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THE UNESCO Courier

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Editorial

The digital revolution gives us access to the works of the greatest artists at any time, from anywhere. And yet, more and more visitors are queuing for hours on end to see paintings or sculptures they could be viewing on a screen in the comfort of their own homes.

True, today's museums have little in common with the curiosity cabinets of yesteryear, reserved for a privileged few. As living, open institutions, they have adapted to the technological and societal issues of their time. Much more than mere display cases for visitors to gaze into, museums have become major economic and cultural players, and cities have recognized their power of attraction.

And besides, the primary missions of museums (preserving objects, research, education, etc.) cannot be accomplished via internet, as emphasized by the Recommendation concerning the Protection and Promotion of Museums and Collections, adopted by UNESCO in 2015.

Museums remain, more than ever, a link between past and present, a place of transmission between generations, the repository of collective memory. And when they are looted or destroyed, as has happened in recent years in Afghanistan and Iraq, it is not simply heritage objects that disappear: part of the very identity of these countries is undermined. This viewpoint dictates UNESCO's efforts to help these countries rehabilitate their damaged museums.

Another reason why the public still flocks to see the paintings of the great masters today is that the emotion they emanate is only truly palpable when we stand face to face with them, in the singular and unique relationship that is established between the artist's original work and the viewer. Only in the museum can we perceive what the German philosopher and art historian Walter Benjamin called the "aura" of a work of art: "the unique appearance of a distance, however close it may be".

Agnès Bardon
Editor-in-Chief

Interactive video installation Henry VIII Trifold (II) at the Deep Fakes: Art and Its Double exhibition (2021) at EPFL Pavilions, École polytechnique fédérale de Lausanne, Switzerland . Visitors can look closely at a portrait of King Henry VIII of England (1491-1547), via two monitors showing reproductions scanned at ultra-high resolution.

Installation produced by EPFL Pavilions in collaboration with the Art Gallery of New South Wales, Australia. Photo: © Catherine Leutenegger

Reimagining museums

Are museums outdated? Have screens made them old-fashioned? Quite the opposite. The number of museums has risen from 22,000 in 1975 to nearly 100,000 today. Blockbuster exhibitions are almost always full and the major museums continue to break visitor records every year.

The Louvre in Paris tops the list, with no fewer than 8.8 million visitors in 2023, followed by the Vatican, the British Museum, the Metropolitan Museum of Art in New York and the National Museum of the Republic of Korea, according to data collected by *The Art Newspaper*. And more and more cities want to make the most of the influence conferred by these prestigious venues.

It has to be said that in the space of just a few decades, museums have undergone a profound transformation. Originally created to present princely and royal collections in Renaissance Europe to a privileged few, museums have since become much more democratic. Fine art and history have long since ceased to be their only fields of expertise. To attract new audiences, museums have not hesitated to convert to digital technologies, sometimes radically transforming the visitor experience.

And even if heated arguments remain about the return of objects acquired during the colonial period, museums have adapted to reflect the concerns of the time, increasingly opening their exhibitions to women artists and revising their curatorial approach in the light of current debates, and the demands of indigenous populations.

In 2024, going to a museum is still a special, widely appreciated experience. There's nothing quite like it.

Interview by
Agnès Bardon

UNESCO

Krzysztof Pomian: "The museum acts as a temple of belief in the future"

Historian and author of a monumental trilogy entitled *Le Musée, une histoire mondiale* [The Museum, a global history], Krzysztof Pomian traces the birth of museums back to late 15th-century Italy. Over the centuries, princely treasures and cabinets of curiosities became secular places, open to the public and whose collections form a link between past and future generations.

Museums are often thought to have originated with the European Enlightenment in the 18th century. But their origins go back much further. When do you think they started?

The first museums were created at the end of the 15th century – by chance. By donating a collection of antiquities to the Municipality of Rome, Pope Sixtus IV wanted to restore the Papacy's relations with the city, which had been sullied by his predecessor. The idea of a museum was foreign to him. But once displayed in the Palazzo dei Conservatori, these antiquities formed an unprecedented collection of secular, pagan objects, belonging to a public entity, hence expected to last indefinitely and be open to visitors. It was a perpetual celebration of the glory of Rome. Among the Italian elite, fascinated by all things Roman, it stimulated a desire for imitation. Half a century later, this public entity was given the name of *museum*, which once denoted a temple devoted to the muses.

Why was this institution created in Italy?

The museum was born in Italy because the monuments of Classical Roman antiquity were present here like nowhere else. And, because feelings that the present was inferior to this

Cabinet of Curiosities, *painting by Domenico Remps, c. 1690. A precursor of museum displays, cabinets of curiosities displayed eclectic collections of rare and valuable objects.*

© Yohanne Lamoulère / Tendance Floue

◥ *Metropolitan Museum of Art, New York. The image is taken from the series* Gardien Party *by Valérie Mréjen and Mohamed El Khatib, which focuses on security guards in museums around the world.*

glorious past – and the desire to revive it – were more widespread and intense there than anywhere else. We can also assume that if Sixtus IV had not made his gesture, it would have been made by somebody else. The rapid expansion of the museum concept in Venice, Florence and Milan bears witness to this.

Until the end of the 17th century, the museum remained an Italian institution, as Europe north of the Alps was engulfed in religious wars. It then spread to the Germanic countries, Great Britain and France. After the French Revolution, we find it in all the capitals and major cities of Western Europe. It also established a number of bridgeheads in Central Europe, Russia, India and the Americas. Its global expansion began in the second half of the 19th century, when Europeans were colonizing every continent.

> **“The museum was born in Italy because the monuments of Classical Roman antiquity were present here like nowhere else**

How are museums different from the cabinets of curiosities or princely collections that existed before them?

The creation of museums in the Europe of the Ancien Régime consisted of opening princely art collections and cabinets of curiosities to the public – albeit in a very limited way at first. Later on, this meant adapting the architecture of the buildings in which they were displayed and the way the objects were presented, reclassifying the collections, monitoring them, and regulating opening hours and the price of admission. And this meant that museums had to employ competent staff.

You have described this institution as “useless but indispensable”. What role does it play in society?

From the 12th century onwards, European societies stopped looking to the distant past as a source for their models, examples and norms. They also stopped seeing the future as pre-determined. This happened slowly, with interruptions and conflicts, and unevenly across countries and periods. But there were two moments of intensification in this centuries-old shift in the centre of gravity from the past towards a future seen as the work of humankind itself – the Renaissance and the Enlightenment. By bringing together collections of natural and artificial objects from the past to be passed on to a distant human future, the museum acts as a temple of belief in the future. It is this belief that gives the museum its meaning.

It was born with the Renaissance and took its place at the centre of modern civilization with the Enlightenment, when European societies ceased to be backward-looking and became future-oriented. As both a symptom of and a vehicle for this change, the museum puts history on display and raises awareness that it is ubiquitous. As a result you can visit a museum of prehistory, the Middle Ages or even the Second World War. What's more, most museums are organized chronologically, within a geographical, thematic or other framework.

From the mid-19th century onwards, we see the number of museums multiply. How would you explain this success?

The rapid growth in the number of museums from the mid-19th century onwards was the result of the transition from agriculture to industry, from rural to urban life, from a society of orders to a society of classes, from illiteracy to writing, from a scarcity of images and sounds to their omnipresence, the progresses of secularisation and, more generally, the rapidity of the changes we perceive in the course of a lifetime, which encouraged the preservation of the remains of vanished worlds for the benefit of future generations.

What links do they have with the history of the towns in which they are located?

Since the 18th century, the museum has been a characteristic of civilization. It occupies a central place in any self-respecting city. It is one of its claims to fame, attracting visitors from outside and contributing, by its very existence and the events it organizes, to the regeneration of social bonds between its inhabitants. Paris would not be what it is without the Louvre, Madrid without the Prado, Munich without the Pinakothek and Arles without the Museon Arlaten.

> **"Paris would not be what it is without the Louvre, Madrid without the Prado, Munich without the Pinakothek and Arles without the Museon Arlaten**

What relationship do museums have with time?

Like clocks, museums show time. But it's a different kind of time from that of clocks – long, qualitative, divided into periods and attached to a defined portion of terrestrial space. Time is also an integral part of museum practice itself. Museum objects come from the past and must be passed on to the future in a state that is as close as possible to their original state, or at least to the state they were in when they entered the collections. This is why they are kept in an environment that prevents or slows down the corrosive action of physical, chemical and biological factors. And they are restored to remove any traces of these impacts. However, these objects need to be displayed here and now, which is not always compatible with the demands of conservation. The art of the curator consists in finding compromises between respect for the past, the demands of the present and the constraints imposed by the future.

In this early 21st century, what roles do museums play in society? How do you explain their success, even in regions where they were not well established?

The trends that had been underway since the mid-19th century were halted by the two World Wars and their aftermath, the colonial wars. The return of peace has set them in motion again, with an intensity that is all the greater given that the pace of change is accelerating and that these changes are now overturning every aspect of social relations and the lives of individuals. Hence the desire felt by a growing number of people to preserve for our descendants the vestiges of what is disappearing. And this can only be done by creating new museums or extending existing ones. ■

The international museums network

The International Council of Museums (ICOM) is the only global organization dedicated to developing museums and the museum profession. Founded in 1946 in Paris, France with UNESCO's support, today ICOM includes 57,000 members, 120 national committees and 34 international committees. Throughout its history, ICOM has achieved significant milestones for museums including adopting a code of ethics, combating illicit trafficking, and improving disaster preparedness. ICOM publishes "Museum International", a peer-reviewed journal transferred from UNESCO in the early 2000s, which promotes expertise and knowledge exchange in museums and heritage. Currently ICOM aims to enhance transparency and collaboration among museums, addressing contemporary challenges like decolonization and climate change, while advocating for the crucial role of museums in fostering sustainable and peaceful communities.

