no. 25 Winter/Spring 2011

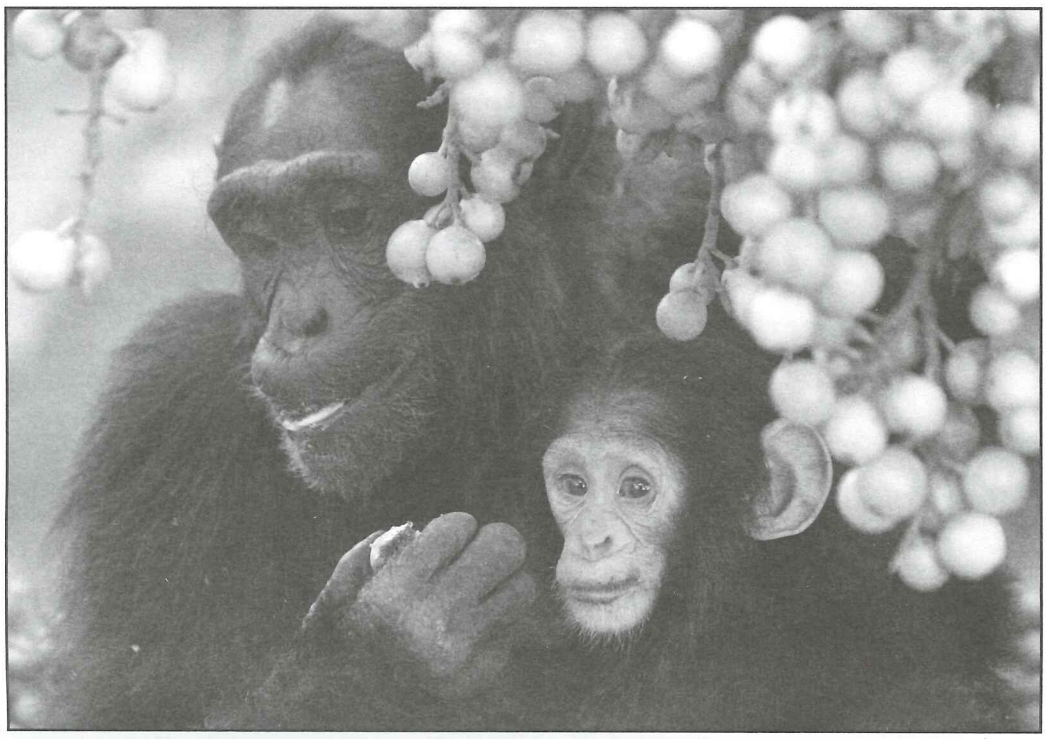
AnthroQuest

The Newsletter of The Leakey Foundation

Why Primatologists are Lucky

Field Research Often Leads to Conservation and Doubles the Value of a Primatologists' Work

by Dr. Richard Wrangham
Harvard University, Leakey Grantee



Adult female chimpanzee and her infant son feeding on the fruit of a fig tree, in Kibale National Park, Uganda. Photo © Alain Houle.

Tropical forests are being logged, hunted in or converted to agriculture at alarming speed. As a result many species of primates are dwindling faster than ever, and many primatologists find themselves becoming uncertain as to what to do. Those young enough to be designing their future careers often feel torn about whether to focus on scientific research or to commit themselves purely to conservation action. Being stuck with a difficult choice, a primatologist might be forgiven for feeling unfortunate. But I believe we are lucky, because the end experience shows that to a large extent we do not have to decide. The reason is that field research consistently leads to conservation.

Take Gombe for example. The modern traveller visiting the chimpanzees studied by Jane Goodall reaches Gombe National Park via a boat ride from Kigoma, the main Tanzanian port on Lake Tanganyika. A three hour journey affords ample time to enjoy the sight of ridges and valleys tumbling into the lake from the 2000-3000' high escarpment paralleling the shore. The views are dramatic but sadly stark. Only when the boat reaches the Park do denuded hill-sides give way, in a sharp transition, to emerald forest.

Not long ago the scene was very different. In 1943, when the Gombe Forest Reserve was first gazetted it was merely one section of a relatively continuous forest landscape. In that year trees lined so much of the shore that Captain Grant, a former District Officer of Kigoma, recalled sometimes seeing chimpanzees from Kigoma itself, on the north shore of the bay. In the 1960's Jane Goodall caught occasional glimpses of chimpanzees on the more open hillsides. In the 1970's, I remember seeing chimpanzee nests in the considerable woodland in the valleys outside Gombe. Now, by contrast, if you see a tree outside the Park the chances are that it is there thanks to a conservation program launched by Goodall. Jane Goodall went as a researcher, and she became a conservationist. The result has been survival of the Park.

The Gombe experience is typical of protected areas around the world that contain primates, not just in the loss of forest outside the Park but also in the way that research has led to conservation. In 1970, Tom Struhsaker started a purely scholarly program in Kibale Forest Reserve in Uganda, by documenting the behavior of red colobus monkeys in a small area adjacent to his hut. His success in studying there encouraged other scientists to come, and now there are at least seven major long-term research projects there, studying such topics as primates, butterflies, fish, phytochemistry, and the relations between animal and human health. Spin-offs for conservation abound.

Researchers were prominent in initiating and supporting a field station under Makerere University. There are at least three eco-tourism projects, one currently worth $50,000 per month in gate receipts. The Kasiisi Project supports 6,000 children in 9 schools around Kibale National Park. There are field courses, a fuel wood project, a clinic and many other results of foreigners and nationals working closely together for the benefit of the future. The result of all this activity is that the Park has been well protected from the numerous threats that have caused woodlands and forest patches outside the Park boundaries to disappear with their typical speed.

In 2007 Elizabeth Ross and I hosted a symposium where Kibale researchers and conservationists discussed their shared activities, because although primatologists often talk about the way in which research leads to conservation, little has been written about it. In addition to collecting an impressively

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The mission of The Leakey Foundation is to increase scientific knowledge, education, and public understanding of human origins, evolution, behavior, and survival.

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Dear Friends of The Leakey Foundation,

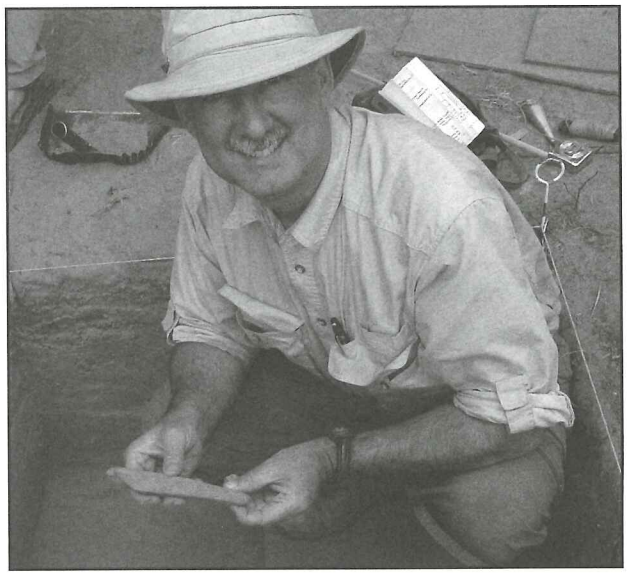
What if Charles Darwin had a publishing deadline of 12-months to research and write, *On The Origin of Species*? What if funding for the polio vaccination ended after ten years of 'Research and Development'?

