

Royal Museum for Central Africa

Centre for research, expertise, and cooperation

Mission	3
01. COLLECTIONS	
A vast and varied heritage	6
Origins	9
Restitution	10
Living legacy	12
02. SCIENTIFIC RESEARCH	15
Research strategy and ethics	17
Cultural Anthropology and History	19
One continent, many languages	20
A fresh look on colonial history and the post-independence period	21
Retracing Africa's long history	22
Monographs for the 26 provinces of the DRC	23
Biology	25
The remarkable diversity of fishes in Central Africa	26
Sustainable wood production	27
Fruit flies and hoverflies: two families, two outcomes	28
Tropical infectious diseases	29
Earth Sciences	31
Natural risks	32
Natural resources and strategic minerals	33
Cartography	34
Use of collections	35
Africa in the front line of climate change	37
03. INTERNATIONAL COOPERATION	
Working together for sustainable development	40
Scientific cooperation	42
Museum cooperation	43
Training the scientists of tomorrow	44
AFRICAMUSEUM	



MISSION

The Royal Museum for Central Africa must aspire to be a world centre of research and knowledge dissemination on past and present societies and natural environments of Africa, and in particular Central Africa, to foster - among the public at large and the scientific community - understanding of and interest in this area and, through partnerships, to contribute substantially to its sustainable development. Thus the core endeavours of this Africa-oriented institution consist of acquiring and managing collections, conducting scientific research, implementing the results of this research, disseminating knowledge, and mounting selected exhibitions of its collections.





$\bigcirc 1$

COLLECTIONS



A vast and varied heritage

The RMCA's international reputation is founded on its considerable expertise and exceptional collections centring on Central Africa, in both natural and human sciences. Unique and diverse, this precious heritage holds great scientific value and serves as the basis for numerous research programmes.

While most of the collections were assembled in DRC during the colonial period, the museum conserves objects and specimens from around the world. Some pieces, such as fossils, are over a billion years old. Still others are from the present day. The museum manages these collections to ensure their conservation, restoration, and digitisation, and sees to it that they remain accessible to the public and the scientific community.

Collections are promoted and used in scientific research, exhibits, publications, and databases. They are loaned all over the world for exhibition or study. Scientists also come onsite to consult documents or analyse objects and specimens.







10,000,000 zoological specimens

.....

500,000 ancient photographs

.....

200,000 rock samples

125,000 ethnographic objects

.....

.....

80,000 wood samples

.....

17,000 minerals

.....

9,000 musical instruments

3 km historical archives

.....





Origins

Most of the pieces in the collections come from DRC and were collected during the colonial period. Up to 1960, military personnel, missionaries, colonial officials, traders, and scientists added to the holdings of the museum.

Today, objects and specimens are collected as part of research projects and field investigations, in close collaboration with African museums and universities. The area of research has expanded beyond Central Africa and now covers all of sub-Saharan Africa.

HP.2011.62.14-104, collection RMCA Tervuren; photo G.F. de Witte, 1931 © RMCA Tervuren.

Restitution

The colonial basis for the bulk of the RMCA's collections inevitably raises questions about how they were acquired and their possible return to their countries of origin. The museum participates in debates on the issue with an open and constructive outlook and does not shy away from discussions regarding the future of African cultural heritage in Europe. It engages in dialogue and collaboration with the relevant national museums, has placed a large portion of its archives and inventory of ethnographic objects online, and has facilitated access to its collections.

Between 1976 and 1982, the RMCA transferred 114 ethnographic objects to the Institut des Musées nationaux du Zaïre, in Kinshasa. It also turned over some 600 objects to the Musée national du Rwanda, in Butare. Furthermore, the museum has put in place a policy to make its collections more easily accessible to African museums. Cultural heritage in the form of archives, photos, and films are digitised, and results are transferred to the relevant countries. The museum is also ramping up efforts to investigate the provenance of objects that may have been acquired through illegitimate means. From this perspective, the museum works closely with African researchers as part of a new 'Scientist in residence' programme.





