The Journey Of Mankind —- The Peopling Of The World

Who were our ancestors? From where did we originate? If we came out of Africa, what factors governed our routes? And when? Now finally this interactive map, created collaboratively with Professor Stephen Oppenheimer, based on his book ‘Out of Eden’ / ‘The Real Eve’, reveals an exciting journey of opportunity and survival, confirmed by genetic science and documented by ancient rock art, we look in depth at the Journey of Mankind and investigate how modern science has helped shed light on this monumental exodus. In conjunction with the Journey of Mankind Genetic Map, the Bradshaw Foundation now presents the first in a series of iLecture films which explore the most important migration made by mankind. Together with Professor Stephen Oppenheimer we look in depth at the Journey of Mankind and investigate how modern science has helped shed light on this monumental exodus. The Bradshaw Foundation, in association with Stephen Oppenheimer, presents a virtual global journey of modern man over the last 160,000 years. The map will show for the first time the interaction of migration and climate over this period. We are the descendants of a few small groups of tropical Africans who united in the face of adversity, not only to the point of survival but to the development of a sophisticated social interaction and culture expressed through many forms. Based on a synthesis of the mtDNA and Y chromosome evidence with archaeology, climatology and fossil study, Stephen Oppenheimer has tracked the routes and timing of migration, placing it in context with ancient rock art around the world.

http://www.bradshawfoundation.com/journey

http://www.bradshawfoundation.com

The Journey Of Mankind

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www.bradshawfoundation.com/journey

The Human Journey: Migration Routes

When humans first ventured out of Africa some 60,000 years ago, they left genetic footprints still visible today. By mapping the appearance and frequency of genetic markers in modern peoples, we create a picture of when and where ancient humans moved around the world. These great migrations eventually led the descendants of a small group of Africans to occupy even the farthest reaches of the Earth.

Our species is an African one: Africa is where we first evolved, and where we have spent the majority of our time on Earth. The earliest fossils of recognizably modern Homo sapiens appear in the fossil record at Omo Kibish in Ethiopia, around 200,000 years ago. Although earlier fossils may be found over the coming years, this is our best understanding of when and approximately where we originated.

According to the genetic and paleontological record, we only started to leave Africa between 60,000 and 70,000 years ago. What set this in motion is uncertain, but we think it has something to do with major climatic shifts that were happening around that time—a sudden cooling in the Earth’s climate driven by the onset of one of the worst parts of the last Ice Age. This cold snap would have made life difficult for our African ancestors, and the genetic evidence points to a sharp reduction in population size around this time. In fact, the human population likely dropped to fewer than 10,000. We were holding on by a thread.

Once the climate started to improve, after 70,000 years ago, we came back from this near-extinction event. The population expanded, and some intrepid explorers ventured beyond...
50,000 years ago. The first great foray of our species beyond Africa had led us all the way across the globe.

Slightly later, a little after 50,000 years ago, a second group appears to have set out on an inland trek, leaving behind the certainties of life in the tropics to head out into the Middle East and southern Central Asia. From these base camps, they were poised to colonize the northern latitudes of Asia, Europe, and beyond.

Around 20,000 years ago a small group of these Asian hunters headed into the face of the storm, entering the East Asian Arctic during the Last Glacial Maximum. At this time the great ice sheets covering the far north had literally sucked up much of the Earth’s moisture in their vast expanses of white wasteland, dropping sea levels by more than 300 feet. This exposed a land bridge that connected the Old World to the New, joining Asia to the Americas. In crossing it, the hunters had made the final great leap of the human journey. By 15,000 years ago they had penetrated the land south of the ice, and within 1,000 years they had made it all the way to the tip of South America. Some may have even made the journey by sea.

The story doesn’t end there, of course. The rise of agriculture around 10,000 years ago—and the population explosion it created—has left a dramatic impact on the human gene pool. The rise of empires, the astounding oceangoing voyages of the Polynesians, even the extraordinary increase in global migration over the past 500 years could all leave traces in our DNA. There are many human journey questions waiting to be asked and answered.

What stories are waiting to be told in your own DNA?

(Terjemahan bebas)

The Human Journey : Rute Migrasi
Ketika manusia pertama kali memberanikan diri keluar dari Afrika sekitar 60.000 tahun yang lalu, mereka meninggalkan jejak kaki genetik masih terlihat hari ini. Dengan memetakan penampilan dan frekuensi penanda genetik dalam masyarakat modern, kita menciptakan gambaran kapan dan di mana manusia purba bergerak di seluruh dunia. Ini migrasi besar akhirnya menyebabkan keturunan sekelompok kecil orang Afrika untuk menduduki bahkan terjauh dari Bumi.


