

# Digital enhancement of African colonial archives through connected objects: An innovative approach for cultural development in Africa

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## Abstract

The Benheritage project is a pioneering initiative for the restitution of African colonial archives, often looted and preserved in European cultural institutions. Through a digital approach, this project uses advanced technologies, notably the Internet of Things (IoT), to enable the efficient restitution and inventory of these archives. The Benheritage platform was designed to secure, digitize, and restore these sensitive archives, while making them accessible to both African researchers and the general public. The use of connected objects in this project optimizes data management, improves connectivity via cloud networks, and strengthens information security, while facilitating access to a heritage that is often difficult to access. This approach is particularly relevant in the African context, where historical and cultural archives remain largely inaccessible. The project presents an innovative model for the digital valorization of heritage, thus contributing to a better understanding and preservation of African colonial archives. It also highlights the technical challenges encountered, such as cybersecurity and connectivity, and explores the solutions implemented to ensure data integrity and accessibility with a view to cultural and educational development in Africa..

**Keywords:** Colonial Archives, Digital Restitution, Iot, African Cultural Heritage, Cybersecurity, Educational Development, Digital Technologies.

## Introduction

African colonial archives, preserved in numerous European cultural institutions, constitute an essential part of the continent's historical heritage. They contain crucial information on the political, economic, social, and cultural history of African nations. However, access to them remains severely limited, posing a major problem of documentary sovereignty and knowledge transmission. This dispersion hinders the reappropriation of African history by its own researchers and citizens, thus depriving them of essential sources for writing historical narratives rooted in local perspectives.

Beyond physical and institutional barriers, the management of colonial archives also poses challenges related to their conservation and promotion. Many documents, often stored in con-

ditions unsuitable for African climate realities, are undergoing progressive deterioration. Moreover, even when digitized, these archives generally remain accessible only via Western platforms, thus maintaining a form of structural dependency. Faced with these challenges, the Benheritage project proposes an innovative approach to the inventory, restitution, and accessibility of African colonial archives by leveraging digital technologies. The integration of the Internet of Things (IoT), cloud computing, and cybersecurity not only guarantees the traceability and authenticity of documents, but also ensures their preservation on infrastructures accessible to African researchers. Thus, Benheritage aims to transform the management of African archives by offering a secure and decentralized platform, guaranteeing the preservation and optimal use of this documentary heritage. This project represents a significant step forward in the fight for

the restitution of archives and the affirmation of African cultural sovereignty.

## **Towards African Documentary Sovereignty: Challenges And Strategies**

### **A Fundamental Issue for Africa**

The issue of the restitution of colonial archives is not limited to a simple physical repatriation of historical documents. It is part of a broader framework of documentary sovereignty, a concept that refers to the ability of African states and institutions to control, preserve, and exploit their archival heritage without external dependence. Access to archives is an essential lever for rewriting the continent's history, which has long been shaped by external narratives.

Today, the absence of strong documentary sovereignty maintains an asymmetry of power between Africa and Europe. Dependence on Western institutions for access to historical sources prevents African researchers from developing independent narratives about their past. This situation poses a major problem in terms of knowledge transmission, consolidation of collective memory, and identity building. At the same time, documentary sovereignty requires local management of archival preservation and dissemination infrastructure. To date, many African states still lack specialized institutions capable of meeting international archival standards. This structural weakness hinders restitution initiatives and raises the question of training professionals in the field.

### **Obstacles To Documentary Sovereignty In Africa Several Challenges Are Hampering The Establishment Of True Documentary Sovereignty On The Continent:**

#### **Institutional and political resistance**

Colonial archives are housed in European institutions which, although favorable to dialogue, are still hesitant to undertake large-scale restitutions. This reluctance can be explained by several factors: the fear of losing the monopoly on valuable sources, the administrative complexity of transfers, and sometimes a lack of political will.

### **Lack of Suitable Infrastructure**

Archive management requires adequate technical and physical infrastructure. However, many African countries still lack modernized national archives. Document storage and preservation remain a challenge, particularly due to the climate, humidity, and the lack of financial resources to maintain these institutions.

#### **The Training Gap in Archival Science and Digital Humanities**

Digital technology represents a considerable opportunity to overcome certain difficulties related to the physical restitution of archives. However, the transition to digital management requires specific skills in archival science, digitization, cybersecurity, and database management. However, training in these areas remains limited on the continent.

#### **The Poor Integration Of Technologies Into Preservation Policies**

Public policies regarding archives and cultural heritage in Africa do not always take technological advances into account. The lack of national databases and digital platforms for accessing archives significantly hinders their dissemination and use by African researchers.

### **Strategies to Strengthen African Documentary Sovereignty Faced with these Challenges, Several Strategies can be Implemented to Strengthen African Documentary Sovereignty: Develop Appropriate Digital Infrastructure**

One of the most viable solutions to overcome the problem of physically returning archives is their digitization and storage on African infrastructure. African states must invest in digitization and digital preservation centers capable of securing copies of these documents and making them accessible to the public.

The Benheritage project is part of this dynamic by offering a platform based on advanced technologies such as cloud computing, enabling decentralized access to digitized archives. By using servers hosted in Africa, this initiative guarantees complete sovereignty over this data, thus preventing it from being stored on foreign infrastructure. It can be viewed at the following link: <https://beninheritage.rarebook-ubfc.fr/>. (See figure for further information.)