Living legacy

Constant care

Each collection type requires specific handling and conservation. For instance, fishes, amphibians, and reptiles are preserved in ethanol and stored in a fireproof area. Air temperature and humidity in storage areas for dry collections and ethnographic, historical, and archaeological objects are constantly monitored. Collections are also inspected for the presence of insects. In case of infection, objects are placed in quarantine and treated.

High standards for restorations

Museum laboratories are equipped to analyse and restore objects, most notably in preparation for exhibitions or loans. Restorations adhere to the standards established by the International Council of Museums. They are carried out in accordance with several principles, such as the reversibility of transformations, and respect for the original creation, the original function of the object, and cultural sensitivity.







Online collections

Around fifteen years ago, the museum began the vast enterprise of digitising its collections to make them available to all. The process goes beyond simply scanning a document or photographing an object or specimen. Considerable pre- and post-digitisation work is needed to prepare archives, objects, and specimens, handle logistics, link the digitised object to a database, and publish the information online, all while following established international standards.



Several collections are already available online

25,000 ethnographic objects

8,500 musical instruments

.....

8,000 descriptions from private archives

2,000 zoological specimens

.....

1,000 ancient photos

.....

150

high-resolution 3D models of archaeological and ethnographic objects





02

SCIENTIFIC Research

The RMCA is a research institute known the world over for its expertise.

RMCA scientists work in a range of disciplines to investigate past and modern-day African societies and natural environments, with a focus on Central Africa.

Their research relies on the exceptional collections of the museum, fieldwork, and collaborations with universities and other institutions that provide expertise in complementary areas. Developing a network of African partners is of paramount importance in this context.

Over **70** scientists

Over **250** publications annually

Over **15** scientific disciplines





Research strategy and ethics

RMCA scientists conduct research in an independent manner, with no interference from research sponsors with ideological, commercial, or political agendas. They carry out their investigations while adhering to strict ethical standards and respecting biodiversity.

Research follows the principles laid out in the European Code of Conduct for Research Integrity. These are:

- **reliability**, in ensuring the quality of research, reflected in the design, the methodology, the analysis, and the use of resources;
- **honesty** in developing, undertaking, reviewing, reporting, and communicating research in a transparent, fair, full, and unbiased way;
- **respect** for colleagues, research participants, society, ecosystems, cultural heritage, and the environment;
- **accountability** for the research from idea to publication, for its management and organisation, for training, supervision, and mentoring, and for its wider impacts.





Cultural Anthropology and History

There is not one African society, but many societies, each of which has its specific features

RMCA researchers study the past, present, functioning, and production of these societies. Their research mainly focuses on prehistory and archaeology, peoples and their cultural productions, colonial history, political systems, rituals, languages, and music.

Fieldwork is carried out in Africa, but also among the diaspora.

The study of collections and archives is essential. The RMCA oversees their preservation, digitisation, and promotion, through research, exhibitions, and various publications.



One continent, many languages

Some 2,000 languages are spoken in Africa - a third of all the languages in the world.

Since 1950, RMCA researchers have been conducting fieldwork in African languages, especially the Bantu languages.

Today, linguists work hand in hand with scientists from other disciplines such as history, archaeology, biology, and genetics to reach a deeper understanding of the continent and its history, well beyond the first European writings on the subject.

Linguists also publish grammars and dictionaries as part of the endeavour to document languages and to create records of the ones that are at risk of extinction.



AP.0.0.2622, collection RMCA Tervuren; unidentified photographer, 1903. All rights reserved.

colonial history and the post-independence period

A fresh look on

The numerous archives and varied collections (photographs, films, historical maps, etc.) in the museum's custody have been enriching the body of knowledge on colonial history for many years now. Studies initially focused on Belgium's activities in Central Africa and gradually expanded to include the influence of colonization on populations.