In 1960, after securing the initial funding to send Jane Goodall to Tanzania to study wild chimpanzee behavior, Dr. Louis Leakey had no idea how long his protégé's study would last. Imagine Goodall leaving the jungles of Gombe Stream in Tanzania after completing just a few years of her pioneering field research.

After the first ten years, Goodall's field research was the longest wild primate research project ever conducted. As the Gombe study continued into the 1970's, events revealed more about chimpanzee nature. In 1974, warfare between the chimps broke out, which lasted for four years and eradicated a rival group. This type of violence had never been recorded in chimpanzees. In 1975, cannibalism by Passion and her daughter Pom was first observed; and in 1994, researchers observed male chimps leading females away from the group to establish short-term monogamous relationships.

As written by Roman philosopher Seneca, "Time discovers truth..." and true discovery can take time to materialize. Discovery is not on a publishing deadline, nor constrained by funding sources.

In 2010, the world had the opportunity to catch a provocative glimpse of our earliest human ancestors through major discoveries in long-term human origins research. As you will read in the this issue of *AnthroQuest*, The Leakey Foundation is still funding many of these projects. In June of 2010, Dr. John Mitani, along with his colleagues at the University of Michigan, provided the world a more detailed portrait of chimp behavior including, male chimpanzees "fall[ing] into unusual silence" as they patrol the area; the fatal attacks of 13 chimps; and the annexation of a neighbor's territory. This detailed story of our closest living cousins was only made possible by the researchers' dedication and



fifteen years of continued funding.

As you read through this issue of *AnthroQuest*, you will come to understand the benefits of long-term research, as outlined by leading scholar Dr. Richard Wrangham (Harvard). You'll also learn more about The Leakey Foundation's role as a leading investor in the seven most successful long-term great ape research projects in the wilds of Africa.

Long term field studies and the discoveries made by the likes of Goodall, Mitani, and Wrangham, provide us a moment to pause and ask the question, "What does it mean to be human?" We hope that you, our most dedicated supporting members who are the vanguard in this science, enjoy being part of the, sometimes lengthy, but worthwhile, journey of discovery.

With thanks and best wishes,

Don

Don Dana
President, Board of Trustees

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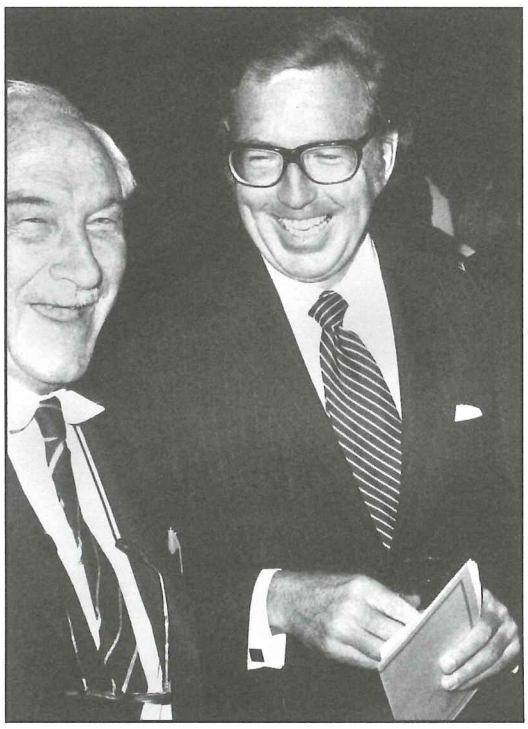
In Memory of Dr. Edwin S. Munger



Dr. Munger (right) with Dr. Louis Leakey.

"One of the joys of being a geographer is that the world is my oyster; world travel my most stimulating teacher."

- Ned Munger

The Leakey Foundation has suffered a tremendous loss with the June 16th passing of Dr. Edwin S. Munger. In 1970, Dr. Munger became President of The Leakey Foundation and served in this position for 14 years. In 1978, Munger launched The Leakey Foundation Baldwin Fellowships, which has helped over 70 African nationals obtain advanced degrees in archaeology, paleoanthropology and primatology. He remained passionate about the Baldwin award over the years, providing a recent contribution toward the program this spring.

In 1951, Edwin (Ned) Munger stood in front of Mt. Kilimanjaro as a Fulbright Fellow, conducting geographical research in Tanganyika. From that moment on, he would become a world-recognized authority on Africa, traveling to the continent 86 times, visiting all African countries. He once said, "One of the joys of being a geographer is that the world is my oyster; world travel my most stimulating teacher."

The first Fulbright Fellow to Africa, Dr. Munger was a Founder-Trustee of the African Studies Association and the United States-South African Leader Program; a board member of the Institute of Race Relations in South Africa; and a board member of the Pasadena NAACP. In 1985, he founded the Cape of Good Hope Foundation to help mostly black universities in Southern Africa, and subsequently sent more than three million dollars worth of books to help those institutions. Over time, he amassed a library of over 45,000 volumes on Sub-Saharan Africa, the largest private collection in the United States and a unique cultural resource.

Raised in Illinois, he earned his Bachelor's degree, Master's degree, and Doctorate degree from the University of Chicago. He became a professor of African History and Politics at the California Institute of Technology in 1960, and in 1988 he became Professor Emeritus of Geography. Dr. Munger authored twelve books including his autobiography, *Touched by Africa*. Other books include *Relational Patterns of Kampala, Uganda, and Bechuanaland: Pan-African Outpost or Bantu Homeland?* He also authored a novella titled *Rwanda: a fascinating story of man and gorilla in Africa's Mountains of the Moon*. In addition, he wrote a four-volume study of ethnic chess sets representing many of the 300 countries and islands he visited, *Culture, Chess and Art: A Collector's Odyssey across Seven Continents*.

In the 1990's Dr. Munger was elected to be a Life Trustee of The Leakey Foundation, in recognition of his immense contributions to the organization, the study of human origins, and the educational advancement of African nationals.

Dr. Edwin S. Munger lived a full life, with international friendships and a loving family. He will be remembered as an enthusiastic, original contributor to The Leakey Foundation, and an integral part of its legacy.

