



Mountain Gorillas, Dian Fossey, and The Leakey Foundation

KELLY STEWART, *LEAKEY FOUNDATION GRANTEE, UC DAVIS*

The Leakey Foundation's association with mountain gorillas and Dian Fossey began almost as soon as the Foundation began. So did my own small part in this story.

Louis S.B. Leakey, in 1960, had helped launch Jane Goodall's pioneering study of chimpanzees. He needed someone to study gorillas, and found Dian Fossey. Though an occupational therapist with no formal scientific training, she had plenty of determination and courage.

And so in 1967, with support secured by Leakey, she set up a tent at 10,000 feet in the misty Virunga Volcanoes of Rwanda, on the borders with Congo and Uganda. She christened the site Karisoke. It would become one of the longest running field studies of any wild animal population in the world.

As a teenager in Los Angeles, I had been intrigued by Africa and wildlife since 1965, when my parents took our family on a safari to Kenya. Three years later The Leakey Foundation came into being. Through my parents' connection with the fledgling organization, I was lucky enough to meet Richard Leakey.



Kelly Stewart with a mountain gorilla in Rwanda.

In 1969, I headed off to college to study anthropology and spent the next three summers working at Richard Leakey's site at Koobi Fora on the shores of Lake Turkana. I was all set to become a paleontologist, and then in 1972 I met wild gorillas. This happened on a trip with my mother and sister to Congo, then known as Zaire.

We travelled to Kahuzi-Biega, where Adrien Deschryver, the Belgian park warden, was trying to habituate a group of eastern lowland gorillas. We could see very little of the animals through the thick forest, but they

made a deep impression on me. I had found my calling.

I had read about Dian Fossey and wrote to her to ask if I could work with her. She was hesitant, suspicious of my "Hollywood" upbringing and, rather oddly, my gender. She told me, "Most girls are no good at this kind of work." Finally, however, she agreed, and three weeks after graduating from Stanford in 1973, off I went to Rwanda.

I worked at Karisoke during the 1970s, as did my future husband, Sandy Harcourt. We received our

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Letter from the President: Discovering Us

The Leakey Foundation is in the process of creating a 50th Anniversary book celebrating fifty of the most important findings about human origins which were discovered during the last fifty years.

We are collaborating with Evan Hadingham, senior science writer for NOVA, the public television science program. Over the years, while making human origins programs, Evan became especially interested in paleoanthropology, so he is a natural partner for us. We are also working with outstanding photographers and designers to illustrate these discoveries in the most meaningful way.

Paleoanthropology is continually interesting because it is a science of discovery. We can only know what we have found evidence for. That evidence can pop out tomorrow as a fossil in an African desert after a rainstorm, or the evidence can be detected by new technology that can look at ancient DNA or measure hormones through excretions from baboons in Africa or capuchin monkeys in South America. Because it is a science of discovery, paleoanthropology information is only as current as the last fossil we found, or the last hormone we measured. The process of looking back has revealed an ever-changing puzzle.

One of the more difficult decisions in creating this book is what to include and what to leave out. Obviously, many more than 50 discoveries have been made since 1968. We have tried to evaluate the most important findings, especially those findings which led us forward to the next discovery.



Camilla Smith with Dr. Steven Kuhn and a bust of Dr. Pei Wen Zhang at IVPP in China.

Scientists may disagree on the importance of one or another of the discoveries. Where there has been disagreement, we have tried to indicate that in the written description. We have fact-checked everything with the scientists who work in the area, and we have employed a professional fact checker. In his descriptions of the finding, Evan has told the story of the scientist and the moment of discovery wherever that is possible. He has also told us why the discovery is important and how it fits in with the larger story of human origins.

The book should be out in fall 2019. I can't wait to finally have these fascinating discoveries all laid out in one place and illustrated, to help explain what it means to be human.

A handwritten signature in black ink that reads "Camilla M. Smith".

Camilla Smith
President
The Leakey Foundation



Dian Fossey with mountain gorillas at Karisoke. Photo by National Geographic, from The Leakey Foundation Archive.

PhDs from Cambridge University, and during the early 1980s we co-directed Karisoke Research Center while Dian was in America. We both later took positions at the Department of Anthropology at UC Davis and have remained connected to The Leakey Foundation ever since, via colleagues, students, and Sandy's years on the Scientific Executive Committee.

The decades of research that Dian Fossey initiated at Karisoke Research Center became the foundation for our understanding of gorilla socioecology, demography and life history. Karisoke has launched the careers of leading primatologists and conservationists, many of them supported at some point in their careers by The Leakey Foundation. Dian Fossey alone received 16 grants. The Karisoke story illustrates two important core beliefs of The Leakey Foundation.