**Figure 1:** Digital archive restitution platform

## **Training A New Generation Of Archivists And Digital Humanities Specialists**

**To Successfully Achieve the Digital Transition of Archives, It is Essential to Train African Specialists in Archival Science and Digital Humanities. This Training Requires:**

- The establishment of university programs in digital archival science;
- The integration of database management and cybersecurity skills into curricula;
- The development of collaborations between African universities and international institutions to strengthen local technical capacities.

## **Establishing a Legal Framework for the Restitution and Protection Of Archives**

**The Restitution of African Archives Must be Based on a Clear Legal Framework Defining the Rights of African Countries Over their Documentary Heritage. To this end, It is Crucial to:**

- Strengthen national legislation on the management and protection of archives;
- Develop bilateral agreements with Western institutions to oversee the gradual restitution of archives;
- Implement digital sovereignty laws to ensure that archival data remains under African control.

### **The Political and Ethical Issues of Archival Restitution**

The restitution of African archives raises numerous political and ethical questions that go beyond the simple framework of document management. Behind the claim to these archives lies a fundamental issue of recognition and historical justice. Colonial history has created a profound imbalance in the production and preservation of knowledge, marginalizing African perspectives in favor of a historiography dominated by the former colonial powers. Today, the issue of restitution is therefore not limited to a technical operation, but involves a reexamination of the power relations between Africa and the West.

Politically, the restitution of archives touches on issues of sovereignty and diplomacy. Some European countries consider these documents as part of their own heritage, which makes negotiations complex and sometimes tense. The reluctance to return these collections is often based on administrative, legal, and scientific justifications, emphasizing the need to preserve coherent collections accessible to an international audience. Moreover, African countries themselves are not always united on this issue. Some governments prioritize other economic or political priorities, relegating the restitution of archives to the background, while others struggle to organize a coherent archival policy due to a lack of infrastructure and qualified human resources. The ethical aspect of returning archives is equally crucial. It is important to recognize that these documents bear witness to African history and belong to the people whose journeys they chronicle. Depriving these archives of their heritage amounts to depriving entire generations of access to their collective memory and cultural identity. The reappropriation of archives therefore constitutes a form of symbolic reparation for historical injustices, allowing African societies to reconstruct their past using authentic sources unfiltered by external prisms. However, this restitution should not be seen as a simple physical restitution, but as a comprehensive process aimed at making these archives

accessible and usable by researchers, institutions, and the African public at large. From this perspective, the digitization of archives appears to be an interesting interim solution. It allows us to overcome some of the resistance to physical restitution while guaranteeing direct access to the documents. However, digitization alone is not enough to solve all the problems. If archival data remains hosted on European servers, Africa is simply reproducing a form of digital dependency, where access to its own heritage is dependent on foreign technological infrastructures.

To avoid this pitfall, it is imperative to establish African data centers capable of hosting and managing these archives independently. Another central challenge lies in the classification and contextualization of the returned archives. Many of these documents were collected and classified according to Western logic, which is sometimes biased or incomplete. Restitution must therefore be accompanied by an effort of rereading and re-contextualization, involving African historians, archivists, and researchers. This work is essential to prevent restitution from becoming a simple transfer of documents, without any true intellectual and scientific appropriation.

International cooperation can play a key role in this process. Rather than systematically pitting African and European institutions against each other, collaborations around archive management can be considered. Partnerships between libraries, research centers, and universities can enable the pooling of resources and expertise, thus facilitating the transition to autonomous management of African archives. However, these collaborations must be based on principles of equality and mutual respect to avoid any form of documentary neocolonialism in which European countries continue to exercise indirect control over these archives. The restitution of the archives is also an opportunity to rethink education and the dissemination of knowledge in Africa. Integrating these documents into school and university curricula would strengthen the teaching of African history based on direct sources, thus promoting a better understanding of the past and a revaluation of African narratives. New technologies offer interesting prospects here: digital platforms, online libraries, and mobile applications can facilitate the consultation of these archives by a wide audience.

However, the issue of dissemination poses a major challenge: data protection and respect for access rights. Some archives contain sensitive information, particularly on anti-colonial struggles, local resistance, or repression by colonial administrations.

It is therefore crucial to define clear policies regarding the management of and access to these documents, in order to avoid any misuse or falsification of history.

Finally, the restitution of archives must be viewed as a dynamic and evolving process. It is not a one-time event, but a long-term commitment that requires the constant mobilization of the stakeholders involved. Africa must develop a strategic vision for the management of its documentary heritage, integrating this issue into its cultural, educational, and scientific policies. The success of this process depends on synergy between governments, research institutions, civil society, and international partners [1-5].

## **A Vision for the Future of African Archives**

The future of African archives depends on the establishment of

modern and appropriate infrastructure, with well-equipped preservation and digitization centers funded through partnerships. A pan-African network would pool resources and strengthen cooperation. The use of technologies such as AI and blockchain would facilitate the management and security of archives. Integrating these archives into education and culture would ensure their valorization. Restitution must be seen as a lever for social transformation, enabling Africa to rewrite its history and assert its autonomy.

### Conclusion

The management and restitution of African archives are much more than simply document recovery: they represent a crucial issue of sovereignty, memory, and development for the continent. By leveraging modern infrastructure, pan-African cooperation, and emerging technologies, Africa can not only preserve its heritage but also enhance its value for future generations. This dynamic, integrated with education and cultural policies,

will enable the continent to regain control of its history and strengthen its identity on a global scale.

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