Menurut catatan genetik dan paleontologi, kami hanya mulai meninggalkan Afrika antara 60.000 dan 70.000 tahun yang lalu. Apa yang mengatur ini bergerak tidak pasti, tapi kami pikir itu ada hubungannya dengan perubahan iklim besar yang terjadi di sekitar waktu - pendinginan mendadak dalam iklim bumi didorong oleh terjadinya salah satu bagian terburuk dari Zaman Es terakhir. Cuaca dingin ini akan membuat hidup sulit bagi nenek moyang Afrika kita, dan bukti genetik menunjukkan penurunan tajam dalam ukuran populasi sekitar waktu ini. Bahkan, populasi manusia cenderung turun menjadi kurang dari 10.000. Kami berpegangan pada seutas benang.


Sedikit kemudian, sedikit setelah 50.000 tahun yang lalu, kelompok keduanya tampaknya telah

Cerita apa yang menunggu untuk diberitahu dalam DNA Anda sendiri?

**Recommended Links**

Recommended sites on the web and on disk

**www.becominghuman.org** is a site dedicated to human evolution from the perspective of paleoanthropology or the study of human origins. It contains:

- An interactive documentary on human evolution.
- The latest news on paleoanthropology and human evolution.
- Reviews of books on evolution.
- A learning center with in-depth lesson plans developed by leading science educators where we learn about chromosomes and the evolution of our bodies.
- An alphabetical index of words pertaining to the field of evolution and their definitions.
- A reference index of media pertaining to the field of evolution.
- A reference index of websites pertaining to the field of evolution.

**www.bradshawfoundation.com/journey** presents a virtual global journey of modern man over the last 160,000 years.
This site shows the migration and spread of mankind across the globe.
Graphically displays the interaction of migration and climate.
Clicking on key words on the map will bring up detailed information.
In addition you may also purchase a lecture film “Journey of Mankind” for four dollars. It is immediately viewable on your computer.

www.nationalgeographic.com/genographic/atlas.html presents a virtual global journey of modern man over 200,000 years.

- Each period chosen shows migration patterns on the map as well as an inset video with a detailed narrative.
- Map tools include labels, political and coastal boundaries, journey highlights, Y-chromosome migration routes and mitochondrial DNA migration routes.
- Link to explore genetic markers allowing the user to explore the main branches of the tree of early human migration.
- Link to journey highlights. See highlights of what early humans encountered as they migrated across the planet.

anthropology.si.edu/humanorigins/ is a site dedicated to the Smithsonian Institution's human origins program. Its main focus is paleoanthropology.

- Learn about 5 million years of early human evolution.
- Keep track of developments in the science of paleoanthropology.
- Find answers to commonly asked questions about paleoanthropology.
- Read a summary of human origins.
- Send questions to one of the institute’s researchers.
- Find links to paleoanthropology, evolution, education and related subjects.
www.evolutionresearchnews.org/ is a site that provides links to news in evolution research. News archives are searchable chronologically or by medium.

evolution.berkeley.edu/ is a site dedicated to the understanding of evolution. Areas explored are:

- “What is evolution and how does it work?”
- “How does evolution impact my life?”
- “What is the evidence for evolution?”
- “What is the history of evolutionary theory?”


- A site dedicated to Archeology and Cultural Sites.
- Maps, histories, myths, and site information for each site listed.
- Also includes links to archeology groups and specific sites.
*tolweb.org/tree/phylogeny.html* The Tree of Life

This is an effort of biologists from around the world. On more than 9000 World Wide Web pages, the project provides information about the diversity of organisms on Earth, their evolutionary history (*phylogeny*), and characteristics.

Each page contains information about a particular group of organisms. ToL pages are linked one to another hierarchically, in the form of the evolutionary tree of life. Starting with the *root of all Life on Earth* and moving out along diverging branches to individual species, the *structure of the ToL project* thus illustrates the genetic connections between all living things.

*www.anth.ucsb.edu/projects/human/* Human Evolution

The fossil evidence in 3-D by the Department of Anthropology, University of Santa Barbara

This gallery contains five modern primate crania, and five fossil crania. The crania can be rotated 360 degrees. Each cranium is accompanied by a short description of its relevance to human evolution, and a site map.

*www.pbs.org/wgbh/evolution/* PBS Evolution Website

A website put together by PBS as a complement to their series on evolution.

Features a multimedia library of videoclips and web activities pertaining to evolution.

There are sub-sections on: Darwin, Change, Extinction, Survival, Sex, Humans, Religion

**Video**

The following Video programs provide factual, theoretical and entertaining stories of our journey to populate the world:
BECOMING HUMAN – A PBS NOVA SERIES
NOVA’s groundbreaking investigation explores how new discoveries are transforming views of our earliest ancestors. Featuring interviews with renowned scientists, footage shot as fossils were unearthed, and stunning computer-generated animation, Becoming Human brings early hominids to life, examining how they lived and how we became the creative and adaptable modern humans of today. Available online here and for purchase here.

AFRICA – PLACE OF ORIGINS
An iLecture film from the Bradshaw Foundation

- Explore the rock art of Africa with Dr. Ben Smith, Director of the Rock Art Research Institute in South Africa.
- From the deserts of the Sahara, through the jungles of the Tropics, and up in to the mountains of the Drakensberg, join us as we travel the length and breadth of Africa.
- Features the desert paintings of the Tassili in north Africa, the ‘Schematic’ paintings of the Pygmy groups, the Sandawe and Hadza paintings, the San rock paintings and engravings of southern Africa, the Khoekhoen ‘finger-painting’ geometric art.