First is their commitment to long-term funding. Understanding long-lived animals like apes, requires decades of observations. The Leakey Foundation helped keep Karisoke going, and it hasn't always been easy. Dian was murdered in her cabin at the end of 1985, a crime that was never solved. During the

terrible violence and genocide of 1990s, Karisoke was destroyed and rebuilt twice, finally moving its base outside the forest. But through it all, the research has continued. The descendents of those gorillas that Dian first contacted in 1967 are still being observed today, still with support from The Leakey Foundation.

Second is The Leakey Foundation's belief in the comparative approach. We cannot fully understand a species' behavior and evolution with information from just one site. We need data from other populations too. And so The Leakey Foundation has supported studies of gorillas across Africa, in Gabon, Congo, and Uganda. The research covers diverse subjects, from behavior, to ecology, to genetics, highlighting differences between mountain and western gorillas in, for example, diet, ranging and even life history. This approach has enabled understanding of variation, not just among gorilla populations, but between gorillas and the other great apes and, ultimately, humans.

While The Leakey Foundation has always been known as a research, rather than a conservation, organization, there can be no doubt

that their support helped save the mountain gorilla. When I first arrived at Karisoke in 1973, the population was in decline due to habitat loss and illegal hunting. At that time, protection in the Virunga National Park was minimal. In fact, Karisoke Research Center was about the only constant protective presence in the area. A Karisoke-based census of the Virunga region estimated a population of just 268 gorillas, a decline of 40% from the estimate fifteen years previously.

Things began to turn around in 1980. That year saw the launch of a multi-organizational program aimed at conservation education, eco-tourism and park protection. Based on knowledge gained through years of research these efforts were and continue to be successful. A 2016 gorilla census found an estimated 604 gorillas in the Virunga Mountains, and 400 gorillas living in Uganda's Bwindi Impenetrable National Park, bringing the total number of mountain gorillas to more than 1,000 individuals, a rebound beyond anyone's dreams. It is one of the few success stories of wild animals in Africa today. The Leakey Foundation is a part of that story.

Awarded Grants

Spring 2018



Behavioral

Andrea Baden, Hunter College – CUNY:

What drives microbiome development and maintenance in a fission-fusion primate?

Elisa Bandini, University of Tübingen:

Testing for stone flake use in Brazilian wild bearded capuchins

Grace Davis, University of California, Davis:

Leading according to need in a spider monkey fission-fusion society

Sofya Dolotovskaya, The German Primate Center:

Does pair-living translate into genetic monogamy in a Neotropical primate?

Benjamin Finkel, University Of Michigan:

Aging apes: Foraging strategies of old chimpanzees at Ngogo, Kibale National Park, Uganda

(Ann) Catherine Markham, Stony Brook University:

Hormonal and behavioral signatures of competition within primate social groups

***Susan Perry, University of California, Los Angeles:**

Capuchin behavioral variability and learning strategies across the lifespan

*Susan Perry is the 2018 Gordon P. Getty Grant recipient.

Sarah Phillips-Garcia, University of New Mexico:

Trade-offs between reproduction and immune function in female primates

India Schneider-Crease, University of Washington:

Social drivers of health: Early life adversity and immunity in primates

Taurus Vilgalys, Duke University:

Natural selection on gene regulation following admixture in wild baboons

Katherine Wander, Binghamton University (SUNY):

Trade-offs in milk immunity

Erin Weigel, University at Buffalo:

Use of play signals in captive immature western lowland gorillas

Anja Widdig, Leipzig University:

Chemical cues for advertising female fertility in primates

Matthew Zippel, Duke University:

Maternal early adversity, maternal care, and offspring survival



Sofya Dolotovskaya recording titi monkey vocalizations in the Peruvian Amazon rainforest.

Read more about our Leakey Foundation grantees at:
leakeyfoundation.org/blog

Paleoanthropology

Rachel Bynoe, University of Southampton:

Exploring a submerged Pleistocene site off Happisburgh, UK

Siobhán Cooke, Johns Hopkins University School of Medicine:

The evolution of niche differentiation among platyrrhine primates

Dorien de Vries, Stony Brook University:

Dental topographic evolution in primate and rodent radiations

Israel Hershkovitz, Tel Aviv University:

New Middle Paleolithic human remains from the southern Levant: the Tinsbemet Cave

Jamie Hodgkins, University of Colorado, Denver:

Chronology and ecological conditions of Neandertal disappearance in Liguria, Italy

John Hoffecker, Institute of Arctic and Alpine Research, University of Colorado:

Modern human dispersal on the East European Plain

Ariel Malinsky-Buller, Romano-Germanic Museum:

Middle Paleolithic seasonal land use adaptations in the Southern Caucasus: Excavations at Kalavan 2 (Armenia)

Lauren Michel, Tennessee Tech University:

Paleoenvironmental reconstructions of the early Miocene Kiahera Formation, Rusinga Island

Agazi Negash, Addis Ababa University:

Obsidian geochemical perspective of the emergence of modern human behavior

Liv Nilsson Stutz, Linnaeus University:

The Early Upper Paleolithic macrobotanical assemblage from Mughr el-Hamamah, Jordan

Abigail Nishimura, Stony Brook University:

Functional morphology and macroevolution of the mammalian cervical vertebral column



Rachel Bynoe coming up from a dive off Happisburgh, UK

Travis Pickering, University of Wisconsin-Madison:

Continued investigations of Oldowan hominin behavior at Swartkrans, South Africa

Kathryn Ranhorn, Harvard University:

High-resolution Late Pleistocene-Holocene excavations at Kiseshe II Rockshelter, Kondoia (Tanzania)

Hesham Sallam, Mansoura University:

Exploration for Oligocene catarrhines and other primates around Siwa Oasis, Egypt

Mathew Stewart, University of New South Wales:

Palaeontological and archaeological investigations of the Pleistocene fossil deposits of Saudi Arabia

Nicolas Zwyns, University of California, Davis:

Late Neandertal adaptation In North-West Europe: The cave of Trou Al'Wesse (Belgium)

Baldwin Fellows

Spring 2018



The Franklin Mosher Baldwin Memorial Fellowship program was established in 1978 to enable scholars from developing countries to obtain graduate education or training from institutions outside of their home countries. Many countries possess extraordinary resources in the field of prehistory but lack educational opportunities. Through the Baldwin Fellowship program, The Leakey Foundation is equipping students to assume a leadership role in the fields of paleoanthropology and primatology in their own countries.

This year, thanks to the generosity of the James and Gloria Stewart Foundation, along with Kelly Stewart and Alexander Harcourt, The Leakey Foundation was able to fund a record number of Baldwin Fellows.

Returning

Tengenu Gossa Aredo - Ethiopia

Mr. Aredo is enrolled in a PhD program at the Hebrew University of Jerusalem under the supervision of Erella Hovers. After completion of his studies, he plans to promote and conserve Ethiopia's paleontological heritage and teach in a university.



Chalachew Mesfin Seyoum - Ethiopia (*above*)

Mr. Seyoum is a PhD candidate at the Institute of Human Origins at Arizona State University under the supervision of Kaye Reed. He was a Baldwin Fellow from 2010 to 2011, and he works with the Ledi Geraru Research Project in Ethiopia, where he discovered the partial lower jaw of the oldest *Homo* specimen, dated 2.8 Ma.

Alexander Titan Kabelindde - Tanzania (*above*)

Mr. Kabelindde has been accepted in the PhD program in archaeology at the University College of London. He has been working at Olduvai Gorge under the supervision of Ignacio de la Torre and Jackson Njau. Upon completion of his degree, he plans to continue his research in Tanzania.

Himani Nautiyal - India * (*right*)

Ms. Nautiyal is enrolled in a PhD program at Kyoto University's Primate Research Institute. Her fieldwork is with a little-studied species of Central Himalayan langurs living in a remote, high altitude valley in northern India. She was also awarded a National Geographic Young Explorer Grant in 2016.



Negin Valizadegan - Iran

Ms. Valizadegan is a doctoral student in biological anthropology at the University of Illinois at Urbana-Champaign. The focus of her research is the evolution of immune systems and microbe-host interactions in primates. Her goal is to become a university professor in Iran.

New

Rosemary Anne Blersch - South Africa * (right)

Ms. Blersch is a PhD student at Lethbridge University, Canada. She plans to return to her home country to establish biological anthropology as an academic discipline and to provide opportunities for South African students to work in this field.

Fikremariam Sisay Kassa - Ethiopia

Mr. Kassa is pursuing a master's degree in paleoanthropology. He is enrolled at the University of Calgary under the supervision of Susanne Cote. He has done fieldwork at Omo Kibish with both Frank Brown and John Fleagle. After completion of his studies, he hopes to teach and conduct research at Addis Ababa University in Ethiopia.



Elihuruma Wilson Kimaro - Tanzania (above)

Mr. Kimaro is a PhD student at the University of Minnesota and an employee of Gombe National Park. His commitment to conservation of the Gombe chimpanzees led him to pursue his PhD. After obtaining his doctoral degree, he intends to return to work as a conservationist with the Tanzania National Parks Authority.