Colonization, a complex and thorny subject rife with grey areas, needs to be examined with care. Current research takes a broader view and calls on several disciplines to provide context for poorly-understood topics that continue to affect contemporary societies in Central Africa, in Belgium, and elsewhere in the world: the management of the environment and natural resources; conflicts and wars; medicine; politics in post-independence Congo; museum heritage and related issues. Still-unpublished archives (in particular the H.M. Stanley archives), photographs, and natural history collections are currently the object of value-enhancing efforts, and a series of projects are also being pursued in collaboration with universities and associations involved in awareness-building and education.



HO.1975.17.1, collection RMCA Tervuren, map drawn by S.A. Mitchell and published by Th. Cowperthwait & Co, 1854.

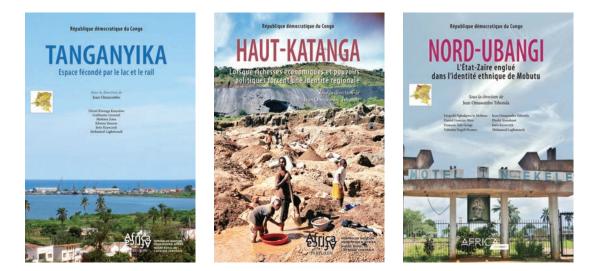
Retracing Africa's long history

Despite being known as the cradle of humanity, Africa is the continent whose long history is probably the least understood.

Museum archaeologists investigate past human presence and activity in sub-Saharan Africa, particularly in Central Africa, over the last 40,000 years. They study the structure of ancient societies, trade networks, lifestyles, artistic expression, and relationships between the worlds of the living and the dead. Their research relies to a large extent on the study of material culture such as manufactured objects like pottery and stone or iron tools. To refine the study of these ancient objects, archaeologists also study contemporary productions. For instance, they observe pottery-making and decorating techniques. They also work with linguists, biologists, and geologists to retrace the rich long history of the continent.



Monographs for the provinces of the DRC



The year 2008 saw the launch of a vast multidisciplinary research project on Congolese decentralization and the 26 provinces of the DRC.

A team of researchers publishes monographs devoted to the provinces after gathering, analysing, updating, and summarising data from fieldwork and literature (archives, theses, etc.). Each monograph presents the natural, cultural, historical, political, administrative, economic, and social characteristics of the province it describes. The goal of the project is to provide those involved in development efforts with an essential and relevant tool for the sound management of the provinces they administer.

Funded by Belgian Development Cooperation (DGD), the monographs project is spearheaded by the RMCA in collaboration with the Centre d'Études politiques (CEP) in Kinshasa, the Centre de Recherche et de Documentation sur l'Afrique centrale (CERDAC) in Lubumbashi, and the Institut de Recherches sociales appliquées (IRSA) in Kisangani.





Biology

Africa is home to an enormous variety of species and ecosystems of global significance.

To further knowledge of African biodiversity, the RMCA studies the taxonomy and phylogeny of different groups of vertebrates and invertebrates using morphological and genetic approaches.

Museum scientists also examine the structure and function of wood, as well as the role of trees and fauna in various African ecosystems. Furthermore, they assess the impact of human activities on these ecosystems

The remarkable diversity of fishes in Central Africa

The Congo Basin and the East African Great Rift are home to an incredible diversity of fishes. Inhabitants of Central Africa get most of their animal protein from fish, yet the fish species of the region remain little-known. This lack of taxonomic data hinders the study of their biology and of the impact of fishing and other human activities on fish stocks.

RMCA scientists work in the field and on the museum's collections to study the biodiversity and evolution of fishes from the Congo Basin and the Great Rift.

Since 2005, the RMCA has also been organising an annual 3-month training course for five African researchers on fish taxonomy and the use of FishBase, the largest online fish database in the world.





Sustainable wood production

Forests - and dense tropical forests in particular - regulate the planet's climate. Nearly 1.6 billion people depend directly on forests for food and fuel, and wood is omnipresent in our daily lives.