Hannah McGivern
Journalist in London, UK

Time travels and touching stories

Whether they offer 3D visuals or fully immersive virtual reality, museums are revolutionizing the public's experience through the use of new technologies. But not all institutions can afford them.

Museums are time machines, inviting visitors in for a close-up encounter with the treasures of history. But what if the museum gave you the chance to rummage through the storerooms, to interact with artefacts that no longer exist, or to travel to the original site where an ancient object was found? These are experiences that are now becoming possible thanks to a wave of immersive digital initiatives happening in museums around the world – and online.

For some 200 years in the history of museums, a small label written by a curator was "the only technology available" to help a visitor understand the object in front of them, observes Chris Michaels, a London-based art and technology consultant and researcher. But in the last 20 years, there has been "a moment of explosion, where suddenly it's not just words that you can put between people and objects, it's a whole range of different technologies".

Installation view, Art Gallery of New South Wales, Australia. Photo: © Sarah Kenderdine

◥ Pure Land *augmented reality installation by Sarah Kenderdine, Jeffrey Shaw and Leith Chan at the Art Gallery of New South Wales in Australia. Visitors use iPad screens to explore the wall paintings inside the Mogao Caves, China.*

Virtual reality

Loot: 10 Stories, an exhibition first held at the Mauritshuis in The Hague in September 2023, and then on view at the Humboldt Forum in Berlin, harnesses the power of virtual reality (VR) to dive into the complex debate surrounding looted objects in museum collections. Wearing a VR headset, viewers are transported to an Austrian salt mine where the Nazis hid a Rembrandt self-portrait taken from a Jewish family, and to a Balinese temple, where a soldier bearing a traditional Balinese *kris* dagger has been killed by the Dutch colonial army. Those same objects appear physically in the gallery along with a film explaining photogrammetry, the technique used to convert 360-degree images of the items into their ultra-detailed 3D digital twins.

For the guest curators, filmmaking duo Eline Jongsma and Kel O'Neill, VR offered a critical storytelling tool to show that "these objects had a life before, they had meaning to somebody else," Jongsma says. "With this history of very unequal relationships and sometimes heartbreaking stories, it's really important to pull the viewer out of the typical museum context."

O'Neill describes the visceral sense of "simultaneity" audiences might feel in Berlin, seeing the Brandenburg Gate after witnessing, through VR, the Napoleonic invasion that took the monument's bronze Quadriga statue as a war trophy. "You are somehow experiencing the past at the same time as the present."

Changing the future

Museums themselves are about learning from the past to "change the futures we might imagine," comments Seb Chan, the Director and CEO of ACMI, Australia's national museum of screen culture, which hosts a collection, spanning film, TV, videogames and digital art. "For me, that means you have to engage with contemporary culture, which is now inextricably intertwined with digital media, networked media and the technologies of that."

ACMI is actively exhibiting, collecting and preserving born-digital formats like VR for posterity. It also defines itself as a "multiplatform museum" with a mission to serve audiences online as well as on-site in Melbourne. The hybrid experience is encapsulated in the Lens, a cardboard disc with a microchip that visitors can tap on their favourite exhibits in the museum to explore at home later. "It's both a souvenir and a functional item which allows you to continue your visitor journey with us," Chan says. People have added more than 15 million items to their virtual collections since the device launched in 2021.

Citizen curators

A £5.6 million research project at the University of Glasgow, in Scotland, wants to take the idea of "citizen curators" further still. With funding from the UK government, the Museums in the Metaverse project is developing a prototype digital platform that will host hundreds of 3D models of artefacts scanned from Scottish museum collections. While the average museum can only display 10 per cent of its objects to the public, "VR takes the limits off the scale of the exhibition space," says research associate Fergus Bruce.

The goal is to provide immersive VR of a kind that "digital visitors to a museum's website don't get to experience", Bruce says. Users will be able to "manipulate and handle and curate" historic objects from the participating museums within virtual environments of their choosing. The platform will be "two-sided", allowing people to create and share new VR content as well as consume it. A public version is anticipated to launch in spring 2025.

A UNESCO recommendation on museums

Adopted in 2015, the Recommendation concerning the Protection and Promotion of Museums and Collections, their Diversity and their Role in Society was inspired by countries who wanted to recognize the intrinsic value of museums "as custodians of heritage, and that they also play an ever-increasing role in stimulating creativity… thus contributing to the material and spiritual well-being of citizens across the world". Its aim is to help museums fulfil their mission, particularly in terms of safeguarding and protecting heritage, promoting cultural diversity, transmitting scientific knowledge and developing educational policies.

There is only one downside: the price. Many institutions cannot afford expensive VR headsets and their maintenance and supervision. In comparison, mobile augmented reality (AR), which layers 3D digital visuals on top of the real world through a phone screen "has a lot of benefits," says Thanos Kokkiniotis, CEO of the award-winning cultural travel app Smartify. "AR by its nature can be a lot more accessible and more communal."

> **"Virtual reality offers a critical storytelling tool to show that "these objects had a life before"**

Smartify offers web-based AR that users can access directly through their browser by scanning a QR code, without the need to download an app. "Then you can share the device with a friend and enjoy it together," Kokkiniotis says. He describes a recent AR partnership with the Smithsonian American Art Museum, which saw families huddled together while playing a historical scavenger hunt game through the building.

Spatial journey

Partnerships can help museums experiment with the latest technologies, but they should also be wary of the "hype-driven tech marketplace", says professor Sarah Kenderdine, who leads the Laboratory for Experimental Museology at Switzerland's EPFL university. It specializes in large-scale digital visualizations of cultural heritage materials and data, creating 3D models and panoramic installations for exhibitions around the world.

Past projects include an "interactive spatial journey" through Buddhism's spread across Asia, based on five years of field research mapping hundreds of sites. Work is now underway on the "digital twin" of a Swiss national treasure, Louis Braun's 10 metre-high, 100 metre-long panoramic painting of the Battle of Murten. What unites all the lab's work is the goal to empower "new modes of public participation" in culture, Kenderdine says. "It's about breaking down this expert knowledge."

With their vast reserves of cultural objects, documents and knowledge, museums have the potential to "drive the development of unique technologies, because they are a unique social context," Kenderdine asserts. "They're so rare in this hyper-commercialized world – they have a set of strong values and they can drive new ideas." ■

E. B. Hunter

Assistant Professor of Drama at Washington University in St. Louis, Missouri, USA

The museum selfie: more than a mirror

The trend of photographing oneself in front of the Mona Lisa or Van Gogh's Starry Night took off with the advent of the digital age. This practice is so prevalent today that it sometimes seems to have become the main reason to visit a museum. A simple manifestation of contemporary vanity? Not only. The museum selfie can also serve as a way of appropriating art and creating more meaningful experiences.

Visitors take selfies at the Richard Gilder Center for Science, Education, and Innovation at the American Museum of Natural History in New York.

Beloved by influencers with million-follower profiles and feared by guards of valuable artwork, the selfie has recently become a common way of experiencing exhibited works of art. But despite their ubiquity, not all selfies taken at a museum serve the same purpose.

Some of these digital self-portraits function simply as evidence that one has approached an iconic piece of art. Like the majority of selfies, these photographs serve only to demonstrate one's whereabouts to a social media audience. When the museum and its collection are just a backdrop, the composition of such a selfie is not all that different from one taken in front of any other site. In contrast, a "museum selfie" engages the works on display in a more direct way.

> **"Museum selfies reveal the persistence of the fantasy that a work of art might come to life**

Self-portraits

First, it is worth noting the definition of "selfie" includes more than an off-angle photo dominated by the photographer's arm as it holds the smartphone at a distance. As many a social media influencer can attest, selfie sticks, tripods, and timers make it possible to take a self-portrait from a range of distances. And as many a Renaissance painter can attest, self-portraiture is hardly unique to the digital age. In short, the defining characteristic of a selfie is not its composition. It is that the person depicted – the "self" in the frame – shares the photo online.

Museum selfies reconfigure this self in a range of playful ways, all of which involve interacting with an object on display. One such reconfiguration is to position a living body so that it seems to be part of the object, such as positioning oneself so as to "add" one's arms to a statue lacking them.

Another kind of museum selfie features visitors imitating a piece in an exhibit. Some visitors achieve this imitation by recreating the piece with their own bodies, while others imitate it through the coincidence of resembling the object in some way – such as the phenomenon of finding one's *doppelgänger* in a work. A third approach is to position a second smartphone in front of the object as a prop, thereby suggesting the object is taking its own selfie.