* - *Funded by the James and Gloria Stewart Foundation*

** - *Funded by Kelly Stewart and Alexander Harcourt*

Rosa Matsileng Moll - South Africa

Ms. Moll is a PhD candidate at the University of the Witwatersrand. She is studying Early Stone Age lithic technology at University College London. She plans to return to South Africa to train students in archaeology and to inform local communities about southern Africa's rich archaeological heritage.



Ipyana Francis Mwakyoma - Tanzania

Mr. Mwakyoma has been accepted into the Master's Degree Program at Colorado State University. He has extensive experience working as a member of Olduvai Geochronology and Archaeology Project. He plans to return to Tanzania to work as a paleoanthropologist and to teach at the University of Dar es Salaam.

Sharmi Sen - India ** (below)

Ms. Sen is in the Pre-Doctoral Program in Anthropology at the University of Michigan. She intends to return to India to teach and to research Indian primates. Kelly Stewart and Sandy Harcourt are funding this applicant.



“Discovering Us”

The Leakey Foundation’s

The Leakey Foundation held a 50th anniversary gala on May 2, 2018, at the St. Regis in San Francisco. The theme of the evening was “Discovering Us,” and the decor of the celebration reflected some of the regions where the Foundation funds research. This spectacular event raised a total of \$394,392 for human origins research and outreach.

Here are a few of my many personal highlights from the evening:

1 - Organizing the gala with Camilla Smith. She asked that the evening “be unique and have heart”... I think we delivered on both.

Camilla Smith (l) and Sharal Camisa (r)

2 - Asking Rick Potts to donate soil from the Ologesailie site where he and his team made an extraordinary discovery. The gift was presented to Gordon Getty as a gift of thanks, and the crowd laughed along with Camilla Smith when she presented him with “dirt.” Casts of the 13-million-year-old fossil Alesi were given to past Presidents of the Board of Trustees, Bill Wirthlin, Kay Woods, and Don Dana. The discovery of Alesi was funded by The Leakey Foundation and has made world-wide news.

Gordon Getty receiving a gift of soil from Ologesailie

3 - Greeting three generations of the Richards family.

Dana and Annie Lajoie, Bill Richards

4 - Watching guests enjoy the virtual reality headsets during the after party.

Carol Rabenhorst and Bernard Wood



5, 6, 7 - Witnessing the reunions of colleagues and friends.

*Nina Jablonski and Thure Cerling
Denise Su and Erin Vogel
Joan Donner and Nina Carroll*

50th Anniversary Gala



8 - Singing along to “Lucy in the Sky with Diamonds” with Donald Johanson and our auctioneer before he donated the skull-print tie he was wearing to sell to the highest bidder. Then, Spencer Wells offered to sell the talisman he carried with him around the world while filming “Journey of Man.” Then, Meg Starr and David Boyd contributed a pair of courtside tickets to a Warriors basketball championship game. The surprise auction raised \$9,700!

Donald Johanson with auctioneer Ellen Toscano



9 - Serving Iron Horse Wine at the Chairman’s Reception which was decorated with prehistoric horse images donated by Jean Clottes. Many thanks to Austin and Sara Hills for providing the red and white wines from Grgich Hills Winery.

Joy Sterling with a magnum of Iron Horse in front of a panel decorated with an image of a horse from Chauvet Cave



10 - Celebrating our beloved Founder Joan Travis and seeing guests make pilgrimages to her table all night to offer their appreciation for all her hard work.

Camilla Smith and Brian Howell with Joan Travis (r)



11 - Sharing our special 50th anniversary video featuring Jane Goodall.

Natalie Dana, founding member of The Leakey Foundation Young Professionals Group, watches the Jane Goodall video.



12, 13 - Providing a portrait studio where each guest received a printed photo in a Leakey Foundation branded mat.

*Duggan Jensen, (l) Jeanne Newman, and Silvie Jensen (r)
Elise Brown Ersoy (l) and Erica Brown Gaddis (r)*



Director's Diary: China's Evolving Culture



Trustee Chet Kamin in the Forbidden City.



Numa Marlborough at 798 Arts District in Beijing.



Bette Meers-O'Hara with Dr. Li Feng.

Over the 50 years since The Leakey Foundation was established, it would be difficult to find another country that has experienced as large a cultural shift as China. The nation has become a fascinating mix of old-world tradition and cosmopolitan sophistication. Twenty intrepid travelers joined the Foundation to navigate modern-day China while exploring its prehistoric history with lead scholar Dr. Steven Kuhn in October 2018.