If you would like to make a donation to the Baldwin Fellowship program in tribute to Dr. Munger, the Foundation will award a Baldwin Fellowship in his name, during the next granting cycle, in Aprill 2011. The Grantee will be notified of this honor. §

Contributions may be mailed to:

Dr. Munger Tribute
c/o The Leakey Foundation
1003B O'Reilly Avenue
San Francisco, CA 94129

Dr. Munger (third from left), with (left to right) Clark Howell, Dian Fossey and Betty Howell.

The Leakey Foundation's Long-term Affair with Long-term Research

by Dr. John Mitani
University of Michigan, Leakey Grantee

The occasion of the Gombe Stream Reserve research site celebrating its 50th year of continuous study, brings to mind all of the hard earned findings derived from long-term field studies of primate behavior. I myself have spent the last 32 years of my life conducting fieldwork on the behavior of apes in Asia and Africa, with generous support provided throughout by The Leakey Foundation.

Dr. Mitani in Kibale, observing Masudi, the chimpanzee.

My interest in the behavior of primates began while I was an undergraduate at the University of California, Berkeley, many years ago – not quite back to the Pleistocene, but some time in the 1970's. There I took courses from Sherry Washburn and Clark Howell, names you might know and remember, given the important role they played on The Leakey Foundation's Scientific Executive Committee. In classes with Washburn and Howell, and in others with Glynn Isaac who co-directed the Koobi Fora project with Richard Leakey, I learned about the behavior of primates and the latest findings in paleoanthropology and Old World archaeology. I was hooked.

The seeds planted at Berkeley sprouted during my graduate studies at the University of California at Davis where, with a grant from The Leakey Foundation, I began fieldwork on the Asian apes (gibbons and orangutans.) I spent the next 12 years as a graduate student and postdoctoral researcher investigating the behavior of these two elusive species. Twenty years ago, I moved my research activities to the African continent with a systematic investigation of the vocal behavior of all three of the African apes (chimpanzees, bonobos, and gorillas.)

As I flit about Asia and Africa, I had become a jack-of-all-trades and master of no ape. With age – if not wisdom – I outgrew my attention deficit disorder with respect to them. In 1995, I initiated a field study of an extremely large community of chimpanzees at Ngogo in the Kibale National Park, Uganda, where I continue working to this day.

As this brief history indicates, I am in a unique position to comment on why it's important to study the apes. There are several reasons. Scientists are intrigued by these animals because they represent a diverse group of socially complex mammals with unusual life histories. As our closest living relatives, we study the apes to glean insights into the behavioral, anatomical, physiological, and genetic factors that make us uniquely human. And of particular relevance to The Leakey Foundation, we can use information about the apes to make inferences about the evolution of our human ancestors.

Charles Darwin, of course, was one of the first to recognize our close evolutionary relationship to the African apes, and that they held a key to understanding our evolution. Similarities between them and us are likely to reflect traits shared by our common ancestor, while differences point to those characteristics that must have changed during the course of human evolution. It was this logic that led Louis Leakey, 100 years after the publication of *On the Origin of Species*, to send Jane Goodall to the Gombe Stream Reserve to study the behavior of wild chimpanzees. Many others have followed in Jane's footsteps. And now 50 years later, our understanding of chimpanzees and the other great apes has been transformed radically.

The apes are unusually long-lived species, and as a consequence, they give up the secrets of their lives to us as human observers only very slowly. To fully understand them and their behavior thus requires long-term research. Such research frequently spans several years, and often takes unsuspected turns. An example from my own work will illustrate both of these points.

Earlier this year, my colleagues and I described a dramatic series of events involving the Ngogo chimpanzees. After waging a 10 year campaign, during which they killed 13 neighboring chimpanzees in an adjacent group, the Ngogo chimpanzees expanded their territory into the area once occupied by their victims. No one could have foreseen any of this at the start of our study 15 years ago. Acts of lethal intergroup aggression are rare and unpredictable events, and we have simply recorded these gruesome affairs as they've occurred. No one incident by itself tells the complete story. Only after years of continuous observation have we been able to piece the puzzle created by these isolated events together. And taken together, what emerges is a picture that appears – at first blush – to be all too reminiscent of our own behavior.

Comparisons with human warfare are inevitable, and what these observations tell us about human aggression and its evolution will continue to be debated. The point that I want to make here is that this and similar discussions are only possible because of the long-term data that have been collected on chimpanzees and the other great apes. As our closest living relatives, these animals furnish the critical observations required to reconstruct the course of human behavioral evolution.

Continued study will be possible and new insights will emerge only insofar as we are able to protect and conserve populations of apes in the wild. Suffice it to say here that I along with many of our colleagues remain committed to work hard – not only to further our understanding of these remarkable creatures – but also to ensure that viable populations continue to exist in the wild. Ongoing support from organizations like The Leakey Foundation will be required for us to achieve both of these goals. §

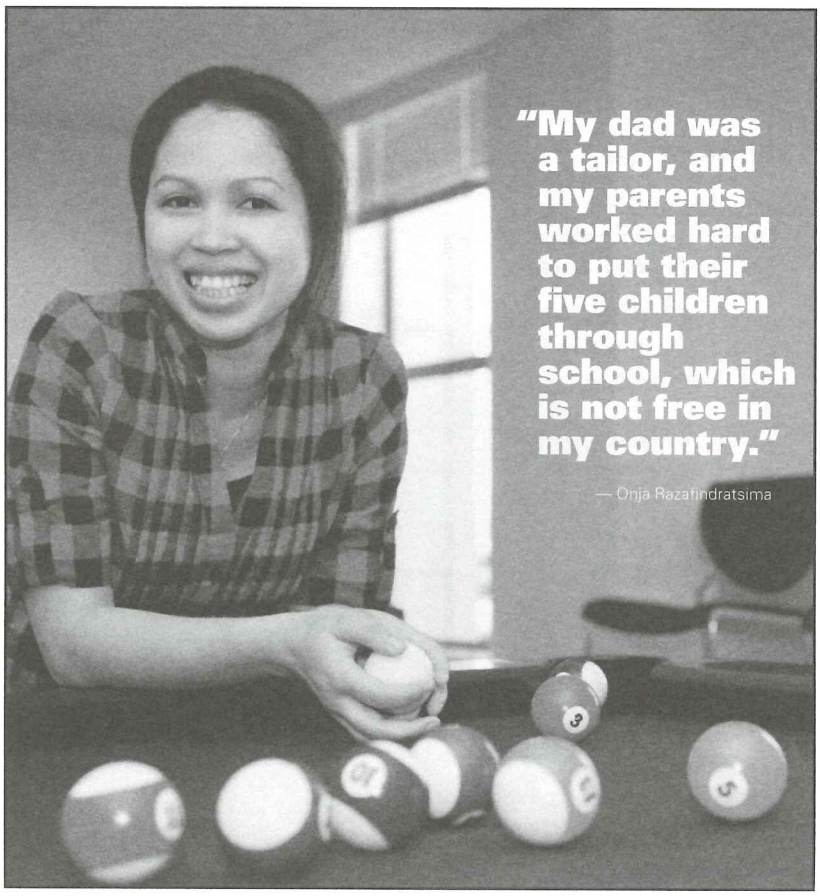
Grantee Spotlight: Onja Razafindratsima

Baldwin Fellow Hails from Madagascar, Earning Doctorate in Ecology and Evolutionary Biology

The first student from Madagascar to study at Rice University [in Houston, Texas], Onja Razafindratsima comes from a family that puts a premium on education. "My dad was a tailor," she said, "and my parents worked hard to put their five children through school, which is not free in my country."

