritage: Challenges & prospects*. Fourth Memorial Lecture. Ibadan, Textflow Limited.
- Fasuyi, T. A. (1973). *Cultural policy in Nigeria: Studies & documents on cultural policies*. Paris: UNESCO.
- Flannery, K. V. (1968). Archaeological systems theory and early Mesoamerica". In *Anthropological Archaeology in the Americas*, ed. by B. J. Meggers, 67-87. Washington: Anthropological Society of Washington.
- <http://thenationonlineng.net/umuahia-and-its-war-museum/>
- <http://www.conservation-us.org/about-conservation/find-a-conservator#.Uw1ioJGI5wI>
- Jones, S. & Holden, J. (2008). It's a material world. Caring for the public realm. Retrieved from: <http://demos.co.uk/files/Material%20World%20-%20web.pdf>
- Laszlo, E. (1972a). *The systems view of the world. The natural philosophy of the new developments in the sciences*. New York: George Brazillier.
- Laszlo, E. (1972b). *Introduction to systems philosophy. Toward a new paradigm of contemporary thought*. San Francisco: Harper.

- Laszlo, E. (1996). *The systems view of the world*. Hampton Press, NJ.
- Phelan, M. (2014) *Museum law: A guide for officers, directors, and counsel*.
- Mason, R. & Avrami, E. (2002). *Heritage values and challenges of conservation planning*. Los Angeles: Getty Conservation Institute.
- Microsoft® Encarta® 2009. © 1993-2008 Microsoft Corporation. All rights reserved.
- (N.d.). Retrieved 26 February 2024, from https://en.wikipedia.org/w/index.php?title=Systemstheory_in_
- Niklas, L. (1996). *Social systems*. Stanford University Press, Palo Alto, CA
- Nnonyelu, A. N. (2009). *Sociological insights*. Ibadan, Spectrum Books Limited.
- Nyame, L. (2002). In his article “conservation of cultural heritage in Nigeria: A study on national museum.
- Odum, H. (1994) *Ecological and general systems: An introduction to systems ecology*. Colorado: Colorado University Press.
- Ogundele, S. O. (2000). *Fundamentals of archaeology: An introduction*. Ibadan: Ejimasons Nigeria Enterprises.
- Ogundele, S. O. (2014). *Understanding contemporary archaeology*. Ibadan: John Archers Publishers Limited.
- Okpoko, A. I. (2006) (ed.) *Fundamentals of museum practice*. Nigeria: Afro-Orbis Publishing Co. Ltd.
- Okpoko, A. I. (2011). *Fundamentals of museum practice*. Nsukka: University of Nigeria Press Ltd.
- Okpoko, A. I. & Ekechukwu, L. C. (2006). Conservation – conceptual clarification and methods. In Okpoko, A. I. (ed.) *Fundamentals of museum practice*. Nigeria: Afro-Orbis Publishing Co. Ltd.
- Onwuka, J. O. (Ed.) (2002). *Nigerian peoples and cultures: Historical & socio-structural perspectives*. Enugu: Nigeria, Echriss & Company.
- Onyejebu, O. (2014). Cultural heritage and tourism development in Nigeria – Towards maximizing museum potentials. *Journal of Tourism and Heritage Studies*, 3(2), 46-59.

- Onyima, B. N. (2006). Nigerian cultural heritage: Preservation, challenges and prospects. *Ogirisi: A New Journal of African Studies*, 12, 274-292.
- Owens, R. G. (2004). *Organizational behavior in education: Adaptive leadership and school reform*. Boston: Pearson Education, Inc.
- Prentice, H. (1993). *Tourism and heritage attraction*. London: Routledge.
- Rapoport, A., & Buckley, W. (1968). Sociology and modern systems theory. *American Sociological Review*, 33(3), 463. doi:10.2307/2091927
- Rodney, W. (1972). *How europe underdeveloped Africa*. Lagos, Panaf Publishing.
- Saunders, J. (2012). Archaeology in action project evaluation. *Unpublished document written to complement University College London Coursework during completion of MSc in Conservation for Archaeology and Museums*.
- Saunders, J., (2014). Conservation in museums and inclusion of the non-professional. *Journal of Conservation and Museum Studies*, 12(1), 6.
- Schein, E. H. (1980). *Organizational psychology*, (3rd ed). New Jersey: Prentice-Hall.
- Seligman, C. G. (1930). *Races of Africa*. London: Thornton Butterworth, Ltd.
- Senge, P. (1990). *The fifth discipline. The art and practice of the learning organization*. New York: Doubleday.
- Senge, P., Ed. (2000). *Schools that learn: A fifth discipline fieldbook for educators, parents, and everyone who cares about education*. New York: Doubleday Dell Publishing Group.
- Thompson, R. H. (2000). The crisis in archaeological collection management. An old and reliable authority: An act for the preservation of American antiquities. *Journal of the South-West*, 42(2), 191-381.
- UNESCO (1972). *Convention concerning the protection of the world cultural and natural heritage*, Adopted at the 17th General Conference of UNESCO, Paris: October-November, 1972.
- World Bank (1994). Cultural heritage in environmental assistance. Retrieved from: <http://sitesource.worldbank.org/INTSAFEPOL/1142947>