Our group was greeted in Beijing by bright blue skies. The red flags in Tiananmen Square and the gold roofs of the Forbidden City shone in the sunlight. While the group saw these and many more of China's national highlights, it was special access that made this tour unlike any other.

With special permission in the Forbidden City, we were allowed to visit the private quarters of the Qianlong Emperor, a Qing dynasty emperor who was one of the longest ruling monarchs in the history of the world. We were the only ones inside his quarters, with the exception of one security person for each one of us! This was the emperor's favorite space where he celebrated his mother's birthdays, watched operas, and greeted dignitaries. The Qianlong Emperor had an insatiable appetite for art collecting, and his private quarters were decorated with a display of some of his favorite art.

This tour did not lack for art, as Chinese art traditions are some of the oldest continuous art traditions in the world. Our visit to 798 Arts District in Beijing was a fantastic peek at the modern art scene flourishing in China. In 2002, artists reimagined the decommissioned factory area as an art center and it now features vibrant studios and galleries.

From Beijing, we took the high-speed train 755 miles to Xi'an to marvel at the Terracotta Warriors. Many of us learned that only one terracotta warrior was found intact and that the other eight thousand were meticulously put back together like 3-dimensional clay puzzles. It is one thing to see a dozen or so warriors on display at a museum outside of China; it is a breathtaking experience to see thousands lined-up for battle in the afterlife.

In Xi'an we also visited the Shaanxi History Museum where we saw a diverse sampling of their extraordinary collection of 370,000 items, mostly from the Tang Dynasty. Exhibition hall number one was dedicated to the prehistory of China, including stone tool artifacts, and this hall was crowded with people learning about the deep history of their country.

Our tour included visits to seven UNESCO World Heritage Sites, including the Great Wall of China (reached by funicular

2018 Leakey Foundation Fellows Tour



Mary-Alice and William Yund at the Sacred Way of the Ming Tombs.



Rosemary and Tom Tisch on Hua Shan Mountain.



The group at Zhoukoudian Site and Museum.

to allow more time to explore on the wall), the Ming Tombs and Sacred Way, and Zhoukoudian during the 100th anniversary of the site's first excavation.

We enjoyed learning about the many religions of China while visiting the Small Goose Pagoda, the Forest of Stele Museum, the Yunju Temple, and Lama Temple which was a Tibetan Buddhist monastery. Resplendent in the fifth hall of Lama Temple is the 85' tall statue of the Maitreya Buddha. It is carved from a single trunk of white sandalwood, and yards of colorful silk are draped from its fingers. The Muslim Quarter of Xi'an is the cultural hub to 20,000 Muslims who live within several blocks of the bustling main street. We ended our tour atop the sacred Taoist mountain, Hua Shan, with millions of red ribbon wishes blowing in the wind.

Many of the moments that make travel unforgettable are the unpredictable ones... Like the time we arrived at our hotel in a small town in the Nihewan Basin and were told that we couldn't stay there because we were westerners. Everyone took the news in good spirits and were up for an adventure! After some quick thinking, we found a beautiful, brand new hotel property (two duvets were added to each bed since the heaters weren't working yet), and we celebrated fellow traveler Lynn Schafraan's birthday with a delicious banquet.

Culture can be defined as "the set of shared attitudes, values, goals, and practices that characterizes a group." On our tour of Beijing, Xi'an, the Nihewan Basin, and the extension trip to Shanghai, our group created its own culture. The shared "attitude" was adventurous. The shared "value" was curiosity. The shared "goal" was to experience science up close. The shared "practice" was to wake up early and enjoy the epic hotel buffets.

Something magical happens when a group travels together for two weeks. Strangers become lifelong friends. Food, photos and stories are shared, and memories are made to be passed down through future generations. At our farewell dinner, we led a joyful group singalong, which I think should be a new cultural tradition for The Leakey Foundation's tours.

A Tour of China's Prehistoric Past

CAROL BRODERICK
LEAKEY FOUNDATION FELLOW



Carol Broderick and Dr. Wang Shejiang.



Dr. Zhang Shuangquan shows the group around Zhoukoudian, where “Peking Man” was discovered.

In October 2018, I joined The Leakey Foundation’s Fellows Tour and traveled to China to view some of the country’s most important prehistoric treasures.