Museum researchers study the structure and function of wood in the forest ecosystems of Central Africa, notably in Yangambi and Luki in the DRC. They specialise in wood anatomy, tree growth, forest ecology, and the physiology of tropical trees, all in support of sustainable forest management. They also study the history of ancient forests by analysing charcoal present in the soil. Their research is based on fieldwork and on the museum's xylarium, a reference collection with more than 80,000 wood samples from around the world.

As part of these research efforts, museum scientists organise several training courses and supervise a large number of masters and doctoral theses projects in Belgium and Central Africa.



Fruit flies and hoverflies: two families, two outcomes

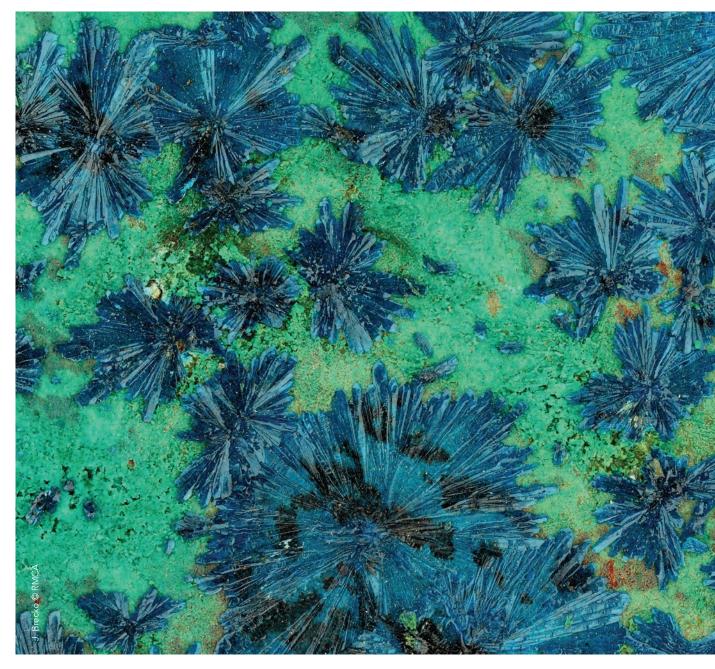
Entomologists at the museum study both fruit flies and hoverflies. These insects belong to fly families with markedly different effects on crops (negative for the former, positive for the latter).

Fruit flies cause enormous damage to fruit and vegetable crops and are a serious economic threat for many African countries. Museum researchers are involved in several pest control projects targeting these insects. They study fruit flies in order to identify species more rapidly and trace the history of their invasion and spread. They also develop fruit fly identification keys and organise training courses in pest identification. Meanwhile, members of the hoverfly family feed on pollen and nectar. Like bees, hoverflies are among the most important plant pollinators. In most regions of Africa, hoverflies and their relationships with plants are still poorly understood. Biologists use genetic analysis to find out which hoverfly species visit which plants. They hope to identify agriculturally-significant hoverfly species through this.

Tropical infectious diseases

Parasitologists working at the RMCA study the origin and spread of infectious diseases such as schistosomiasis and fasciolosis in Africa. These diseases are caused by flatworms that use freshwater snails as their vectors. They affect more than 200 million people in the world, most of them in Africa. The researchers are working to develop molecular tools that can be used to identify snails and infections in the field. To slow the spread of these diseases, local populations must also be involved and informed. The museum's researchers work with ecologists, doctors, geographers, and anthropologists to achieve this purpose.







Earth sciences

The RMCA carries out state-of-the-art research in different regions of the continent, with a focus on Central Africa.

Its scientists study the geology, geodynamic processes, and natural resources of Central Africa, while striving for sustainable management and observing the impact of mining activities on people.

They also study volcanoes and landslides to contribute to more efficient management of natural risks.

By studying the evolution of African soils, they evaluate the impact of global changes on the continent's natural environments.