After completing her undergraduate studies and diplôme d'études approfondies at the University of Antananarivo in Madagascar, Razafindratsima decided to pursue her graduate education at Rice due to the expertise of the university's faculty members. "Amy Dunham [assistant professor of ecology and evolutionary biology] conducts research in Madagascar, and I started to read some of her publications," she said. "I found that we share the same research interests, so I knew she would be a great adviser throughout my graduate studies."

For her dissertation, Razafindratsima plans to return to Madagascar to research the role of lemurs in forest regeneration and seed dispersal. She expects her experiences in Rice's Department of Ecology and Evolutionary Biology to train her well not only for her dissertational research, but also for a career in conservation biology, where she hopes to use her knowledge and experiences to help prevent the extinction of lemurs in Madagascar. "I would like to assist in the creation and management of protected areas and help establish new governmental policies for biodiversity protection in Madagascar," she said. "In addition, I hope to teach at the University of Antananarivo or at other local institutions so that I can share my knowledge with future researchers and enhance the scientific capacity of women in my home country."



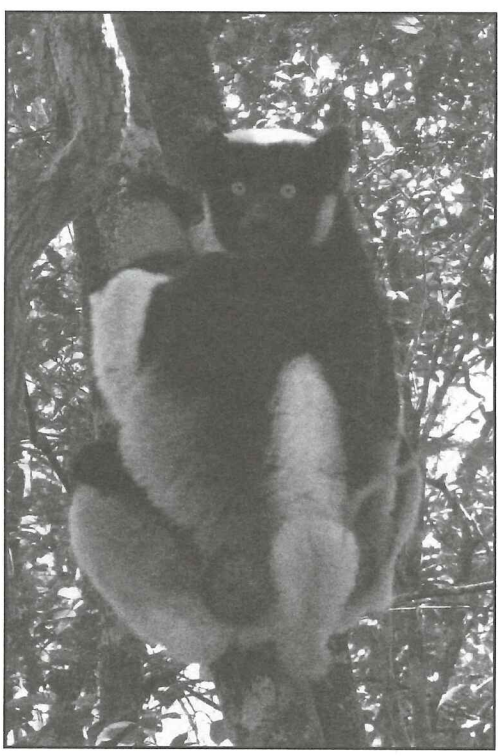
The above is reprinted courtesy of Rice Magazine #6, 2010.

Onja demonstrates her "primate pride" with a Leakey Foundation Primate T-shirt.

"As my home country is an island with very diverse, evolutionarily unique, endemic plants and animals that make it very special, I have the commitment to contribute in the preservation of that heritage for Madagascar's future generation.

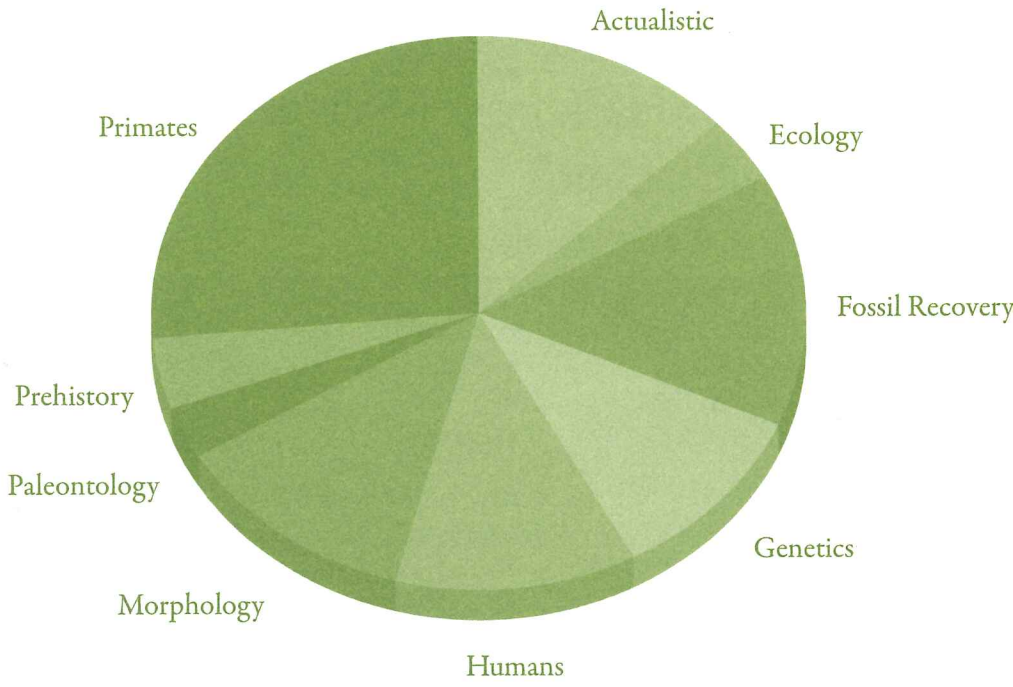
Also, as a native of Madagascar, I am especially conscious of and concerned about the threats that make the Malagasy primates endangered and hope, through [my] research, to increase understanding and awareness of the important role of lemurs in understanding our evolutionary history and for the maintenance of our natural resources."

- Onja Razafindratsima



A native species of Madagascar, Indri *(Indri indri)* is known by the Malagasy as Babakoto and is one of the largest living lemurs.