Public Domain / The Getty Museum Collection

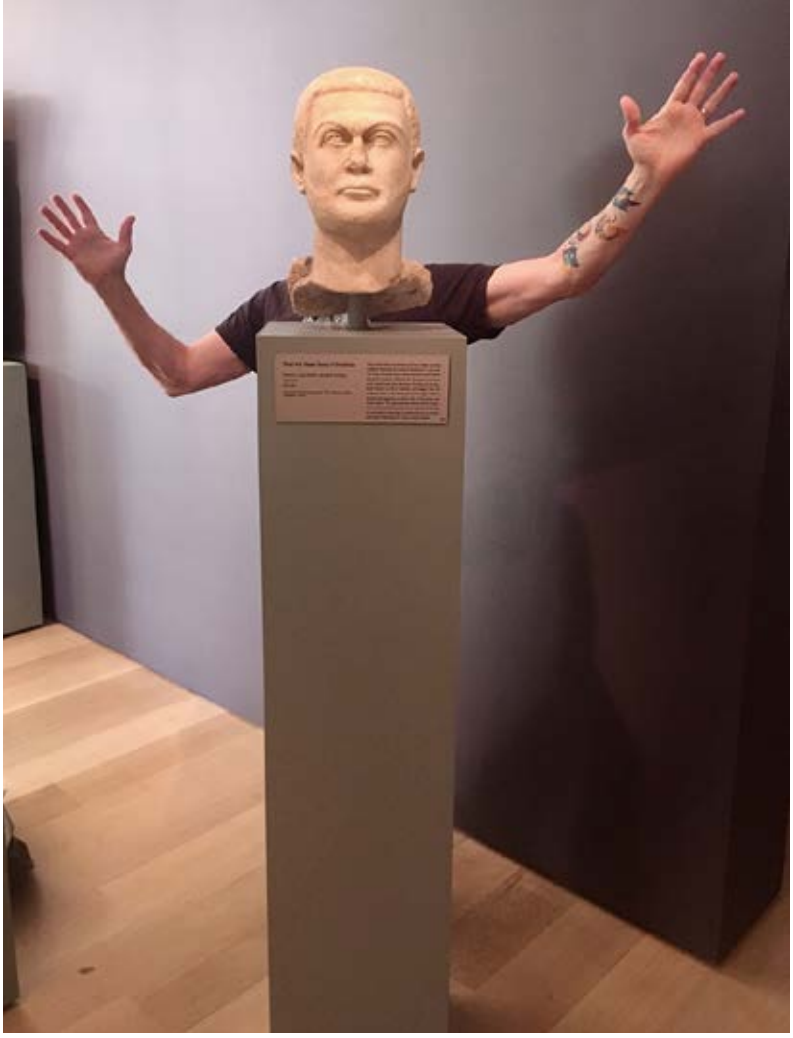
Photo : © Bryan Beasley

◥ *On the left,* Portrait of a Young Woman *by the Dutch painter Nicolaes Eliasz Pickenoy, 1632, at the J. Paul Getty Museum in Los Angeles (United States); on the right, the portrait recreated by photographer Bryan Beasley during the COVID-19 lockdown in 2020.*

Play and connection

In fact, museum selfies reveal the persistence of the fantasy that a work of art might come to life. From Ovid's Pygmalion to Hollywood films like *Night at the Museum*, people have long responded to art and artefacts by imagining that an intervention – quicksilver, an ancient curse, a smartphone – can grant motion to a static object on display. In many ways, museum selfies are a digital-age expression of this longstanding desire to play with the art.

> **Taking a selfie represents the desire to capture the meaning of a lived experience**



© The J. Paul Getty Museum, Villa Collection, Malibu, California / photo: Elizabeth Hunter

◥ *Playful photo with the Togate Statue of Diocletian, at the Art Institute of Chicago (United States).*

How can institutions tap into this desire? Historically, the relationship between museums and visitors with cameras has been uneven. Many museums prohibit flash photography for fear that bursts of light will damage delicate materials. Other institutions ban photography altogether, fearing not only damage but the perils of distraction, both for the photographer and the other patrons. In fairness, a three-foot selfie stick contains enough destructive potential to justify its prohibition.

However, insisting that visitors encounter museum objects exclusively through quiet contemplation runs the risk of moralizing and thought-policing. Museums already have a myriad of strategies for hemming in visitors like children and tour groups that could disturb other visitors. Deploying existing strategies to manage museum selfies would allow institutions to enliven their existing collections with minimal effort and draw in new audiences who are accustomed to interactivity as a way of encountering cultural products.

Moreover, one does not even need to visit the brick-and-mortar museum to create a museum selfie. This phenomenon was particularly noticeable during the COVID-19 pandemic. With their physical collections shuttered by lockdowns, institutions like the Getty Museum in Los Angeles and the Rijksmuseum in Amsterdam challenged people at home to take a museum selfie by recreating their favorite artworks with household objects.

These challenges generated thousands of "visitor" contributions and reams of media coverage, demonstrating the effectiveness of museum selfies for maintaining connections with visitors and growing an institution's digital presence when a physical collection is closed.

Beyond vanity

It is tempting to frame new audiences, their visiting practices, and the digital age in general as a toxic stew of self-obsession. But the phenomenon of selfies, museum or otherwise, is more complex than this trope. In 2023, social psychologists explored the issue in depth for the first time. In the study entitled *Picturing Your Life: The Role of Imagery Perspective in Personal Photos*, researchers demonstrated that putting oneself in the frame is not only a matter of vanity. Rather, taking a selfie represents the desire to capture the meaning of a lived experience.

A first-person perspective photo – which captures a scene or an object – mainly documents physical experiences, whereas a third-person perspective photo includes the photographer and adds a deeper level of meaning to the event. While study participants who viewed their own first-person perspective photos were reminded only of the physical features of the scenario in the photograph, viewing their own selfies brought its emotional or psychological meaning to mind.

Amid the culturally charged environment of artworks and artefacts on display, then, encouraging people to participate in museum selfies can allow them to personalize, deepen, and preserve the meanings they find as they visit the many museums this world has to offer. ■

Interview by
Anuliina Savolainen

Nana Oforiatta Ayim: "The mobile museum is a project where we learn as much as we bring in"

In Ghana, Nana Oforiatta Ayim's mobile museum brings art to places where everyday life happens, from fishing harbours to market squares. The testimonials and objects shared by the visitors feed into a wider project of mapping the African continent's cultural landscape, while offering an alternative to the Western museum model. Interview with Nana Oforietta Ayim, Ghanaian writer, cultural historian, curator and filmmaker.

Your mobile museum project made international headlines in 2016 as the kiosk-sized structure began traveling across Ghana. What inspired the atypical exhibition model?

I've frequented the local Ghanaian festivals all my life; these open, inclusive, incredible initiatives encompass design, art, poetry, and every other art form. From this I knew that art and culture have huge resonance within my communities and culture, but it wasn't being translated into the contemporary art sphere. The National Museum of Ghana had been closed for a while and besides, it was very much a mimicry of the Western ethnographic museum model.

I started to look around at structures that were open and inclusive. In Ghana there is a kiosk on every single corner of every town, village or city, and these kiosks are used for everything: they can host a mechanic's shop, a convenience store or a hairdresser's salon. Somehow people have managed to use the structure of this architectural typology and open it up for every type of use. So why not have a museum in a kiosk?

I collaborated with the young architect DK Osseo-Asare to create the kiosk museum. It was first tried out in 2016 at the Chale Wote festival – an art event happening in the streets of Jamestown, in Accra, with the participation of lots of artists and art institutions. Inside the kiosk, photographs by Ghanaian photographer Ofoe Amegavie were presented alongside other artefacts.

> "I see the mobile museum as an ongoing exercise of relationship building

At some point, a traditional knowledge keeper – a kind of medium – walked past, dressed in white, followed by people singing songs. This so-called 'priest of the water' was taking part in the traditional cleaning festival happening in Accra at the same time. He said, 'Oh, your museum is a shrine. We're going to do some ceremonies for the water, for the local lagoon and for its cleansing'. And then people came in to do these ceremonies. The purpose of the museum became very dynamic and very much alive. This has become a kind of marker of the mobile museum: we might have our plans, but when we get to an area the plans change because people take ownership of it.

How has the model evolved over time?

The launch in 2016 was a huge success, so I thought I've got to travel with this because obviously it's something that people want and that they're excited by. That's how the mobile museums started. We have taken the museum to all ten regions of Ghana, and beyond – from Senegal to the Venice biennale in 2022. And it continues to travel.

The structure has evolved from a kiosk into different modular structures – every time it travels it has a different life form that reflects the purpose. The mobile museum is made up of objects,

© Nana Oforiatta Ayim

◥ *The mobile museum in Accra, Ghana.*

photographs, paintings, films, and oral histories collected from each region and exhibited in those regions. I see it as an ongoing exercise of relationship building.

Who are the visitors and what are they looking for?

This is what I love so much about the movable structure – that it is open to everybody, not just people who already have a love of art. Usually we set it up in a central location like a market square, so there are a lot of people, from children to people who are selling and buying; from teachers to fishermen. There are lots of questions and conversations. Sometimes there's suspicion as to what we're doing and why, and that leads to more conversations – it's all very beautiful.

The mobile museum is my favorite of all the projects I've worked on. It's not based on a top-down curatorial approach but on a humbling methodology instead, because we learn as much as we bring in, if not more. Sometimes we commission work from people or buy or borrow items, for instance they might bring us old objects passed down from their ancestors. Sometimes the artefacts travel with us to other regions. This allows us to create parallels between places and cultures.