Natural hazards

Floods, earthquakes, volcanic eruptions, landslides, and soil erosion are the main risks affecting many regions of Central Africa, which have to contend with their often dramatic consequences. In addition, the frequency and impacts of some of these phenomena are increasing significantly due to growing population pressure, changes in land use, and climate change. Helping communities meet the UN's Sustainable Development Goals motivates the research efforts of scientists in the RMCA's Earth Sciences department.

RMCA geologists and geographers focus in particular on volcanic risks and landslides in the Great Lakes region. They investigate physical phenomena, such as the temporal and regional variability of events, mechanisms triggering them, and warning signs. A complementary area of research concentrates on the social aspect that analyses population distribution, socio-economic levels, and risk perception. These studies make use of modern earth observation techniques as well as observations and measurements taken in the field. They are always carried out in close collaboration with the research institutions present in the area under study.





Natural resources and strategic minerals

Central Africa is gifted with a wealth of diverse natural resources. Some, like its tropical forests, can be viewed as part of the world's shared heritage. Others, like minerals, are used primarily in regions that are far more industrialized than the places where such resources were extracted. This is the case for strategic minerals. They cobalt and tantalum in particular - are essential to the development of connected societies that are also in search of fossil fuel alternatives. There is no escaping the fact, however, that Central Africa's strategic mineral resources do not contribute much to the region's economic and social development. RMCA geologists are increasingly leaning towards an integrated approach to the management of natural and mineral resources in Central Africa. Understanding how, when, and why mineral deposits are formed is the first aspect of the geologist's work. Building the capacity of local stakeholders to encourage better resource management is another aspect – and one that aligns with the priorities of Belgian Development Cooperation. Finally, understanding the modalities behind mineral resource extraction and placing them within a systemic approach of natural resource management is another mission that incorporates Central Africa into a broader geopolitical framework.



Cartography

Cartography is a key element in the management and development of any country or territory. Yet up-to-date maps are lacking for many parts of Africa, including Central Africa. RMCA researchers combine satellite data with information from the ground to create or update maps, which are an indispensable tool for research work. Using its expertise in the field of earth sciences, the RMCA produces geological maps as well as maps generated using research data on natural risks. It also produces maps that display information by theme.

Risk maps are decision-making tools that accompany the scientific reports provided to authorities handling risk management efforts.

Use of collections

The museum hosts important representative research collections of minerals, rocks, and fossils from Central Africa, including many series collected during unique sampling campaigns. All three collections have been intensively used for a variety of studies by RMCA staff members and external researchers. Research activities have included the identification of new mineral species, studies of various types of ore deposits, morphological analyses of ancient fauna, and the study of numerous aspects of the geological history of Central Africa covering a period of about 2 billion years.

The department also hosts a first-rate map library that currently has nearly 20,000 cartographic documents of the African continent and Central Africa in particular. A team of scientists studies these archives, some of which are the only available source. Together with African institutions, scientists use the available information and update them with new data obtained from satellite imaging and field information.

The museum also curates a collection of more than 300,000 aerial photographs of the DRC, Rwanda, and Burundi from the 1950s and 1960s. These photographs are particularly valuable because they are the oldest available spatial references for the region. Today, they are used in several studies assessing changes in land use and vegetation cover. The role and impact of these evolutions are analysed from the viewpoint of natural risk and climate change.





Africa in the front line of climate change

Climate change is one of the most pressing issues faced by society today. The RMCA leads research projects assessing its impact on the African continent.

The role of tropical rainforests

The Congo Basin is home to the second largest tropical rainforest in the world. Such forests play a major role in global biogeochemical and climate cycles. One of our research teams is studying the sensitivity and long-term resilience of these forests when subjected to changes in climate. In 2020, researchers from the museum and the University of Leeds found that the ability of tropical forests to capture CO₂ from the atmosphere is diminishing. Their findings have direct consequences on global climate targets.

The spread of parasitic diseases

Some freshwater snails are vectors of parasitic infections such as schistosomiasis and fasciolosis. A team of researchers from the RMCA and KU Leuven study the impact of climate change on the distribution of freshwater snails. They develop models and risk maps to help predict the spread of these snails and the parasites they carry according to various climate scenarios.