Grants Awarded Spring 2010



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Chalachew Seyoum
Arizona State University
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Desta Weldegeorgis
Mekelle University
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Behavioral

Andrea Baden
Stony Brook University
Mechanisms influencing fission-fusion sociality in a Malagasy strepsirrhine

Rachel Carmody
Harvard University
Effects of a cooked diet on gene expression: evolutionary implications

Shahrina Chowdhury
City University of New York
Sociality, Stress and Reproduction in Female Chacma Baboons

Melissa Emery Thompson
University of New Mexico
Stress and the costs of reproduction in wild female Chimpanzees

Cristina Gomes
Max Planck Institute for Evolutionary Anthropology
The dynamics of social exchanges in humans

Matthew Heintz
University of Chicago
Immediate and delayed benefits of play behavior in Chimpanzees

Kevin Langergraber
Max Planck Institute for Evolutionary Anthropology
Intergroup competition and the evolution of altruistic cooperation

Nancy Moinde-Fockler
Rutgers University
Effects of Land use practices on the baboon's socioecology, Kenya

David Pappano
University of Michigan
The reproductive trajectories of wild bachelor Geladas

Anne Russon
York University (Glendon College)
Ranging in East Bornean Orangutans

Brigitte Spillmann
Anthropological Institute and Museum
The function(s) of a long-distance signal: The orangutan long call

Paleoanthropology

Daniel Adler
University of Connecticut
Late Middle Paleolithic life-ways in the Hrazdan Gorge, Armenia

Stephen Chester
Yale University
Origin and early evolutionary history of Primates

Jamie Clark
Southern Methodist University
Exploring the relationship between environmental, technilogical and subsistence change in Sibudu

Todd Disotell
New York University
Next generation sequence analysis of a baboon hybrid zone

W. Henry Gilbert
California State University, East Bay
Kesem Kebena salvage project

Mae Goder-Goldberger
Institute of Archaeology, Hebrew University, Jerusalem
Tracking modern human dispersals from Africa through lithic technology variability

Emily Hammerl
State University of New York at Buffalo
Development of the mixed dentition in chimpanzees, macaques, humans

Jarod Hutson
University of Nevada-Reno
A survey of the bone accumulations at Ngamo Pan, Zimbabwe

Cassian Magori
Weill Bugando University College of Health Science
Recovery of additional hominin remains from Upper Laetolil Beds, Tanzania

Carolina Mallol
Universidad de La Laguna
Neanderthal fire technology

Agazi Negash
Addis Ababa University
The emergence of modern human behavior: An obsidian geochemical perspective

(Paleoanthropology Grants Awarded - Spring 2010 Continued)

Joseph Reti
Rutgers University
Differential lithic production behaviors among Oldowan hominins

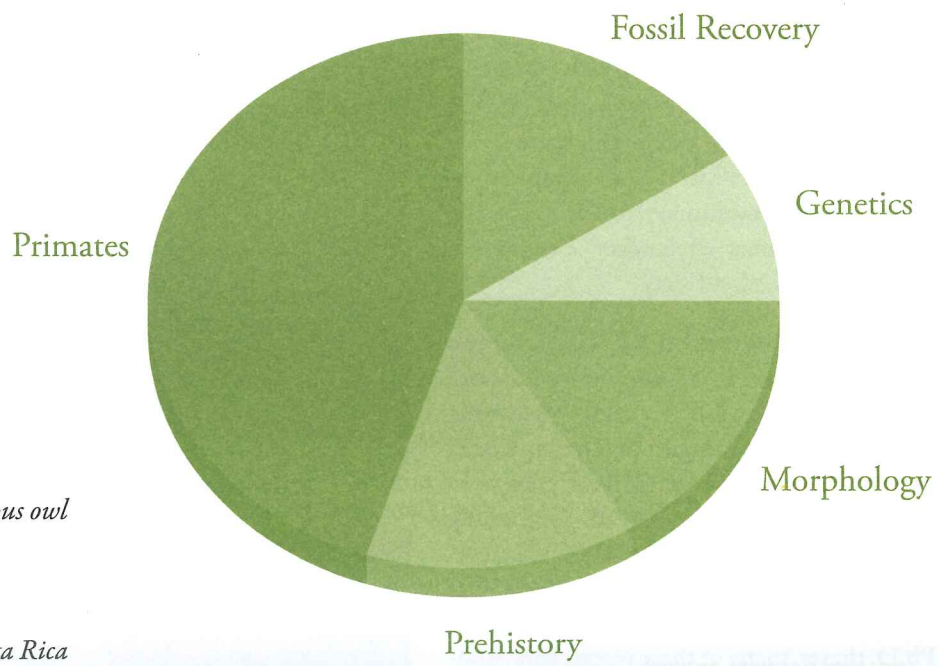
Alfred Rosenberger
Brooklyn College
Salvaging fossil primates from an underwater cave

Christian Tryon
New York University
Pleistocene paleoanthropology of Rusinga and Mfangano Islands, Kenya

Mina Weinstein-Evron
Zinman Institute of Archaeology
Misliya Cave, Israel: Middle Paleolithic settlement patterns and site structure

Angel Zeininger
University of Texas at Austin
Ontogeny of Bipedalism: Pedal Mechanics and Trabecular Bone Morphology

Grants Awarded Fall 2010



Behavioral

Paul Babb
University of Pennsylvania
Molecular evolution of AVPR1A and OXTR in monogamous owl monkeys

Fernando Campos
University of Calgary
Dynamics of population growth by Cebus capucinus in Costa Rica

Katharine Jack
Tulane University
MHCs, mate choice and dispersal decisions in wild Cebus capucinus

Cheryl Knott
Boston University
Sexual coercion and reproductive strategies in wild Bornean orangutans

Liza Moscovice
Binghamton University
A behavioral endocrine model of cooperation among wild female bonobos

Joseph Orkin
Washington University in St. Louis
Landscape genetics of gibbons and leaf monkeys in China

Gilbert Ramos
Indiana University
Positional behavior of Pan paniscus at Lui Kotale, D.R.C.

Stacy Rosenbaum
University of California-Los Angeles
Male-immature relationships in the mountain gorilla (Gorilla beringei)

Claire Sheller
Tulane University
Behavioral development of immature Cebus capucinus in Costa Rica

Paleoanthroplogy

Doug Boyer
Brooklyn College, City University of New York
Digital evolutionary morphology of the primate dentition

Maja Greminger
Anthropological Institute and Museum
Genomic adaptive evolution in orangutans (Pongo spp.)

Fred Grine
Stony Brook University
Longevity in the Later Stone Age of South Africa

Frederick Manthi
Department of Earth Sciences, National Museums of Kenya
The Pleistocene fossils of the Nariokotome Member, Nachukui Formation, Kenya

Marlijn Noback
Eberhard Karls Universität Tübingen
Climate- and diet-related variation in human functional cranial components

Michael Petraglia
University of Oxford
Hominin dispersals and Palaeolithic archaeology at the Jubbah paleolake, Saudi Arabia

Teresa Steele
University of California, Davis
Excavation of Varsche River 3, a new Middle Stone Age site in Namaqualand, South Africa