Nihewan Basin, an area considered the “Olduvai Gorge” of China, was the first site we visited. Our guide was Dr. Li Feng, a prominent researcher at the Institute of Vertebrate Paleontology and Paleoanthropology (IVPP), and a colleague and former student of our tour’s lead scholar, Dr. Steven Kuhn. The Nihewan Basin contains more than 100 archaeological and paleontological sites dated to at least 1.6 million years old, as well as some of the oldest, undisputed evidence of hominin presence in East Asia. This is the largest concentration of sites one million years or older outside of Africa.

Over 2,000 stone tools have been discovered in the basin, and we were fortunate enough to walk in our ancestors’ footsteps to view a site called Shigou-B, which is 1.3 million years old and has mammalian fossils in situ. This was the first time many of us had seen a paleontological site where we could view Pleistocene fossils in the exact soil in which they were found.

For many of us, our visit to the next site, UNESCO’s Zhoukoudian National Archaeological Site Park and Museum, was the highlight of the trip. We were guided by Dr. Zhang Shuangquan, lead researcher at Zhoukoudian. There we saw the spot where “Peking Man” was originally discovered, and we viewed the casts of this world famous fossil. Unfortunately, the originals mysteriously disappeared during the Japanese invasion of China in World War II.

We climbed down into the original cave at Locality 1, where we saw the exact place where “Peking Man” was discovered. At upper localities, fossil bones of both archaic *Homo sapiens*, their stone tools and numerous animal skeletons complete the Zhoukoudian discoveries. The Zhoukoudian National Archeological Site Park and Museum was impressive and it shows how seriously the Chinese government takes its history – and the evolution of our species.

Perhaps not as well-known as “Peking Man” but just as important are the “Lantian Man” fossils found in Shaanxi Province near Xi’an. In 1963, a mandible was discovered and soon after, a partial skull was found at nearby Gongwangling. Currently classified as *Homo erectus lantianensis*, the mandible is between 500,000 and 650,000 years old; the Gongwangling cranium may be as old or possibly older than 1.6 million years, making it one of the oldest hominin fossils found in the world. Dr. Wang Shejiang joined our group at the Lantian Man-Ape Historic Site where we viewed the location of the original discovery. In the distance, Dr. Shejiang pointed out the site of Shangchen where stone tools dated to more than 2.1 million years old have recently made international news.

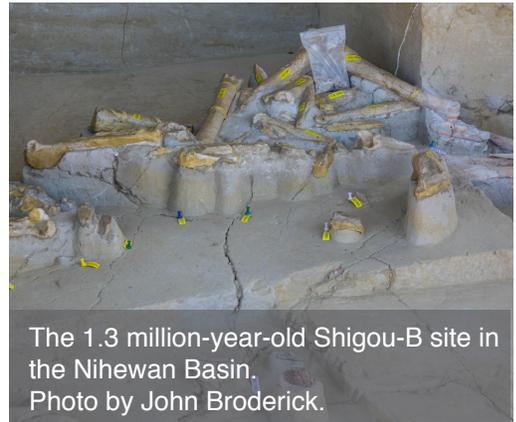
At Dr. Shejiang’s nearby lab, stone tools were spread out on tables, under glass cases, in cabinets lining the walls, and in cardboard boxes still covered in dirt and protective casings. We also encountered a pile of around 10,000 carefully labeled stone flakes, all meticulously recorded by Dr. Shejiang himself!



Dr. Wang Shejiang describing stone tools to Leakey Foundation travelers. Photo by John Broderick.



Original Lantian Man fossils. Photo by John Broderick.



The 1.3 million-year-old Shigou-B site in the Nihewan Basin. Photo by John Broderick.

Another highlight of the trip was viewing the original “Lantian Man” specimens at the IVPP in Beijing. This institution is considered a global leader in the study of dinosaur, bird, and mammalian evolution and paleoenvironmental research. It contains Asia’s largest collection of vertebrate and human fossils as well as laboratories for microscopy, CT scanning, radiometric dating and the study of ancient DNA. For those of us who are not scientists, the visit provided entry into an amazing new world.

At the IVPP we visited a room filled with the original fossils of Pleistocene hominins and other animals, trays of mammalian mandibles and teeth, and stone tools – so like the Acheulian stone tools found in East Africa - *Homo erectus* used in East Asia. Both here and in Dr. Wang Shejiang’s laboratory in Xi’an, we encountered beautifully crafted hand-axes, cores, and cleavers.

At both locations we were able to touch artifacts, many more magnificent than any of the stone tools we had seen in museums and textbooks - to feel their bifacial sharpness and the weight of the core artifacts in the palms of our hands. The knowledge that an ancestor fashioned these objects sometime between 200,000 and 400,000 years ago was as exciting as it was sobering. At the IVPP, Dr. Kuhn took us to a room to demonstrate how our ancestors made these stone implements, and how students make them today.