You are also the driving force behind the Cultural Encyclopaedia, a large-scale open-source documentation and archive project on African culture. How are the two initiatives related?

The idea of the Cultural Encyclopaedia project, launched years ago, was to document and collect cultural expression from across the continent, with the idea of diaspora as a foundation for further creation. I see it as another form of the museum – another form of archiving, of sharing knowledge and of sharing culture as well, in a way that is dynamic and open-ended.

The two projects are closely connected and feed into each other: we're actually relaunching the Cultural Encyclopaedia in September 2024, with a lot of the information collected in the mobile museums over the years. I've had many inquiries from other countries on the continent related to the mobile museum model, while in parallel we are creating a methodology for how countries are going to create the Encyclopaedia in their countries.

Throughout your career you have recentered African narratives, institutions and cultural expressions in the telling of the past, challenging the mainstream interpretations. How do you see the role of the museum – a Western invention – in this context?

The word museum obviously comes from the West. But in terms of having culture within a contained kind of context is not something that originates from the West. We also have our own ways and forms of passing down culture to other people.

Projects like mine and many, many others across the world are creating a kind of deconstruction of the long-established "encyclopedic museum model". Maybe in 50 or 60 years people will look back and say, 'Oh, do you remember when they used to have structures like that, they were called the museums!' I do think that there is definitely a change, and I don't think that synthetic museums as they have been dreamed into being are going to exist in the future in the form that they exist now. ■

© Nana Oforiatta Ayim

◥ *Visitors in front of Nana Oforiatta Ayim's mobile museum.*

Rachel Felder

Cultural journalist and author in New York, USA

Museums change their story

It's been said that history is written by the victors. The American Museum of Natural History in New York City and other museums around the world are working to change that. Aware that their collections often reflect bygone attitudes of colonialism, they are rethinking their role and approach.

Since it first opened in the late 1800s, New York City's American Museum of Natural History has been a popular destination for locals and tourists. These days, the experience is very different than it was for visitors 150 years ago, and not just because they walk in with mobile phones and bluetooth earbud cases in their pockets.

In January, the museum closed two large exhibition spaces dedicated to Indigenous peoples; seven display cases that included a variety of items related to Indigenous communities, including two with Hawaiian-American items, were covered so as to no longer be seen by visitors or staff. And a few years ago, large printed explanations were added to a prominent ground floor display of an interaction between Indigenous and colonial leaders, under a new label, in large letters, that reads "Reconsidering this scene".

A cultural shift

In part, the recent changes were due to regulation updates of NAGPRA – the Native American Graves Protection and Repatriation Act, which, since 1990, has required American institutions to return belongings, like the type of items that are often in history museums, to the Indigenous peoples and communities they were once a part of. Beyond this type of governmental mandate, museums worldwide have been shifting their perspective towards decolonization, a recalibration that moves institutional content away from antiquated ethnic viewpoints and collections fueled by colonial rule.

"We recognize that there are items in our collection that have been brought to the museum in the past under ethical standards that we would not see as acceptable today," says Sean Decatur, the American Museum of Natural History's president, "and that there is a need, not just in the places where the law directs us, but in other parts of our collection as well that don't fall under the umbrella of NAGPRA, to recognize them, and to correct for those ethical lapses of the past."

"Museums have come to realize that they're accountable not just to their immediate community but to the global community," says Elizabeth Merritt, vice president of Strategic Foresight and founding director of the Center for the Future of Museums, part of the American Alliance of Museums, a trade organization.

"This is part of a larger cultural shift away from a dominant colonial narrative, and that colonial narrative shaped collecting practices for the past centuries," she adds.

For museums of all types – whether their main focus is fine art, design, history, science, or pop culture – those corrections can take different forms. Many are taking an inclusive approach to programming, with content linked to communities that were once under colonial control. This past summer's programming at the National Gallery of Canada in Ottawa, Ontario, for

The work NDN Art *by Teri Greeves, artist from the Kiowa Tribe of Oklahoma, United States, using traditional Kiowa beadwork techniques.*

UNESCO launches the first global Virtual Museum of Stolen Cultural Objects

The theft, looting and illicit trafficking of cultural property are crimes. They deprive people of their history and culture, undermine long-term social cohesion, fuel organized crime and help finance terrorism. To step up the fight against this scourge, Director-General Audrey Azoulay announced the creation of a virtual museum of stolen cultural objects at UNESCO's Mondiacult world conference in 2022: "Our objective is to place these works back in the spotlight, and to restore the right of societies to access their heritage, experience it, and recognize themselves in it," she said about the project.

For decades, we have been witnessing an acceleration in attacks on heritage, causing irreparable damage in numerous countries. The increase in illicit trafficking is alarming. The annual figures regarding international cooperation conducted by INTERPOL are indisputable: 60 arrests and 11,049 objects recovered in 2023. Given their significance as heritage and their financial value, cultural objects are likely to attract the attention of both petty thieves and organized crime.

Protecting cultural heritage preserves our shared history, and only collective action can stem the illegal trade in stolen cultural objects; the fight against illicit trafficking is therefore everyone's responsibility. To raise awareness among the general public, particularly young people, of the issues surrounding illicit trafficking and to facilitate the recovery of stolen and missing cultural objects around the world, this innovative and immersive project will be run by UNESCO, in collaboration with its Member States, technical partners and local communities.

The design of the platform has been entrusted to Francis Kéré, an architect from Burkina Faso and winner of the 2022 Pritzker Architecture Prize, who was inspired by the shape of a baobab tree, "symbol of resilience and central to the lives of many African communities". The first sketches and plans for this digital museum were presented on 3 October 2023 at UNESCO Headquarters.

UNESCO explains that visitors will explore the virtual spaces as they would in a real museum, with access to 3D modelling of objects and educational digital content, as well as stories and testimonies from communities affected by the disappearance of cultural property.

A first version of the museum, featuring some 600 stolen and missing cultural objects, will be launched in 2025. UNESCO Member States have been invited to select objects whose disappearance and theft have significantly impoverished their national cultural heritage.

example, included a retrospective of the work of Shelley Niro, a Mohawk artist, and a show spotlighting the beadwork of indigenous Canadian artists.

In 2019, the lineup of the Minneapolis Institute of Art in the United States included a group show called "Hearts of Our People: Native Women Artists". This fall at the American Museum of Natural History in New York, "The Changing Museum" looks at that institution's history of collection practices, how those have changed, and in what ways they continue to evolve.

New narratives

Sometimes a commitment towards decolonization can be as straightforward as an institution's name. In California, the San Diego Museum of Man, which sits on the ancestral land of the Indigenous Kumeyaay peoples, was renamed The Museum of Us in 2020. As it explains in its promotional materials, "The Museum of Us is a place for the diverse stories that define us – especially those that have long been overlooked or silenced by dominant cultural narratives."

"We've had to look at history, understanding that we have to shift the way we think about histories, violence, oppression, control," says Steven Loft, the vice president of the National Gallery of Canada's Department of Indigenous Ways and Decolonization. "As all institutions grapple with the notion – it's been a long process for a long time – we have to take the position that we must fundamentally change and shift how we present those narratives. In the cultural sector we have to change all of those things on the foundational level."

Positions like Mr. Loft's are becoming more common. In Glasgow, Scotland, The Hunterian Museum has a curator of discomfort, Zandra Yeaman, who works as part of a program to take the museum out of its traditional – and frequently antiquated – boundaries. Scotland has been particularly active in its decolonization efforts through the Empire, Slavery & Scotland's Museums project, a government-funded initiative to help reshape the perspective and content of the country's cultural institutions.

Enduring change

As time goes on, many museum experts are optimistic that the move toward decolonization is here to stay. "I would hope to see it become much more embedded in everyday practice for institutions, for them to think proactively about being brave, being accountable to communities, and to doing deep research to uncover some of these untold stories and hidden histories, and being able to acknowledge where institutions have got it wrong or have collected in an exploitative way and an extracted way in the past," says Sharon Heal, director of the Museums Association, a British trade group which advises museums and their staffs. ■

Lucía Iglesias Kuntz
UNESCO

Women enter the picture

Long confined to the roles of copyist, patron or muse, women artists have been enjoying greater recognition in recent years, as demonstrated by museum acquisition policies and the space reserved for them at major exhibitions. But despite the efforts of many institutions to feminize their collections, parity is still a distant goal.

Spanish painter Rosario de Velasco showcased at Madrid's Thyssen-Bornemisza National Museum. French filmmaker Agnès Varda given a retrospective at the Cinémathèque de Paris. And American conceptual artist Jenny Holzer the star of an exhibition at the Guggenheim in New York – there's no shortage of recent examples of museums and cultural foundations honouring women artists.

We've come a long way since the days when women artists were ignored, mocked or mentioned only in relation to their partners, as were French sculptor Camille Claudel or Mexican painter Frida Kahlo, long overshadowed by their respective paramours, Auguste Rodin and Diego Rivera.

This invisibilization has been decried for several decades. Back in 1989, activists from the feminist collective Guerrilla Girls challenged the Metropolitan Museum in New York with their posters asking "if they had to be naked to be exhibited".

The demand for greater parity is not simply a question of principle; financial equality in the art world depends above all on the visibility and recognition of artists, particularly through solo exhibitions. The logic of the art market dictates that the more an artist is shown, the higher their value.

