

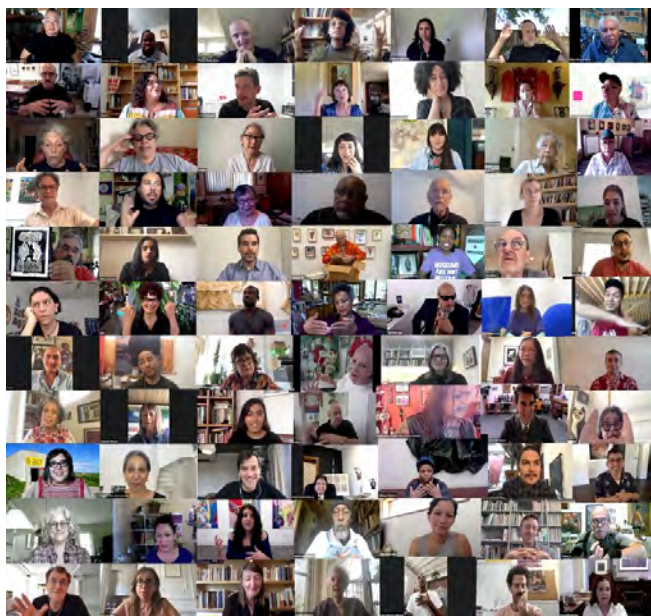
RESEARCH HIGHLIGHTS



Smithsonian
Institution

JANUARY 2021

ARCHIVES OF AMERICAN ART PANDEMIC ORAL HISTORY PROJECT



Composite screenshots of 77 video interview participants, 2020. Archives of American Art, Smithsonian Institution

To document the cascade of public health, social, and financial crises set in motion by COVID-19, the **Archives of American Art** created an oral history series that recorded responses to the global pandemic across the American art world. Conducted virtually, the Pandemic Oral History Project features eighty-five short-form interviews with a diverse group of artists, teachers, curators, and administrators. Averaging twenty-five minutes long, each interview provides a firsthand account of and urgent insights into the narrator's triumphs and tragedies in the summer of 2020. With more than thirty hours of recorded video and audio, the series bears witness to an unprecedented era as it unfolded in real time.

The videos will be released in batches on our [YouTube Channel](#), [iTunes](#), and [Archives of American Art site](#).

MUSEUM CONSERVATION INSTITUTE SUPPORTS THE CAPITOL FOLLOWING JANUARY 6 RIOT

The **Museum Conservation Institute's** Physical Scientist in Proteomics Asher Newsome and Senior Conservator Carol Grissom are providing analysis and consultation to the Curator for the Architect of the Capitol (Michele Cohen), the Curator and the Collections Manager of the U.S. House of Representatives (Farar Elliott and Karen McKinstry), and the Curator, the Collections Manager, and the Historic Preservation Officer of the U.S. Senate (Melinda Smith, Jennifer Krafchik, and Kelly Steele) on potentially corrosive residues deposited on sculptures, paintings, and other historic objects at the U.S. Capitol during the riot of January 6, 2021. The residues are expected to be from fire extinguisher contents, pepper spray, tear gas, and other substances sprayed or smeared on surfaces during the melee. This information will be used to guide repair and conservation of the historic building and its contents. The Smithsonian's work was mentioned in the January 8, Washington Post article "[The Capitol mob desecrated a historical workplace — and left behind some disturbing artifacts.](#)"



A statue was defaced during the riot on Jan. 6 at the U.S. Capitol. Credit: Katherine Frey/The Washington Post



A group of people from Kenya's Laikipia County bringing their dogs to get rabies vaccines. Credit: Ravi Ruparel

In the U.S., dying from rabies is virtually unheard of. But around the world, rabies kills 59,000 people every year. Ninety-nine percent of those deaths are caused by dog bites; half of the people killed are children. There's a relatively simple way of preventing these deaths—vaccinating dogs against the disease—but systemic challenges make that easier said than done. In a new study in *PLOS Neglected Tropical Diseases*, an international team of researchers reported on a multi-year effort to vaccinate dogs in Kenya and highlighted some of the challenges scientists and public health officials face in eradicating the disease. They found that grassroots efforts helped lots of individuals—but that to stop the disease once and for all, these smaller campaigns must be coupled with large-scale efforts.