More recent than other anthropology sites we visited, the Banpo Neolithic Village Museum provided us with an interesting view of the agricultural life of the Yangshao culture in the Yellow River valley between 5,600 and 6,700 years ago. This matriarchal society, where “marriage” was a casual affair, was visible in some of its surviving artifacts: paper-thin hairpins, large burial jars for deceased babies, and well-constructed spinning wheels. The importance of fishing to the Banpo people was also seen in their village’s totem of a man with two fish in his mouth, prominent in many of their structures.

We were impressed by the enormous support the government of China has provided its scientists and their discoveries. The anthropological sites and museums, including the Shaanxi History Museum in Xi’an and the Paleozoological Museum in Beijing, were technically and artfully designed. Clearly, Chinese leaders understand the importance of China’s role in our evolution and are willing to spend considerable resources to show its people the importance of their heritage and to educate them about their country’s role in evolution. The sites we saw and the natural history museums we visited were beautiful, well thought out and built to honor and celebrate China’s part in the evolution of life – both its past and its future.

Read more and learn about becoming a Fellow at:
leakeyfoundation.org

In Memoriam: Dorothy Cheney (1950-2018)

BY: JACINTA BEEHNER, THORE BERGMAN,
JULIA FISHER, AND JOAN SILK



Dorothy L. Cheney died on November 9, 2018, at the age of 68. Dorothy was an eminent primatologist who was best known for her research on vocal communication in nonhuman primates. Her research, much of it conducted with her husband, Robert M. Seyfarth, transformed our knowledge of how primates understand their world.

Dorothy and Robert broke new ground by introducing experimental methods to field primatology in their long-term study of vervet monkeys in Amboseli National Park, Kenya. Tom Struhsaker had noted that vervets produce distinctive alarm calls for different predators (such as snakes, eagles, and leopards) and respond differently to each. They behaved as if they were aware that one call means a leopard is near and another that a snake is present. To test this idea, Dorothy and Robert tape-recorded the alarm calls that vervets made when they saw these predators and then played them back to the monkeys when no predator was actually present. When monkeys heard the (recorded) eagle alarm, they raced into the bushes, and when they heard the snake alarm, they stood up and searched for the snake --- just as they did when they encountered real predators. These experiments demonstrated that monkeys could extract meaning from arbitrary sounds and had an important impact on the study of language origins.

Robert and Dorothy's standard modus operandi combined detailed observations of behavior with carefully-designed experiments designed to probe the function of calls and the extent of the animals' knowledge. For example, in the early days of their research on chacma baboons in the Moremi Reserve of the Okavango Delta of Botswana, Dorothy noticed that female baboons sometimes gave soft grunts as they approached others. And after a fight occurred, the aggressor sometimes approached her former opponent and grunted. Dorothy suspected that these grunts functioned as a form of reconciliation—a way to resolve conflicts. To test this hunch, Dorothy and Robert designed an observational protocol in which they monitored the behavior of baboons after a conflict had occurred.

This enabled them to determine how often baboons grunted after conflicts, and to evaluate the effects of grunts on subsequent interactions. They found that grunts after conflicts facilitated friendly interactions and inhibited further aggression. In addition, Dorothy and Robert designed a playback experiment in which they simulated reconciliation by playing the aggressor's grunt to the former victim. They predicted that victims would be more likely to approach their former aggressors after they heard their former aggressor's grunt than if they heard a grunt from



Dorothy Cheney crossing the water in the Okavango Delta of Botswana. Photo courtesy of Robert Seyfarth.

another individual. And that is exactly what the baboons did. Taken together, the observational and experimental data demonstrated that grunts function as “signals of benign intent”, and are effective in facilitating friendly interactions and reconciling conflicts. Dorothy and Robert wrote two authoritative and accessible books which synthesized their own work and current knowledge about primate social cognition: *How Monkeys See the World: Inside the Mind of Another Species* (1990) and *Baboon Metaphysics: The Evolution of a Social Mind* (2007). Dorothy was also one of the co-editors of *Primate Societies* (1987), a book which served as the standard reference in primatology for three decades.

Dorothy earned many honors, including election to the American Academy of Arts and Sciences (1999), the National Academy of Sciences (2015), and receiving the Distinguished Primatologist Award from the American Society of Primatologists (2016) and the Distinguished Animal Behaviorist Award from the Animal Behavior Society (2016).

Dorothy was an outstanding mentor to her doctoral students and postdoctoral fellows. In addition, Dorothy was a valuable role model to field researchers trying to juggle demanding academic positions, fieldwork in remote locales, and personal priorities. She will be greatly missed.