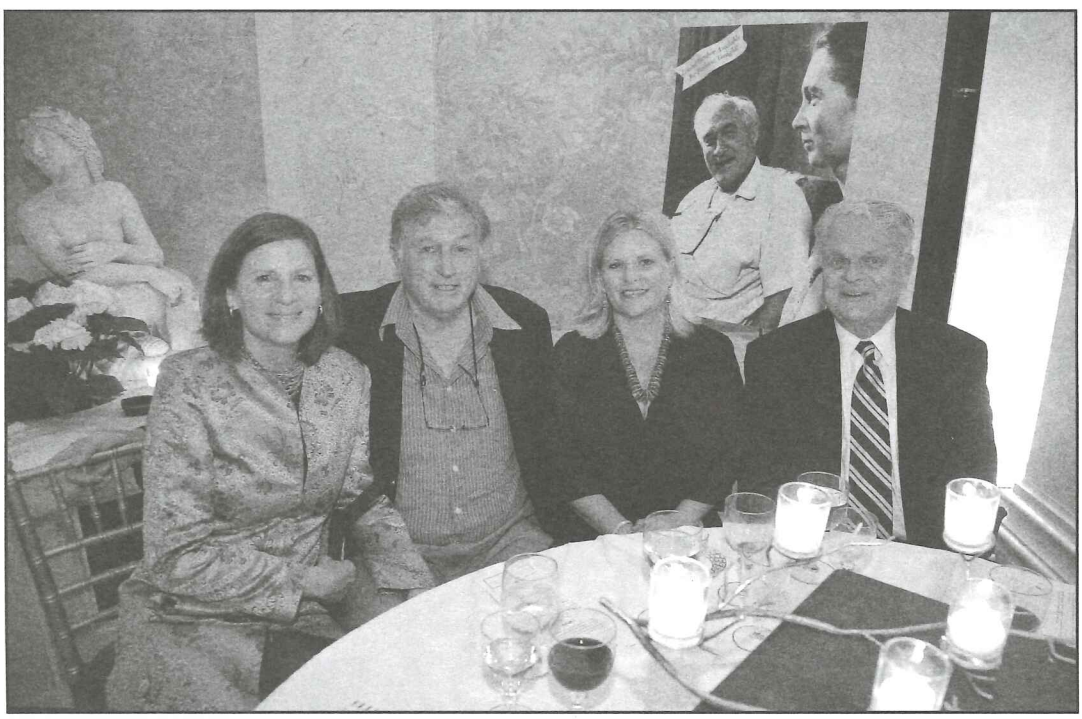
Lawrence Straus
University of New Mexico
Excavation of Magdalenian burial in El Miron Cave, Cantabria, Spain

Timothy Weaver
University of California at Davis
Cranial evolution: Neanderthals and modern humans compared to chimpanzees

Conservation in Science: Celebrating 50 Years at Gombe

by Sharal Camisa
Managing Director

As Dr. Jane Goodall has said, "There would be no 'Jane studying the chimpanzees', if it were not for Louis Leakey." On October 14, The Leakey Foundation Board of Trustees, Leakey Fellows and Scientists attended a celebration to honor the 50th anniversary of Dr. Louis Leakey sending a young Jane Goodall into the jungles of Tanzania to observe the behavior of the chimpanzees. It was Dr. Leakey who obtained the first funds for Goodall to visit Africa in 1960 through the generous support of one of his own benefactors Mr. Leighton Wilkie. The Foundation celebrated this extraordinary milestone at the San Francisco home of Leakey Foundation Chairman Mr. Gordon Getty.



(Left to right) Katy Leakey, Philip Leakey, Melissa Emery Thompson and Bill Richards, enjoy dinner at Mr. and Mrs. Getty's home.

The October 14 event titled "Conservation in Science: 50 Years at Gombe" offered special recognition to Goodall for her pioneering spirit and her early findings—that chimpanzees make and use tools, eat meat and engage in war- like activity—all of which profoundly altered our understanding of what it means to be human. Since 1960, Gombe researchers have produced more than 200 scientific papers, and 35 Ph.D. theses, many of these researchers funded by The Leakey Foundation.

The Leakey Foundation has long understood the value of investing in field sites, and so has been a prolific investor in the seven most successful long-term, great ape research projects in the wilds of Africa: Bossou in southeastern Guinea; Tai in Cote d'Ivoire; Gombe and Mahale in Tanzania; Virungas in Rwanda; and Budongo and Kibale in Uganda. Since 1960, Louis Leakey and The Leakey Foundation have funded 72 grants to these sites totaling over $800,000.

Many discoveries have been made at these sites and important questions answered by dedicated scientists whom have spent years in these remote areas. Absent this pioneering research, habitats many not have survived, and the flora and fauna may have been lost forever.

Many of the great names synonymous with these (and other) long-term primate studies and consequent conservation efforts, including Dian Fossey, Biruté Mary Galdikas, Toshisada Nishida, Anne Pusey, and Richard Wrangham, have received money from The Leakey Foundation to begin and/or continue their great-ape research projects over the last 40 years.

The guest speakers at the October 14 event, Dr. John Mitani and Dr. Melissa Emery Thompson, both Leakey Foundation Grantees, discussed the importance of funding these field sites for long periods of time. Both Mitani and Thompson discussed the idea that funding long-term research sites, additionally provide effective methods for the protection of the great apes and other animals, while creating an enlightened conservation strategy, as well as providing positive opportunities for the neighboring communities. These have all been added bonuses, to the original research objective: a better understanding of the behavior of our closest living non-human primate cousins, the great apes.

"As a young graduate student, I was told by major funding agencies that my work was too challenging... and had no guarantee of success.

I was also told that because I had not yet made a name for myself, I was probably not worth the gamble The Leakey Foundation was one o the few agencies willing to take tha gamble.

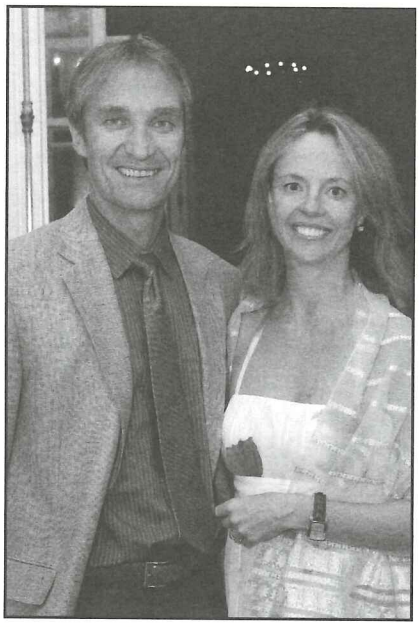
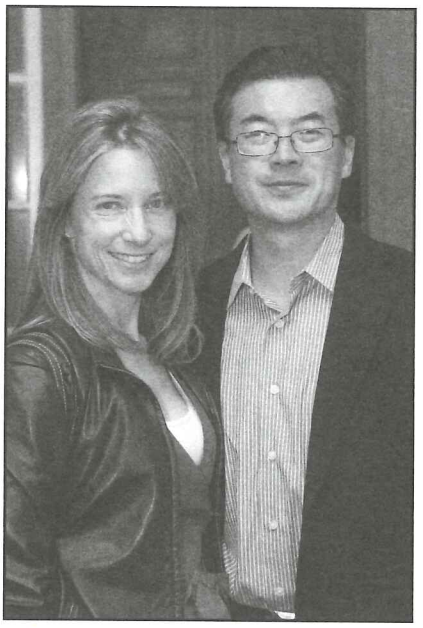
The Leakey Foundation uses its funds not only to reward those who have already discovered grea things, but as a form of venture capital to launch new careers and new areas of understanding."