More visibility

In recent years, however, a number of cultural institutions have spared no effort to give visibility to women artists. This is true of the National Museum of Fine Arts in Stockholm, for instance, which for the past twenty years has been pursuing a policy aimed at increasing the representation of women artists in its collections. "We concentrate on paintings and sculptures by Nordic women artists, particularly Swedish, from the 19th century, but also French women painters from the 18th and 19th centuries," explains Martin Olin, director of collections at the museum. "In recent decades," he adds, "we have also acquired works by women artists from earlier periods, including a painting by the Italian painter Artemisia Gentileschi. We also try to integrate the work of contemporary artists into our collection, for the sake of coherence."

In Hamburg, in northern Germany, of the twenty exhibitions scheduled at the Hamburger Bahnhof – Nationalgalerie der Gegenwart between 2023 and 2025, fourteen will be devoted to women. In London, the Tate Gallery has long been committed to increasing the diversity of its collections. "In 2021, the curators formalized this objective in a new collection strategy that sets out our ongoing commitment to increasing the representation of women artists.

> "The invisibilization of women artists has been decried for several decades

This commitment is clearly visible in the works we actively purchase (as opposed to those donated or bequeathed to us). Over the past five years, we have acquired more pieces by women than by men. These may be works by women who have gone unnoticed or those who belong to new generations, such as Rachel Jones or Kudzanai-Violet Hwami, who have joined the Tate collection for the first time," explains Rachael Young, from the London art centre.

Dora Maar super star

In Paris, the Centre Georges Pompidou is not to be outdone. "Currently, 18.53 per cent of the total number of artists represented in our collection of 120,000 works are women, but the younger the generation, the more this figure balances out (around 40 per cent of the

© Archives Alinari, Florence, Dist. GrandPalaisRmn / Alessandro Vasari

> **Some cultural institutions have spared no effort to give visibility to women artists**

Self-portrait by the Italian Baroque painter Artemisia Gentileschi, dating from sometime between 1630-1638. One of the most famous artists of her time, she was the first woman admitted to the prestigious Accademia delle Arti del Disegno in Florence in 1616.

visual artists born after 1970 who make up our collection are women)," says Dorothée Mireux from the Paris museum. "In 2018, the collection included 1,468 women artists, which represents an increase of 5.65 per cent in four years". The Centre Pompidou, which was a pioneer with landmark exhibitions such as *elles@centrepompidou* (from 2009 to 2011) and *Elles font l'abstraction* (Women in abstraction)(2021), has made photographer Dora Maar the most represented female artist in its collection, ranking fifth among the most exhibited artists, behind photographers Man Ray, Brassaï, Eli Lotar and sculptor Constantin Brancusi.

Other museums develop specific initiatives to mark certain events, such as International Women's Day. On 8 March, for example, women can visit the archaeological site of Pompeii free of charge, or attend series of lectures organized by the Prado Museum in Madrid to discuss the role of women in the museum's masterpieces. Its website has a special page entitled "Prado en Femenino" (The Prado in the feminine). In addition, the museum actively promotes the participation of female professional staff and external contributors such as exhibition curators, lecturers and catalogue authors.

But despite this desire to make more room for women artists, parity is far from the norm. According to a study published in the scientific journal *Plos One* in 2019, 87 per cent of the artists exhibited in the eighteen most visited museums in the United States were men. In Spain, a 2024 report by the Association of Women in the Visual Arts revealed that 57 per cent of Spanish museums still do not achieve "parity", which is considered to have been reached when at least 35 per cent of solo exhibitions are devoted to women artists.

In the meantime, the work of certain artists is currently being showcased, sometimes centuries after their disappearance. This is true, for example, of the painter Artemisia Gentileschi (1593-1656), rediscovered in the 2000s and now emerging as an emblematic figure among women painters of the 17th century. In 2020, the National Gallery in London devoted a major exhibition to her entitled "I will show Your Illustrious Lordship what a woman can do". Quite an undertaking. ■

Guo Yi

Ph.D in Literature, Director of the Zhejiang Provincial Intangible Cultural Heritage Protection Center and curator of the Zhejiang Intangible Cultural Heritage Museum

Exhibiting living heritage in China

How to bring into view what is invisible: intangible cultural heritage? Inaugurated in 2023, a museum in Zhejiang is showing the way. Using an immersive and interactive approach, it introduces visitors to performing arts, rituals, and traditional skills.

Immerse oneself in the magic of a legendary tale or watch an opera performed on a traditional stage? Such experiences are now within the reach of the general public. Located in Zhejiang Province on the southeast coast of China and spanning 35,000 square metres, the Zhejiang Intangible Cultural Heritage Museum offers visitors a unique opportunity to actively participate in cultural traditions.

Intangible heritage is by definition dynamic – it includes traditions or living expressions inherited from our ancestors, such as oral traditions, performing arts, rituals, festive events, or skills to produce traditional crafts.

Since 2004, the museum community has been researching ways to effectively showcase intangible cultural heritage, understanding that living heritage is active and cannot be fully represented through artefacts alone. Here, visitors engage with vibrant exhibits that bring ancient traditions to life through immersive multimedia experiences and live performances by master artisans. At the museum's opening ceremony in March 2023, Emma Nardi, President of the International Council of Museums, welcomed this initiative of promoting living heritage.

The traditional opera stage

In modern China, traditional opera stages are very rare. The few that remain are typically preserved as historical monuments and no longer serve as performance venues. Today, most operas take place in modern theatres.

A traditional opera stage is the centerpiece of the Traditional Theatre Hall at the Zhejiang Intangible Cultural Heritage Museum. This exquisite performance stage, measuring 11.8 metres in width, weighs an astonishing 60 tons. It was constructed by 20 craftsmen highly skilled in the mastery of traditional Chinese construction techniques. When the project was completed and they watched a traditional opera performed on the stage they built, these craftsmen were moved to tears.

Visitors to this opera house are transported back in time, immersed in the beauty and artistry of the opera. They watch while standing or sitting casually, in the traditional way of viewing performances of ancient opera.

Singers recreate traditional performance, allowing audiences to hear the melodies of ancient instruments, see the intricate costumes and facial expressions of the performers, and feel the powerful emotions conveyed through the stories depicted in the opera.

UNESCO High Level Forum on Museums

The UNESCO High-Level Forum on Museums, organized in September 2021 with the support of the Zhizheng Art Museum in Shenzhen (China), addressed the challenges facing museums in the post-pandemic context.

The first edition of the Forum was held in 2016 in Shenzhen, a UNESCO Creative City of Design. The initiative reflects UNESCO's ongoing efforts to support museums and discuss the future of the sector.

The Forum also contributes to the implementation of the 2015 UNESCO Recommendation concerning the protection and promotion of museums and collections, their diversity and their role in the society, whose aim is to provide guidelines for strengthening the role of museums in a new era of social, economic and technological change.

At the heart of the museum's mission is the desire to engage audiences through participatory experiences

◥ *Immersive show inspired by the legend of The Butterfly Lovers at the Zhejiang Intangible Cultural Heritage Museum in China.*

The stage includes two doors, ensuring the performers follow traditional protocols such as "出将入相 (chujiang ruxiang)," or the order to appear on stage: they perform sequentially, according to established rules. It is part of the rigorous standards and procedures of traditional performance. The stage itself becomes a living testament to the rich heritage of Chinese performing arts.

Reviving know-how

At the heart of the museum's mission is the desire to engage audiences through participatory experiences that transform the "one-way" educational experience into an interactive engagement, focusing on the craftspersons bringing intangible cultural heritage to life.

The Museum's design team spent two years meticulously tracking and documenting over 500 people who participate in intangible traditions. Their hands, weathered and roughened by years of dedication, tell a story of passion and craftsmanship.

The museum uses cutting-edge digital imaging to present this "intangibility" in a tangible form, creating a wall of images featuring hundreds of skilled hands in motion – curing ham, weaving bamboo, carving wood, crafting tea, and so on.

As visitors move through the exhibit, they can observe the meticulous crafting process in real time by selecting any image of a particular "hand item" that interests them. Digital technology transforms these intricate processes into visible images, allowing the audience to feel as though they are a part of the crafting journey.

The Legend of the White Snake

Legendary stories are a crucial oral tradition of intangible cultural heritage, passed down through generations. Here at the museum they are creatively digitized to entertain audiences and deepen their understanding of this heritage. The museum vividly presents two famous legends, "The Legend of the White Snake" and "The Butterfly Lovers" (Liang Shanbo and Zhu Yingtai), by extracting symbolic cultural elements and designing them into an immersive particle animation space (with effects such as explosions and sparkles).

As visitors step into these virtual worlds, they are enveloped in swirling colours and soundscapes. In "The Legend of the White Snake", visitors are surrounded by ethereal water animations, with the lovers' boat appearing in a cascade of shimmering particles. Meanwhile, "The Butterfly Lovers" unfolds amidst a vibrant digital display of butterflies and music, immersing the audience in a narrative of romantic love and transformation.

Through the artistic use of digital technology, the museum aims to attract more visitors, especially young people. Unlike artefact exhibits, which focus on historical knowledge and objects, living heritage exhibits emphasize cultural content, highlighting people and processes. They require reinterpretation and creative presentation.

It is China's first regional comprehensive museum of its kind, and similar venues are expected to be opened in time. In the year and a half since it opened, the Museum has already welcomed 760,000 visitors.