Climate change and natural disasters

Climate change will probably not just lead to more severe rains in tropical Africa but also disrupt wet and dry seasonal weather patterns. Geohydrological hazards such as floods and landslides are tied to precipitation patterns, which are in turn dependent on climate variations. RMCA researchers identify and create spatio-temporal records of these events, while describing their dynamics in changing environmental conditions. The work of our scientists helps exposed populations adapt to such risks and mitigates the consequences of such events.





INTERNATIONAL COOPERATION



The RMCA in Africa:

Over

70 African partner universities and institutions

Over **15** African countries

Over

100 African students trained every year

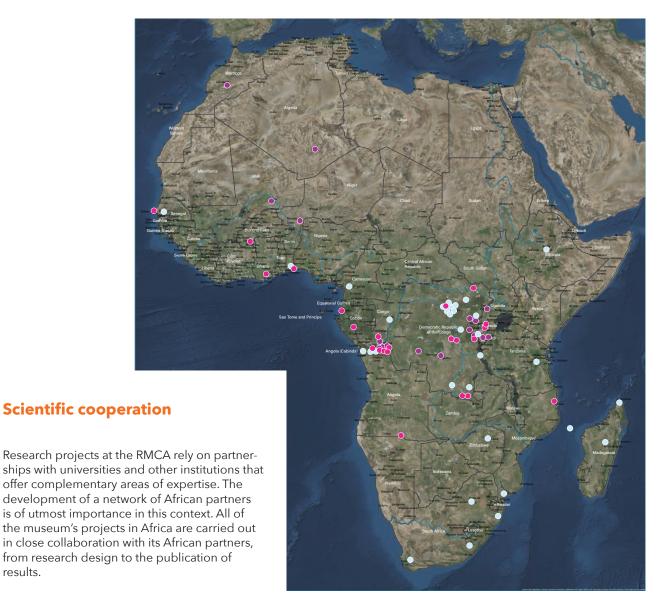
Working together for sustainable development

One of the RMCA's missions is to contribute to the sustainable development of Africa. A significant part of its activities is oriented in pursuit of the Sustainable Development Goals (SDGs) set out by the United Nations.

Belgian Development Cooperation (DGD) is the museum's main partner in this area. Its support is essential for building the capacities of African scientific institutions and national museums, and for disseminating knowledge to the African scientific community and the general public.



Since 2016, the RMCA has also been organising the 'Digital 4 Development' (D4D) Prize with the support of the DGD. The prize rewards initiatives that use digitisation as a lever for development.





results.



Museum cooperation

The RMCA belongs to several networks of Belgian and international museums.

Different projects give the RMCA an opportunity to collaborate with, among others, museums in Senegal, the DRC, and Rwanda.

In Senegal, the Musée des Civilisations noires in Dakar and the RMCA work together on exhibitions, conservation, and public-oriented services. In DRC, the RMCA collaborates with the Institut des Musées nationaux du Congo, the Musée national de Lubumbashi, the Académie des Beaux-Arts de Kinshasa, CEDESURK (Centre de Documentation de l'Enseignement supérieur et universitaire et de la Recherche de Kinshasa), the Université de Kinshasa, and UNESCO to build capacity in the areas of conservation and collections management.

The RMCA also works with the government of Rwanda and the Institute of National Museums of Rwanda to digitise archives, photos, and films on Rwanda that are found in collections in Belgium. The digitised files are then transferred to the country.



Training the scientists of tomorrow

Each year, the RMCA welcomes dozens of Belgian and foreign students. They enjoy the scientific and logistic support of the museum during their traineeship or as they prepare their masters and doctoral theses. The museum hosts some fifty doctoral candidates, half of them from Africa.