- Melissa Emery Thompso

The evening was an excellent opportunity to celebrate 50 years of science and conservation. To honor each event attendee The Leakey Foundation has planted a grove of trees in one of the seven regions listed. This gift, made to our most dedicated supporters, is to symbolize the interrelatedness that by funding long-term research there are major conservation benefits. The Foundation offers its most sincere thanks to those individuals who help continue the legacy of Louis Leakey, and the tradition of funding long-term science and conservation projects.

[continued on page 9]

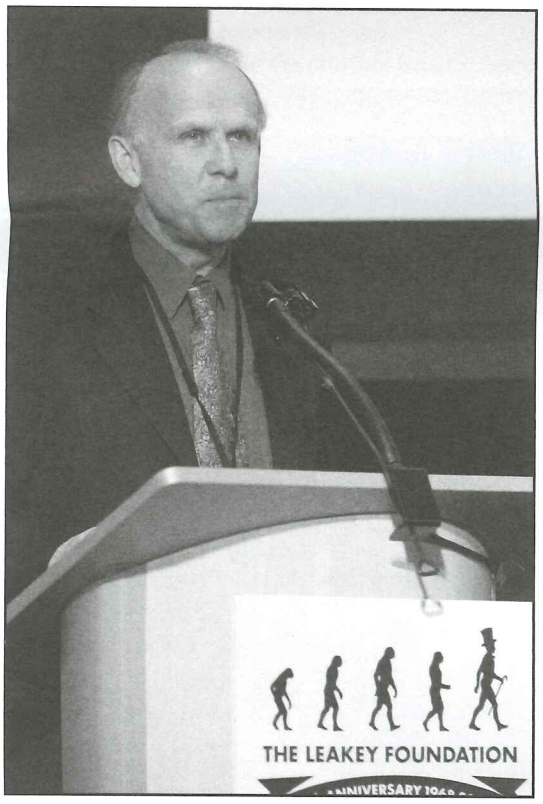
At the October 14 event, the Foundation raised $10,500 through the auction of signed black and white 8" x 10" images of Dr. Louis Leakey and his protégé Goodall. We thank Dr. Goodall for signing a limited number of these images to help us raise money for the organization. We have a small number of signed images still available for purchase. For additional details, please call us at (415) 561-4646 or send an email to info@leakeyfoundation.org.


The evening's guests included (left to right) Dr. Bruno Delagneau and Ms. Jennifer Mitchell, Drs. Kimberly and Joon Yun, Ms. Susan Toth and Managing Director of The Leakey Foundation Sharal Camisa.

Why Primatologists are Lucky

[continued from page 1]



One lucky primatologist: Richard Wrangham.

diverse set of accounts from Kibale, we asked researchers working at long-term study sites of chimpanzees and gorillas to share their experiences as well. In every case, efforts that had begun as pure research had evolved into a diverse program that included many applied projects (Wrangham and Ross 2009).

Of course "pure" conservationists have their own enormously valuable roles to play, but primate researchers bring their own special contributions. Because behavioral primatology is concerned with the demography of known individuals, it often leads to scientists forming an especially long-term commitment to a local area. Among the many helpful results of this deep engagement is the development of valuable and trusting relationships between international researchers and host-country nationals, which become a foundation for cooperation and planning. Researchers also acquire specialized knowledge about local context and recent history that helps in setting priorities and making projects work. Their presence brings family members and friends, who often get involved. Their daily work in the forest leads to early warnings of trouble, and their passion about the fauna and flora of the local area ensures that when problems arise, news reaches the relevant quarters. The publicity they give in their writings can lead to international attention. Such consequences combine into a consistent pattern. Almost wherever researchers have worked long-term, they have become intensely involved in promoting the conservation of the local habitat, and they have done so in ways that are specifically designed for the welfare of that particular place, whether it be focused more on eco-tourism, on law enforcement, on fostering host-country scientists, on stopping logging, on removing snares, or on promoting a greener way of life.

Although conservation activities work best if they are designed to respond to local problems, there is one kind of program that many scientists, including me, feel should be universal: Education. Startling population growth, rising economic expectations and an increasing sense of entitlement among the farmers surrounding protected areas mean that unless the next generation cares more than in the previous one, the outlook for biodiversity will be grim. Since knowledge breeds care, conservation education has become a matter of vital interest. Whether teaching the students themselves, teaching the teachers, translating books or movies, or engaging the young in other ways, those who get involved in conservation education are planting vital seeds. Unless those seeds germinate and flourish in the minds of the young, the future for the forest is bleak.

But if progress continues on these fronts we have every reason to be hopeful. We cannot know for sure what would have happened to Gombe or Kibale if scientists had not settled there, but over recent decades forests with long-term research projects have undoubtedly had a remarkable record of success. If I were starting a career of primate study now, I would try to find a fascinating primate in a forest where no one has yet worked. To judge from recent experience, the long-term survival of such a place would be enormously enhanced as a result. That is why primatologists – in some ways – are lucky. The path may be hard, but researchers studying primates can expect to double the value of their work. Research and conservation both matter enormously, and they feed on each other. §

References:

Wrangham, R. W. & Ross, E. A. 2008. *Science and Conservation in African Forests: the Benefits of Long-term Research.* Cambridge: Cambridge University Press

To purchase a copy of Wrangham's book *Science and Conservation in African Forests: the Benefits of Long-term Research* please visit our online store at www.leakeyfoundation.org/store.

Student Spotlight: Michael LaNasa

High School Student Visits NYU for Summer Learning

by Beth Lawrie
Communications Manager

The Molecular Primatology Lab at NYU, focuses on primate and human evolution, at all levels.

In accordance with our mission, The Leakey Foundation strives to make educational opportunities available to young scholars. Through our network of Grantees, we are able to make connections for students who might not usually have access to scientists. Once such Grantee is Todd Disotell. Each summer, Dr. Disotell hosts high school-aged students in his lab at New York University's Molecular Primatology Lab.

For four days in July, Michael LaNasa was one of the fortunate students who got a chance to work with Dr. Disotell. LaNasa, who is a Senior at Arch Bishop Rummel High School in New Orleans, lists Biology as his favorite course - which he attributes to a "general curiosity in the function of life." He is also an accomplished student athlete, and recently won a spot on the The Louisiana High School Athletic Association's (LHSAA) Academic All State Composite Swim Team, and was named an "A Plus Athlete" by local news station WWL-TV.