The future of museums in China is shaped by the "Museum+" model, collaborating with industries like digital media, education, and tourism to offer more engaging cultural experiences.

By aligning intangible cultural heritage with Chinese traditional festivals, the museum not only protects these traditions but also integrates with the city, community, and contemporary life. It contributes to the vitality of the times and the preservation of intangible cultural heritage. ■

Caroline Wilson-Barnao

Director of Museum Studies, University of Queensland, Australia

Welcome to the world of tomorrow

The Australian Museum of Discovery in Adelaide, Australia, is preparing the next generation for the challenges of tomorrow. Young people are not only visitors to the museum but also key players in its programming.

Attracting young people: every museum in the world faces this challenge. But even more so for those like the Australian Museum of Discovery (MOD.), whose mission is to explore the future. The use of digital and immersive technologies can help to attract younger visitors, but first it must arouse their interest. To engage a population that has been confronted with climate, demographic and environmental crises since childhood, museums must also provide answers to the questions they are asking.

© Sam Roberts / courtesy of MOD.

The BROKEN *exhibition at the Australian Museum of Discovery (MOD.) in Adelaide, Australia.*

> **“MOD. is supporting young people to make sense of a range of future narratives**

Since its opening in 2018, MOD. has successfully used immersive exhibits to engage adolescents and young adults in critical conversations about global trends. MOD. director Dr Kristin Alford says visitor research demonstrates that around 30 per cent of its audience consistently falls into the 15- to 25-year-old bracket, a group many museums find hard to attract. “We are bell-curved around that 20-year-old age, which I think is pleasing. This is largely because our exhibits engage with themes that matter to young people.”

In addition to scanning academic research and the media to understand their concerns, MOD. draws on specific strategies to ensure it engages with topics relevant to youth. MOD.’s success can also be measured in terms of visitor numbers and the numerous national and international awards it has won for innovation and creativity in the fields of design, media and tourism.

Participants as well as visitors

Drawing on advances in research and media analysis, MOD. has put in place targeted strategies to address the concerns of young people, and include them as participants at the museum, rather than just visitors.

MOD. hosts a “future themes forum” to shape the museum’s exhibition themes and topics. These are run using open space methodology so that audiences create and manage the agenda themselves.

"Every few years we hold a forum with around 100 people where the youngest participant is around 15 years old. We invite school students, teachers, academics, university students, and representatives from the industry sectors and ask them to think about what lies ahead," says Kristin Alford.

In addition, MOD. works with a Youth Board that meets ten times throughout the year. In return for an honorarium, training in design and futures thinking, Youth Board members are presented with prototypes and concepts for input.

> **"MOD.'s success can be measured in terms of visitor numbers and the numerous national and international awards it has won**

The current "BROKEN" exhibition, on display until November 2024, is a good illustration of this desire to take young people's concerns into account. Based on the feeling expressed by many that society is at a standstill in a number of areas (misinformation, climate justice, waste management, hypercapitalism, etc.), it encourages consideration of alternate worlds that offer inventive ways of "shaping a better future". To do this, MOD. incorporates insights from specialists including those with expertise in economic policy, people working in futures, researchers in housing, society and climate, as well as writers, artists and First Nations people.

Other upcoming activities at MOD. include a session with experts on the language of trees (with a quiz and demonstration), and the Zina Warrior Print Fest, a gathering where local creators can buy, swap and sell their zines (mini self-published magazines).

Museums, places of collective memory

On 24 May 2024, the event "Bridging Cultures: Moving towards new perspectives in museums" created a conversation among museum experts, communities and policymakers on the transformation of museums and their critical role in protecting cultural heritage and collective memory.

Held at UNESCO Headquarters in Paris and online, panelists discussed the role of museums in the ethical return and restitution of cultural objects, and the need for indigenous and diaspora communities to be more involved in museum practices and exhibits.

UNESCO supports museums in their growing quest for relevance and efficiency. The Mondiacult Declaration adopted at the conclusion of the world conference devoted to culture, convened by UNESCO and held in Mexico in September 2022, calls upon countries to invest in museums for educational purposes.

Positive vibes

Exploring issues such as climate change can also be a source of anxiety when faced with the immensity of the challenges. An underlying driver for the museum is supporting young people to make sense of a range of future narratives which involves helping them to gain greater comfort with uncertainty.

"People can feel anxious when discussing topics like climate change, AI, mental health and housing affordability," says Kristin Alford, "so we try to build an environment that supports creativity and innovation to make sure visitors leave feeling hopeful, and equipped to envision their capacity to deal with complexity and plan for the unknown."

MOD. exhibitions are framed using hope theory. The "BROKEN" exhibition, for example, is designed around three levers of hope. Audiences are invited to imagine a positive image of the future in a goal-oriented manner, explore the potential of this thinking using different pathways, and consider the capacity of humans to be creative and inventive.

A different future is possible

While many museums deal with future topics, such as robotics and Artificial Intelligence, what sets future-oriented museums apart is a deep commitment to drawing on futures thinking to inform their exhibitions.

"Futures-oriented museums are specific to place and culture and very much representative of a future out of their place. They're not afraid to ask questions that challenge power and draw in multiple perspectives. We assume the future has the capacity to be different from the present," explains Kristin Alford.

The Museum of the Future in Dubai, for example, presents experiences from 2071 to help visitors imagine possible futures for space, nature and personal well-being. Another example can be found at Questacon, the National Centre for Science and Technology in Canberra, Australia, which recently explored notions of copyright, ownership, creativity, and bias in an exhibition titled "Friend or Foe – the Rise of Artificial Intelligence".

Museums like MOD. are a model for other institutions. Now more than ever, it is essential that museum exhibitions and policies do not avoid difficult subjects but strive to calm sometimes sensitive debate, so that citizens can establish informed opinions. ■

ZOOM

Jean-François Spricigo's shadow theatre

Photos:
Jean-François Spricigo,
courtesy of Galerie
Camera Obscura Paris

Text:
Agnès Bardon,
UNESCO

"Let nothing come between you and the light." Nothing could better describe the work of Belgian photographer Jean-François Spricigo than this injunction from American poet Henry David Thoreau, which is highlighted in Spricigo's book *Nous l'horizon resterons seul*. The series he shot on his travels to Reunion Island, Mayotte and French Guiana follows this dictate to the letter.

A sovereign light makes faces spring out of nature, sculpts shadows, pierces the tropical night. Captured in black and white outline, far from the usual colourful exuberance, his landscapes become life, movement and breath. More than any other, his silent poetry tells us about quivering twilight, a sultry afternoon, the density of silence. It has the power and fragility of a dream.

Human, animal and tree are treated as equals, without judgment or hierarchy. With the same respect. A caiman's jaws emerging from the river, a human silhouette, foliage – these are just some of the apparitions in this shadow theatre, where all are in their place and boundaries are blurred. Between day and night. Between the wild world and the human world. Between dream and reality. These images aren't to be looked at. They have to be lived.

Jean-François Spricigo is a multidisciplinary artist who also writes, creates soundtracks and performs in theatre. In 2023, he won the Prix Nadar Gens d'images, awarded every year to a book of photography. ■

Ecological corridors: not such a good

The De Borkeld ecoduct in the Netherlands.

Menno
Schilthuizen

Evolutionary biologist and ecologist at Naturalis Biodiversity Center in Leiden (Netherlands). He also teaches evolution at Leiden University.

idea after all?

© Maarten Zeehandelaar / Shutterstock

Creating connections between natural spaces is crucial to slowing biodiversity loss. This position, advocated by scientific ecologists, has long been the absolute standard in nature conservation. However, a growing number of scientists are now exploring the benefits of fragmentation of ecosystems.

Commuters on the A4 motorway between The Hague and Rotterdam might notice that the flyover they zip past just south of Delft is unusually broad, but pay it no further notice. Yet, the 100-metre-wide structure is the largest "ecoduct" of the Netherlands. Swampland, fringes of reeds, a peaty ditch, pasture, and an entire brook are squeezed into this feat of civil engineering. It is a textbook example of a nature corridor.

These corridors are not exclusive to the Netherlands; those connecting isolated nature reserves on either side of the Nepal-India border are much larger. Together, they now constitute the 300-kilometre-long Terai Arc Landscape. And Beijing boasts a network of green corridors to "liberate" the many isolated urban green spaces of the sprawling city. These are a few examples of the many attempts to reverse the fragmentation of natural habitats.

For fragmentation is bad: it causes genetic and ecological impoverishment. Imagine a natural habitat that has become carved up into separate pieces that lie at considerable distances from one another. Locked into them are unique species that depend on those remaining snippets of their favourite habitat. While those snippets may be numerous, the lives of those unique species hang in the balance because of something called the extinction vortex. Such a whirlpool of demise may proceed as follows.

The extinction vortex

Imagine a butterfly like the dingy skipper, in a small, isolated meadow on chalky soil somewhere in north-western Europe. There, it lives by the thousands, but it cannot survive in the agricultural fields around. Now suppose there is a wet winter and many caterpillars die from mould; imagine that the same year enjoys a warm spring which makes the surviving caterpillars wake up from hibernation before their food plant has grown enough young leaves, and many caterpillars die from starvation.