With the support of Belgian Development Cooperation (DGD), the museum also provides grants to early-career African scientists. These grants allow them to participate in one of several training courses in various disciplines, either in Tervuren or in Africa. Nearly 130 African students and researchers receive training at the museum every year.

Furthermore, the direct involvement of African students is an integral element of the majority of projects designed by museum researchers.



Tout passe, saufle pa

J. Van de Voorde © RMCA

.88Ę

Alles gaat voorbij, behav

AFRICAMUSEUM

Over **300,000** visitors in the year following the reopening

Over **4,000** objects on display

.....

Over **15** contemporary African artists

In addition to being a scientific institute, AfricaMuseum is also a museum, known around the world and one of the most-visited in the country. The permanent exhibition was developed by the RMCA's scientific staff in collaboration with members of the African diaspora and Africanist experts. With people at the heart of the exhibit, it focuses on Central Africa from a contemporary perspective, using the museum's collections to present several themes. The colonial past is viewed through a critical eye that lingers on painful episodes and on the question of racism, which found fertile ground in that context. Contemporary issues are tackled in the exhibit: Belgians of African origin, biodiversity and climate change, daily life, languages and music, the continent's wealth paradox. The museum also shows what the future could have in store for Africa in a sustainable planet.

Contemporary art

An essential aspect of the exhibit is the inclusion of works by a large number of African and Afrodescendant artists: Aimé Mpane, Freddy Tsimba, Michèle Magema, Aimé Ntakiyica, alongside Méga Mingiedi, Bodys Isek Kingelez, Chéri Samba, J-P Mika, Shula, Chéri Benga, Chéri Chérin, Barly Baruti, Iviart Izamba, Thérèse Kirongozi, and Nelson Makengo. Special attention was given to the parts of the museum that exude a markedly colonial air. In the rotunda, for instance, where highly controversial colonialist statues such as *Belgium brings civilization to Congo* still stand, two works by Aimé Mpane and veils made by Aimé Mpane and Jean-Pierre Muller open the dialogue.

A forum for debate

AfricaMuseum also sees itself as a forum where a wide range of opinions can be expressed. This view informed the installation of the Afropea room, a dynamic module where Belgians of African origin can have their say. It is designed to serve simultaneously as an exhibit space, a meeting place, and a documentation centre. Visitors are invited to make suggestions and to share documents, photos, and testimonials, thereby contributing to the spread of knowledge.

Education for sustainable development

In its mission statement, the museum expresses its desire to disseminate knowledge in order to promote a better view and deeper understanding of the African continent and its place in the world, and to stimulate cultural and natural diversity in the broader context of sustainable development. To prepare its activities, the museum relies on collaborations with scientists, educators, the African diaspora, and its counterparts in Africa (such as the Musées nationaux de Lubumbashi et de Kinshasa, in the Democratic Republic of Congo). Co-creation has become a key principle, replacing an approach that was simply 'about Africa' to one 'with Africa'. In concrete terms, AfricaMuseum commits to involve relevant partners from the earliest stages of each project. It strives to be a platform that brings together outstanding projects spearheaded by external organisations and individuals.





To \$538 - To 04225







The INCOM - THE STORE

COLOPHON

Published under the supervision of the Communications and Publications services

TEXT Jonas Van de Voorde & Kristien Opstaele

TRANSLATION AND REVISION Emily Divinagracia (RMCA)

COORDINATION Isabelle Gérard (RMCA)

LAYOUT Tomatolab.be

COVER PHOTO I. Otto © RMCA

PRINTED on FSC paper By Snel Grafics (Belgium)

RESPONSIBLE PUBLISHER Guido Gryseels © Royal Museum for Central Africa, 2020 13, Leuvensesteenweg 3080 Tervuren (Belgium)

www.africamuseum.be Legal Deposit: D/2020/0254/06 ISBN: 978-9-4926-6966-7

Except for non-commercial or educational purposes, no part of this publication may be reproduced in any manner whatsoever without prior written permission from the Publications service of the Royal Museum for Central Africa.



africamuseum.be