The goal of the Laikipia Rabies Vaccination Campaign (“LRVC”) is the eradication of rabies in Kenya by 2030. Using a ‘One Health’ approach, the LRVC has piloted a robust and effective field-based effort towards this goal. Over the past 5 years, the **Mpala Research Centre** has worked closely with a wide range of partners from neighbors, communities, the Laikipia county government, national, and international institutions to develop a unified approach towards the eradication of rabies in Laikipia. The team included Dr. Suzan Murray, head of the **Smithsonian Conservation Biology Institute's Global Health Program** and Dr. Maureen Kamau, **Mpala-Smithsonian Veterinary Research Fellow in One Health**.

As the world currently battles a pandemic caused by a virus, the success of the LRVC can serve as an example of how to tackle the challenge of diseases using an integrated and grassroots-led approach. The paper was published in the open access journal [Plos Neglected Tropical Diseases](#).

TURBULENT ERA SPARKED LEAP IN HUMAN BEHAVIOR AND ADAPTABILITY



A bird's eye view of the Olorgesailie Basin in southern Kenya. Credit: aerial photo by Richard Potts, 2005

For hundreds of thousands of years, early humans in the East African Rift Valley could expect certain things of their environment. Freshwater lakes in the region ensured a reliable source of water, and large grazing herbivores roamed the grasslands. Then, around 400,000 years ago, things changed. The environment became less predictable, and human ancestors faced new sources of instability and uncertainty that challenged their previous long-standing way of life.

The first analysis of a new sedimentary drill core representing 1 million years of environmental history in the East African Rift Valley shows that at the same time early humans were abandoning old tools in favor of more sophisticated technology and broadening their trade networks, their landscape was experiencing frequent fluctuations in vegetation and water supply that made resources less reliably available. The findings suggest that instability in their surrounding climate, land, and ecosystem was a key driver in the development of new traits and behaviors underpinning human adaptability.

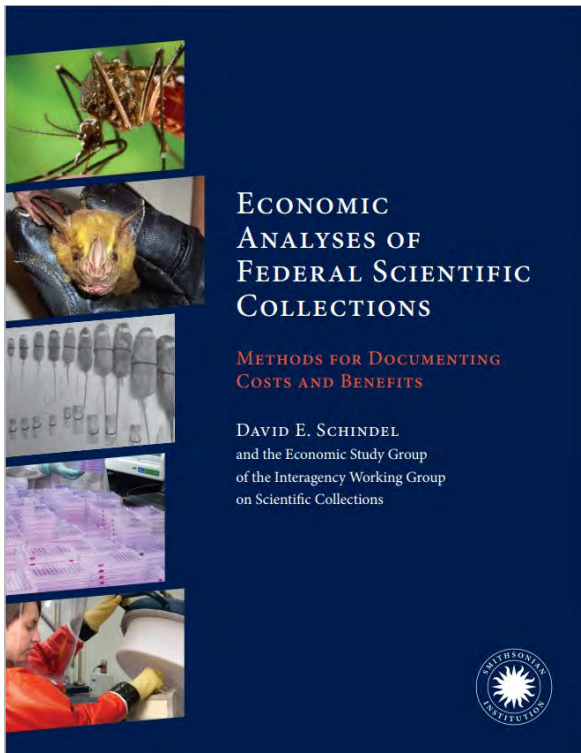
In the October 21, 2020, issue of the journal [Science Advances](#), an interdisciplinary team of scientists led by Richard Potts, director of the [Human Origins Program](#) at the **National Museum of Natural History**, describes the prolonged period of instability across the landscape in this part of Africa (now Kenya) that occurred at the same time humans in the region were undergoing a major behavioral and cultural shift in their evolution.