And now imagine that the population is further reduced by a wildfire in summer. The few survivors reproduce, but their offspring are so few that they are forced to mate with siblings. Inbreeding causes →

Aerial view of New York City's Central Park.

an epidemic of a genetic disease that can make the dingy skipper population go down the extinction vortex.

Chances of a species experiencing so much bad luck are low, but it happens. Such was the realization of Ilkka Hanski, the Finnish ecologist who developed "metapopulation ecology" in the 1980s. Local extinction is unavoidable, Hanski realized. Each year, a few species disappear from a fragment of natural habitat. But at the same time, the same or different species arrive as colonists from elsewhere. Thus, each species exists in the landscape as a metapopulation: a network of populations that are constantly going extinct and being resettled without the entire network ever disappearing.

Provided, that is, that there are enough surrounding populations to resettle a population when it goes extinct. Today, many habitat fragments are so small and lie so far apart that resettling is no longer an option. The dingy skipper is a strong flyer, but it will not easily cross hostile terrain to another meadow.

Thus, many species go extinct because they are "patchy" and the patches cannot be replenished in time. When extinction and colonization can no longer balance each other, biodiversity erodes away. That's the idea behind all those corridors:

> **"Nature and conservation policies do not benefit from lengthy academic trench warfare**

reduce the chances of local extinction and enhance those of resettlement.

The white-footed mice

Defragmenting has become so engrained in the practice of nature conservation that you might expect everyone to support it. Yet, over the past years, a countermovement has been stirring among scientists who feel that fragmentation may sometimes also be a good thing.

> **“Many species go extinct because they are “patchy” and the patches cannot be replenished in time**

Many fragmented populations are genetically adapted to local conditions. Jason Munshi-South of Fordham University (United States) discovered this in the white-footed mice living in isolated parks in and around New York City. Characteristics that enable the animals to deal better with locally available food or local diseases had evolved within each park in just a few centuries. If one were to connect those fragments and make genes flow among them, genetic “pollution” could undo local evolution’s work. Another concern is that corridors could also help invasive or super-competitive species spread and drive rare relict species to extinction.

It is hard to study such situations experimentally on a landscape scale, but in the mini world of test tubes and petri dishes, it is possible. A team of United Kingdom-based researchers built a system of micro-ecosystems in which they could manipulate the degree of fragmentation and connectivity without changing the size of the entire ecosystem itself. The system was inhabited by eight species of single-celled protozoa: three predators, and five prey. The researchers discovered that the more fragmented the system was, the fewer species went extinct. This was mainly because fragmentation hampered the spread of one of the more competitive predators.

Dogma disputed

Another risk of turning defragmentation into a dogma, says Lenore Fahrig at Carleton University in Ottawa, is that it feeds the mistaken idea that small isolated fragments are not worth preserving unless they are connected to bigger ones. “This happens all the time,” she says. “In Ontario, wetlands of less than two hectares are not eligible for protected status. The consequence is that constantly small swamps are lost.”

To fight that misconception and to find out if the positive effects of fragmentation can sometimes override the negative ones, Fahrig did a meta-analysis of studies. Her results were surprising. In over three-quarters of the almost 400 cases she studied, the effects of fragmentation were positive, rather than negative. Fragmented habitats supported a greater biodiversity, also in protected and threatened species, at tropical as well as temperate climes, in all groups of organisms, and all spatial scales.

Time to bury the hatchet

This analysis has sparked a wave of protest from many researchers. But in a passionate rebuttal, Lenore Fahrig and 21 co-authors defuse the criticisms. Nature and conservation policies do not benefit from lengthy academic trench warfare, Lenard Fahrig says. Therefore, she and her colleagues published, in 2023, a reconciliatory article, in which they explain what causes the conflict and where its resolutions lie.

Indeed, they say, fragmentation causes local extinction and inbreeding, and therefore a reduction of biodiversity. But while fragmentation might be bad for biodiversity in each individual fragment, it can be beneficial for the biodiversity in the region as a whole. It all depends on the landscape, the size of the fragments and the types of organisms involved.

The authors therefore call upon the ecological world to bury the hatchet and embark on an open dialogue to work towards a set of recommendations that nature policymakers can work with. Until that time, the conservation practitioner who needs to make snap decisions for or against fragmentation continues to face frustrating dilemmas. But at least uncritical defragmentation is no longer seen as the universal conservation band-aid that it has been for such a long time. ■

Hundreds of red mangrove crabs cross roads in search of the sea on the Guanahacabibes Peninsula, Cuba.

OUR GUEST

Interview by
Anuliina
Savolainen
UNESCO

Rumman Chowdhury: "We could be entering a post-truth world"

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Rumman Chowdhury

Former director of machine learning ethics at Twitter, she is an influential Bangladeshi American data scientist and founder of the tech non-profit Humane Intelligence.

Data scientist Rumman Chowdhury sounds the alarm about online harassment and gender-based violence in the age of generative artificial intelligence. Moreover, she warns against the dangers of malicious use of new technologies affecting the most vulnerable, and calls for increased focus on the diversity of users.

You authored UNESCO's study on technology-facilitated gender-based violence in the era of generative artificial intelligence (AI), released in November 2023. In which ways have these technologies increased the potential avenues for such violence against women and girls?

With generative AI we will have more convincing fake media, and women will be particularly vulnerable to this threat. Violent threats against prominent women are common. Now imagine that it is accompanied by very realistic photos of you, your children, your loved ones, produced with generative AI. With today's technology, this can be done very easily without any coding skills.

Gender-based violence online usually starts with cyber harassment. 26 per cent of young women have experienced cyberstalking as compared to 7 per cent of men in the same age range according to a recent study. Overall, with generative AI there will be more generated content – violent content, misleading content and just "garbage" content. The sheer flood of this information, meant to overwhelm and distract, will increase violence on women.

Gender-based violence is further exacerbated by unintentional harms, where implicit discriminatory practices and sexism in society become trained into the AI models. Some of the more well known examples are AI models assuming women are nurses or teachers, rather than doctors or scientists, or images of women automatically sexualized without consent or intention.

> "It's possible to create a very believable fake narrative with faked photos or video

What kind of patterns are behind AI-created falsehoods?

Compositional deepfakes are a worrying manifestation: it's possible to create an entire fake narrative about somebody by combining multiple fabricated media sources, leading to very believable synthetic histories with faked photos, articles, audio, or video, distributed online. People familiar with mis- and disinformation campaigns know that some actors spend years crafting fake accounts and fictional narratives; generative AI can allow this malicious act to be mostly automated.

Similarly concerning is the ability to create interactive deepfakes. It will be possible to train a chatbot to talk like any human, and fool people into thinking somebody is saying something that they are not saying. This same process can be applied to create an entirely fake social media account and to pretend to be a prominent woman – or any woman – online, saying things, posting things, and doing things that make them look bad. Perpetrators of technology-facilitated gender-based violence could use this kind of technology to impersonate women's identities online and ruin their professional or private relationships, and even track down survivors of such violence by pretending to be someone they know.

And then there is malware. Malicious parties can generate malware to steal personal information in order to dox (publish private information about) their victims. With the new tools the bar to entering automated harassment campaigns creating malicious code is much lower; a full-scale online harassment campaign can be created in 15-20 minutes. All you have to do is tell the generative AI what you want to write, and it will generate the code for you. Then you can ask it to help you generate code to post the content on someone's social media account every ten minutes.

Which of these developments do you find the most worrying?

I worry about all of them and what I worry about in particular is the ultimate effect they'll have. I worry that we will enter a world that is post-truth, where nothing we see online is believable or trustworthy. In doing so the world will regress from a globalized, communicative, conversational society that exists on the Internet to one where everybody is very suspicious. We would lose out on so many amazing advances in society if we entered a world in which we cannot trust what is online.

We should also care because most online harms start with the most disadvantaged. The most vulnerable communities – such as girls and women of a minoritized race, ethnicity, gender expression, caste, or socio-economic status – are the ones on which these kinds of attacks are tested first, and it should be an →

indicator for the rest of the world to pay attention, because this is what is coming for everybody else.

In the report you conclude that there's an onus placed on the victim to protect themselves. How could online protection be reinforced?

Most of the tools that exist for online protection inadvertently create a "chilling effect", in other words, the purpose of these tools is to remove yourself from the conversation to protect yourself, which is unfair, but also literally impossible for prominent women such as policymakers or journalists whose jobs need to exist in the social media sphere. So basically you're telling women that in order to be protected in this world they have to remove themselves.

Most of these apps also place all of the responsibility on the action on the victim. Women have to decide and take action on reporting. Instead, apps should be developed to encourage the community to provide support, with zero tolerance for people who are in the act of harassing women.

Moreover, some content distributors have actually shut down the ability to create independent third party tools, such as community-based tools built by startups, to enable people to protect themselves against online harassment.

UNESCO warns about the risks posed by generative AI for women and girls

Generative Artificial Intelligence (AI) has amplified existing online harassment methods and increased the potential avenues for gender-based violence online. This is the key finding of the UNESCO report *"Your opinion doesn't matter, anyway": exposing technology-facilitated gender-based violence in an era of generative AI*, published in November 2023.

The report, authored by Big Data specialists Rumman Chowdury and Dhanya Lakshmi, argues that while deep-learning models are revolutionizing the way people access information and interact with content, they present concerns for the overall protection and promotion of human rights and for the safety of women and girls. The harms may include more realistic fake media and fake narratives, and a much wider reach of hate speech and misinformation. Cyber harassment on social media can also be exacerbated with the help of AI-generated harassment templates – a growing concern in a situation where nearly 60 per cent of young women across the world report having faced online harassment on social media platforms.