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From the Archive: The Joan Travis Collection

DANDY DOHERTY

LEAKEY FOUNDATION VOLUNTEER

In January 2016, my family and I traveled to Rwanda to see the gorillas, and we found ourselves crouched on a misty hillside in the Virunga National Park, quietly watching a group. My most vivid memory of the experience is of a mother gorilla with her infant nestled at her side, who seemed to be staring back at me just as curiously. I couldn't help but notice how humanlike she looked.

That summer, we visited my grandfather's cousin, Joan Travis, at her home in Los Angeles. We told her about our adventure with the gorillas in Rwanda, and showed her a photo I took of that mother gorilla. She got very excited at this and brought us down to her garage with something in mind to show us. It was an old box labeled "Dian Fossey." Little did we know, Joan had been close friends with Dian from the late 1960s until Dian's death in 1985 and had saved all the letters and photos, and even the envelopes and stamps, from their correspondence over those years. While we looked through her treasures, she mentioned for the first time that she had worked for The Leakey Foundation, which is how she knew Dian.

Over the next few months, I often thought back to that day in Joan's garage. I wanted to know more about her work with the Foundation, so I looked it up. The first thing I saw was a picture of Joan with Dian, Jane Goodall and Biruté Galdikas, and I learned that she had been a founding member! My mom then contacted the Foundation to find out more about Joan and to ask if they had any interest in helping us to preserve what we had discovered in her garage. In fact, Sharal Camisa, the Foundation's Executive Director, had been trying to get Joan's archive digitized for a decade.

Within three months of that call, in August 2017, my mom and I were back at Joan's home where we met Sharal with the mission of preparing Joan's archive for digitization. Initially, we thought we would spend two or three days sorting through items in nine of Joan's boxes, but she soon agreed to let us digitize all 19 of them, holding over 47,000 items. It took a full week of working late into the evenings,



Sharal Camisa (left) and Dandy Doherty (right) prepare the Joan Travis Archive for digitization.

taking each item out of its box, one at a time, and filing it according to its size and fragility. We worked in the garage with the door wide open to the street, and passing neighbors would come in and ask what we were doing. One said she had known Joan for 37 years but had never heard anything about her life's work with the Foundation. Clearly, my family and I weren't the only oblivious ones. Although this was confusing to me at first, I see this as a testament to Joan's character; she has always been an extremely humble person, more willing to listen to and ask about those around her than to talk about herself.

With the "Joan Travis Archive" now completely digitized, it is time to share Joan's story. The documents, letters and photos she saved narrate the development of the Foundation from its conception to present, and they give us a uniquely personal insight into the personalities behind the big names we know so well. The stories will be told through the new series on the Foundation's blog, "From the Archive."

Young Professionals Group

A New Generation of Supporters



Founding members of the YPG: (clockwise from left: Natalie Dana, Hannah Wood, Ria Boner, and Guy Chriqui,



Hannah Wood with Craig Stanford at the “Peace, Love, and Primates” holiday party.

How old were you when you became involved with The Leakey Foundation? Many of our long-time supporters first encountered the Foundation while in their 20s and 30s. Some were grantees, others attended public lectures, and others met us through invitations from our original founders.

Now there is a new generation of intellectually curious young people excited to support human origins research and educational outreach.

The Leakey Foundation’s Young Professionals Group (YPG) is a dynamic network of individuals who represent a variety of backgrounds and share an interest in the power and promise of science and a firm belief in the importance of the Foundation’s mission. YPG members enjoy exclusive opportunities to engage with the Foundation’s work through unique and rewarding social experiences. As the rising generation of Leakey Foundation supporters, members also participate in meaningful volunteer and fundraising initiatives.

On December 3, 2018, the YPG held their second event. Leakey Foundation trustee Jeanne Newman was the generous host to 24 young professionals and their special guest, primatologist Dr. Craig Stanford. The evening’s theme was “Peace, Love and Primates” and it

included Grgich Hills wine, cold Tusker beer from Kenya, appetizers, a raffle and a lively salon-style conversation between Hannah Wood and Dr. Stanford.

The YPG Founders made a fundraising request to the group, utilizing the podcast’s quadruple-match challenge. They raised \$3,000 from 16 guests, which then was matched to become \$12,000 of funding for our award-winning *Origin Stories* podcast.

Over 80 people have signed up to learn more and participate in the YPG.

If you are intrigued by scientific discovery, curious about what it means to be human, and interested in joining this social and philanthropic community, we hope you will reach out to learn more!

Want to join the YPG?
Learn more at:
leakeyfoundation.org/ypg



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