Part of Michael's visit to the NYU lab included a bioinformatics class, taught by Disotell. Bioinformatics is the application of statistics and computer science to the field of molecular biology. Michael first heard the term 'bioinformatics' during his time spent in the lab - he admitted he had never heard of it before, but quickly came to understand this relatively new field's many functions in what he called "data mining". Once returning home, Michael continued the course at home, online. He also wrote about his time spent at NYU, and how it has helped shaped his idea of his future. To learn more about our educational outreach efforts, please visit www.leakeyfoundation.org/education. §

My Summer Stint at NYU's Genetics Lab

by Michael LaNasa
High School Student

This summer, I was given the opportunity of a lifetime: working at the New York University Molecular Primatology Lab, one of the most prestigious genetics labs in the country. I worked alongside world-renowned scientist Dr. Todd Disotell—certainly not the typical summer for a high school senior.

Science has been my favorite subject since Kindergarten, when I first learned about the cycles of the weather. This curiosity was sparked by my parents, who are both doctors. I grew up listening to them talking about their latest cases, and asking them questions. When I was asked to spend the week learning about evolution and how a lab works, I jumped at the opportunity.

The internship consisted of four days in the NYU lab. During this time, I was immersed in the world of molecular anthropology and primatology. I learned more in a week about the study of evolution than I had throughout my whole high school education.

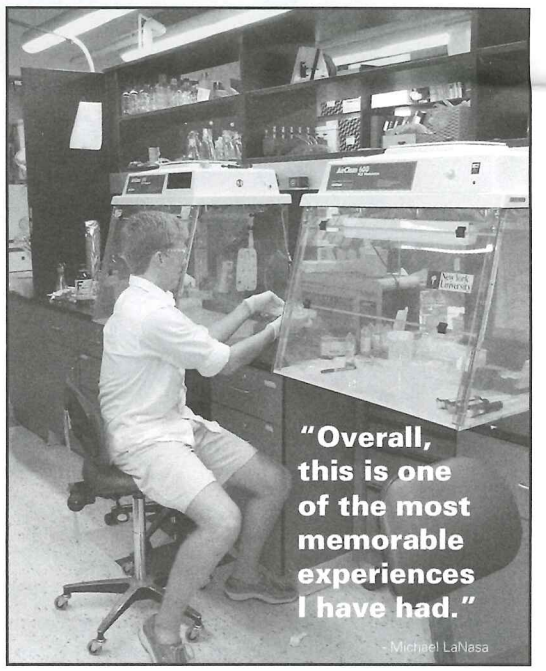
Dr. Disotell, the professor who runs the lab, walked me through a refresher of the basics of DNA and explained to me how their research contributes to our understanding of primates and human evolution. I then started on my project for the week: sequencing DNA from human saliva samples. I soon learned that this was no easy task.

Working along side Andy Burrell, one of the lab researchers, I learned and went through the processes of extracting the DNA, prepping the DNA for sequencing, and then finally running it through a sequencer and analyzing the data.

A typical day started at 8:30 a.m., when I would observe a graduate student for a couple hours, so that I could learn more about what I would be doing with my own project. I would then start the next step of my project when Andy arrived at the lab. Usually, I would break for lunch with the grad students, which was fun because I learned more about who they were and why they choose their field of study. No two were alike, which made working alongside them very interesting. After lunch, we all went back to work at the bench on our various projects. There was also the occasional game of darts — which most of the lab participated in — I am proud to say that despite my lack of experience, I did not place last.

Around 5:30 p.m., everyone either went home or, on some days, went to the pub down the street where, I'm told, the staff knows them by name.

This experience of working in the lab was not only educational, but it was fun! Most of my classmates do what they have too to get an A grade in science class, few are passionate about what they are learning. I imagine most students become disinterested because most high school science classes are lecture-based, with very limited to no hands on experimentation. So, when I got to the NYU lab, it was an environment I was totally unfamiliar with, and I loved it. The people working in the lab loved their work and were happy to answer any questions I had. They genuinely enjoyed teaching me about their work and I loved to listen and learn.



Overall, this is one of the most memorable experiences I have had. I "nerded out" for a week with really cool scientists, and I gained valuable skills by performing research in a true lab. This experience has really piqued my interest in laboratory research.

As of now, I plan on following my parents footsteps by becoming a doctor. I still haven't decided on college, but wherever I go, I definitely want to have the opportunity to continue working in a lab. §

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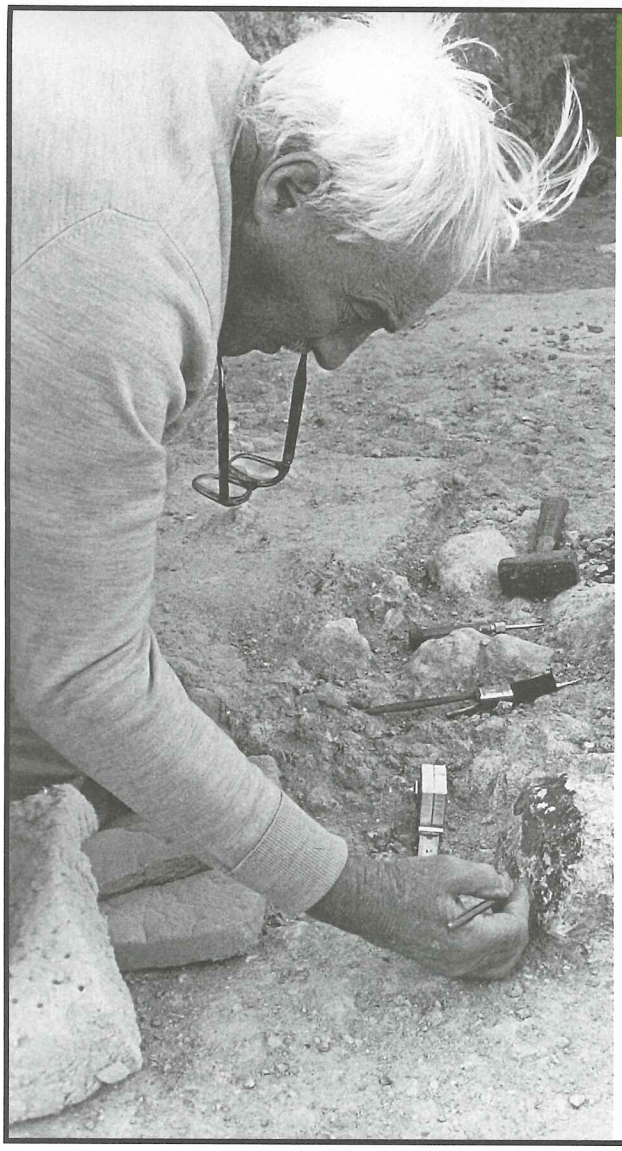

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Dr. David Lordkipanidze
First Out of Africa

April 9 @ 1:00 pm - Free with Museum Admission
The Field Museum / Chicago, IL
Information: 415.561.4646

Dr. Frans de Waal
Is Man a Wolf to Man? – Morality and the Social Behavior of our Fellow Primates

May 5 @ 7:00 pm - Free Admission
American Museum of Natural History / New York, NY
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