A second study entitled *Challenging systematic prejudices: an Investigation into Gender Bias in Large Language Models*, published by UNESCO and IRCAI (International Research Center on Artificial Intelligence) in spring 2024, presents similarly worrying tendencies in large language models (natural language processing tools that underpin popular generative AI platforms) to produce gender bias, as well as homophobia and racial stereotyping.

Both publications highlight the need for action by AI developers and policymakers to combat the new threats. Suggested measures include the implementation of the *Recommendation on the Ethics of Artificial Intelligence*, adopted by UNESCO Member States in November 2021.

> **"In preventing harassment, misinformation and disinformation stemming from generative AI, everyone has a role to play**

I've been fortunate to be in some of the most powerful rooms, and each time I say the same thing: how much of that money are you earmarking towards online protection tools? Invest as much in online protection as you spend on AI development. These technologies will never make the positive impact in the world we're all envisioning if we do not make them safe to use.

You have said that we need to think about the diversity in the room when working with algorithms. Why is this important?

Companies are trying to make products that are for everybody, but if you look at the demographics of who is in the room, it's a very small slice of the world. If we have only one type of person, gender, geographical region or educational background represented, we're missing out on a diversity of knowledge and information.

The scale and scope of issues is so broad that getting input from the public is critically important. The work my nonprofit, Humane Intelligence, is known for is public bias bounties and red-teaming exercises. We open

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AI models to the public and curate their feedback.

In some cases, they speak a language or come from a background that is not well-represented in AI data or models. In others, they are professionals, like architects or scientists, who will evaluate the model from their own professional perspective. Last year, we coordinated the largest-ever generative AI red-teaming exercise which hosted over 2,200 individuals' evaluations.

To get more women, minorities and other underrepresented groups into the AI industry, we need to understand how attrition happens all throughout the pipeline. Teachers who tell girls that programming is for boys; or hiring practices that favour men over women. People often hire their friends when they make startups, so if their network is only men who are just like them, then you're not going to get diversity. Building programs to encourage, for example, more female founders to make companies, or programs that normalize the fact that girls can program, helps break down some of the existing stereotypes.

> **"With the new tools, a full-scale online harassment campaign can be created in 15-20 minutes**

You work alongside major technology companies to enable the responsible use of emerging technologies such as generative AI. Why is it in the interest of the industry to ensure their products are ethical and inclusive?

Generative AI companies want to build products that are safe and reliable because they want other companies to use them. Products will not be built if there's a risk that AI will say something racist or sexist, perpetuate harms, perpetuate violence, so there is an incentive to work together to adjust these problems.

These problems are big and global in scale, so it's very hard if not impossible for a single company to solve these problems. In preventing harassment, misinformation and disinformation stemming from generative AI, everyone has a role to play – content generators, platform companies, social media companies, policymakers, governments, civil society and non-profits, and just regular people who might be on these platforms. Organizations like UNESCO have an important role to play in helping to define standards that will help companies to design programs that are more respectful of diversity. ■

Gina Doubleday
UNESCO

Education: the price of inaction

The financial and social costs of lack of education are devastating. A report by UNESCO, OECD and the Commonwealth Secretariat published in June 2024 entitled *The price of inaction: The global private, fiscal and social costs of children and youth not learning* puts the cost to the global economy of children lacking basic skills at US$10 trillion a year by 2030. Another finding from this study is that, despite efforts made by different countries, the number of out-of-school children remains high, with 128 million boys and 122 million girls excluded from school.

OUT OF SCHOOL AND SKILLS DEFICITS

250
million children and young people worldwide are still out of school

128 ♂
million boys

122 ♀
million girls

57%
of students lack basic skills

SOCIAL DAMAGE

39%
higher incidence of **robberies**

27%
higher incidence of **sexual violence**

37%
higher incidence of **physical assaults**

57%
increase in number of **homicides**

38%
Increase in the number of **youth not in education, employment or training**

ECONOMIC IMPACTS

UNESCO puts the cost to the global economy of children lacking basic skills at

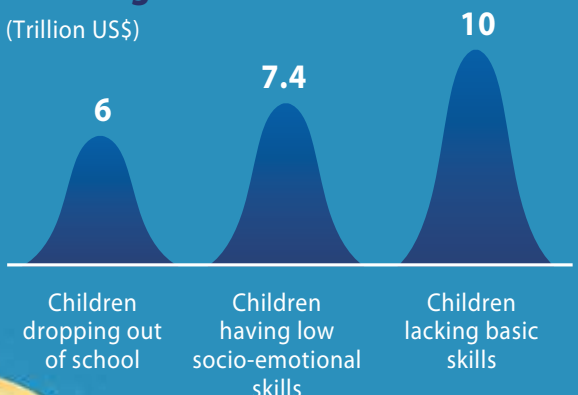
US$10 trillion a year by 2030.

Equivalent to more than the annual GDPs of France and Japan combined.

Conversely, the report estimates that **reducing the proportion of early school leavers** or those without basic skills **by just 10%** would increase annual GDP growth by 1 to 2 percentage points.

Annual global costs:

(Trillion US$)



CONSEQUENCES FOR GIRLS

Gaps in the acquisition of basic skills are associated, worldwide, with a

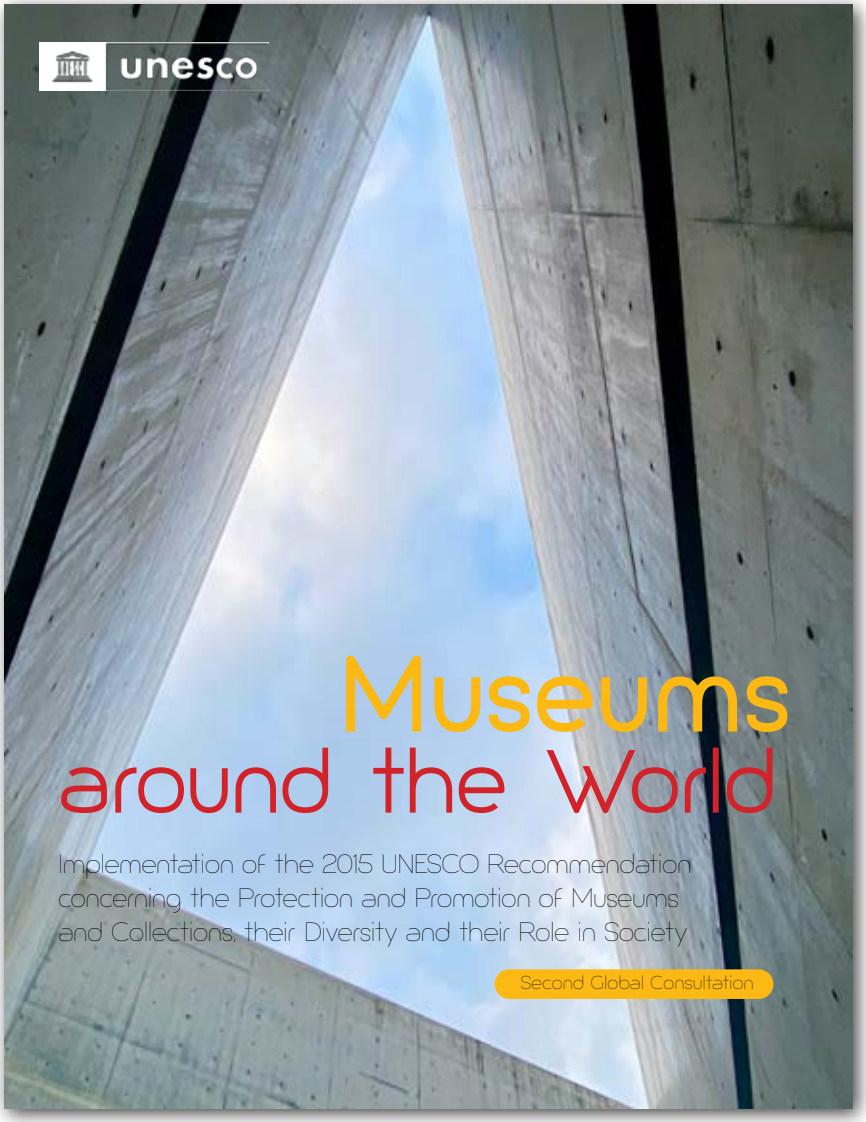
69% increase in early pregnancies among young girls.

Each year of secondary education contributes to reducing the risk of girls marrying and **having a child before the age of 18.**

Effect of lack of basic skills on later employment, education and training:

Lack of cognitive skills are more likely to keep girls inactive than boys.

Museums around the World



As spaces for dialogue and centers for research and education, museums play a crucial role in our societies, contributing to the preservation of cultural heritage, development, integration, and social cohesion.

This report reveals significant strides in aligning strategies, improving inventory management, strengthening legal and ethical frameworks, and advocating for the return and restitution of cultural property, while addressing the challenges and opportunities of digital transformation. Despite these challenges, there is an increasing commitment to ethical practices, international collaboration, and enhanced accessibility, with the aim of fostering a future where the museum sector decisively promotes cultural diversity and inclusive participation.

Read the publication

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