[Potts and colleagues documented this behavioral and cultural shift](#) based on [artifacts](#) recovered at an archaeological site known as Olorgesailie. Decades of study at Olorgesailie by Potts' team and collaborators at the National Museums of Kenya have determined that early humans at Olorgesailie relied on the same tools, stone handaxes, for 700,000 years. Their way of life during this period was remarkably stable, with no major changes in their behaviors and strategies for survival. Then, beginning around 320,000 years ago, people living there entered the Middle Stone Age, crafting smaller, more sophisticated weapons, including projectiles. At the same time, they began to trade resources with distant groups and to use coloring materials, suggesting symbolic communication. All these changes were a significant departure from their previous lifestyle, likely helping early humans cope with their newly variable landscape, Potts said.

“The history of human evolution has been one of increasing adaptability,” Potts said. “We come from a family tree that’s diverse, but all of those other ways of being human are now extinct. There’s only one of us left, and we may well be the most adaptable species that may have ever existed on the face of the Earth.”

While some scientists have proposed that climate fluctuations alone may have driven humans to evolve this remarkable quality of adaptability, the new study indicates the picture is more complicated than that. Instead, the team’s analysis shows that climate variability is but one of several intertwined environmental factors that drove the cultural shift. The new analysis reveals how a changing climate along with new land faults introduced by tectonic activity and ecological disruptions in the vegetation and fauna all came together to drive disruptions that made technological innovation, trading resources, and symbolic communication—three key factors in adaptability—beneficial for early humans in this region.

REPORT HIGHLIGHTS LONG-TERM BENEFITS OF SCIENTIFIC COLLECTIONS



The **Smithsonian Institution Scholarly Press** has published a report exploring the benefits of the nation’s scientific collections. The report, a joint effort of 15 federal departments and agencies led by the Smithsonian and the U.S. Department of Agriculture (“USDA”), provides illustrative examples of the many ways federal scientific collections serve the nation, from vaccine development to earthquake preparedness.

While the report focuses on federal collections, it also serves as a guide for other museums, universities, research institutions and industries. The publication offers evidence-based methods for measuring the benefits of scientific collections against the costs of maintaining them.

The report, [*Economic Analyses of Federal Scientific Collections: Methods for Documenting Costs and Benefits*](#), was commissioned by the Interagency Working Group on Scientific Collections (“IWGSC”), part of the White House National Science and Technology Council. IWGSC is co-chaired by the Smithsonian and USDA.

“Although the report is focused on federal scientific collections, its content applies to myriad collections and leads to many public benefits,” said Scott Miller, **Smithsonian Chief Scientist and IWGSC co-chair**. “The report is especially timely given the economic stress on research and organizations because of COVID-19.”

Federal scientific collections are diverse and immense. The Smithsonian’s National Museum of Natural History alone has more than 146 million specimens and samples in its collections, acquired from the oceans to outer space—including plants, animals, and insects; rocks, minerals, and meteorites; and fossils and human artifacts. Institutions like the Smithsonian preserve these vast collections for research, education, and public outreach. They offer a wide variety of benefits for the nation, from insurance against future emergencies to the development of new technologies. Examples from the report highlight how USDA’s collections of agricultural pests help protect the U.S. food supply, or how a bacteria sample from a national park provided the basis for a major biotechnology breakthrough.

The authors note that demonstrating the long-term value of scientific collections can help institutions preserve these vital services for the future.

“USDA’s agricultural collections are some of the largest and most diverse in the world,” said Dionne Toombs, director of USDA’s Office of the Chief Scientist and IWGSC co-chair. “We are proud to be stewards of these valuable resources that ensure the preservation, diversity, and safety of these collections for current and future generations.”