Available for download/purchase here.

JOURNEY TO 10,000 BC – History Channel Approx running time: 94 mins.
10,000 BC was a time of cataclysmic change on Earth. Extreme climactic fluctuations hurled the planet into a minor ice age; megafauna like the saber-toothed tiger and woolly mammoth were suddenly becoming extinct; and early humans began to inhabit North America. This DVD brings this unique and thrilling period to life, and investigates the geologic and climactic changes that scientists are just beginning to understand. Available for purchase here.
AMERICA’S STONE AGE EXPLORERS – Where did the first Americans come from?

NOVA Approximate running time: 60 minutes.
Who were the first Americans and where did they come from? The conventional view is that they arrived here around 13,500 years ago, but startling new archaeological discoveries suggest it may have been long before that. More information here. Available for purchase here.

ICE AGE COLUMBUS – Who Were the First Americans? Approx running time: 100 mins. Created in 2005  Discovery Channel

Rooted in the latest scientific discoveries, this entertaining docudrama explores the theory that Europeans came to America much earlier than previously thought. New archaeological data and the latest DNA research suggest that an ice bridge, formed during the last ice age, spanned the Atlantic. Follow the adventures of a Stone Age family as they travel from France and settle in America – about 17,000 years before Columbus was even born. Available for purchase here.

Journey Ever Told

Your Story. Our Story. The Human Story.

Since its launch in 2005, National Geographic’s Genographic Project has used advanced DNA analysis and worked with indigenous communities to help answer fundamental questions about where humans originated and how we came to populate the Earth. Now, cutting-edge technology is enabling us to shine a powerful new light on our collective past. By participating in the latest phase of this real-time scientific project, you can learn more about yourself than you ever thought possible. You will also help support the Genographic Legacy Fund, which works to conserve and revitalize indigenous cultures around the world.

About

The Genographic Project is an ambitious attempt to answer fundamental questions about where we originated and how we came to populate the Earth. Through your participation, you can play an active role in this historic endeavor.
The Genographic Project is a multiyear research initiative led by National Geographic Explorer-in-Residence Dr. Spencer Wells. Dr. Wells and a team of renowned international scientists are using cutting-edge genetic and computational technologies to analyze historical patterns in DNA from participants around the world to better understand our human genetic roots. The three components of the project are:

- To gather and analyze research data in collaboration with indigenous and traditional peoples around the world
- To invite the general public to join this real-time scientific project and to learn about their own deep ancestry by purchasing a Genographic Project Participation and DNA Ancestry Kit, Geno 2.0
- To use a portion of the proceeds from Geno 2.0 kit sales to further research and the Genographic Legacy Fund, which in turn supports community-led indigenous conservation and revitalization projects

The Genographic Project is anonymous, nonmedical, and nonprofit, and all results are placed in the public domain following scientific peer publication.

Introducing Geno 2.0—A Revolutionary Breakthrough

Building on the science from the first phase of the Genographic Project, we have developed a cutting-edge new test kit, called Geno 2.0, that enables members of the public to participate in the Genographic Project while learning fascinating insights about their own ancestry. The Geno 2.0 test examines a unique collection of nearly 150,000 DNA identifiers, called “markers,” that have been specifically selected to provide unprecedented ancestry-relevant information.

With a simple and painless cheek swab, you submit a sample of your DNA to our lab. We then run a comprehensive analysis to identify thousands of genetic markers on your mitochondrial DNA, which is passed down each generation from mother to child, to reveal your direct maternal deep ancestry. In the case of men, we will also examine markers on the Y chromosome, which is passed down from father to son, to reveal your direct paternal deep ancestry. In addition, for all participants, we analyze a collection of more than 130,000 other ancestry-informative markers from across your entire genome to reveal the regional affiliations of your ancestry, offering insights into your ancestors who are not on a direct maternal or paternal line.

Your Story

The results give you an unprecedented view of your lineage. You will discover the migration paths your ancient ancestors followed thousands of years ago, and learn the details of your ancestral makeup—your branches on the human family tree.

Included in the markers we will test for is a subset that scientists have recently determined to be from our hominin cousins, Neanderthals and the newly discovered Denisovans, who split from our lineage around 500,000 years ago. As modern humans were first migrating out of Africa more than 60,000 years ago, Neanderthals and Denisovans were still alive and well in Eurasia. It seems that our ancestors met, leaving a small genetic trace of these ancient
relatives in our DNA. With Geno 2.0, you will learn if you have any Neanderthal or Denisovan DNA in your genome.

Our Story

Your results are just the beginning. By regularly visiting the Genographic Project website at www.genographic.com, you can find out much more as Genographic scientists pull together connections, uncover new paths, and provide fresh insights into your ancestry.

You’ll find informative graphics, interactive features, video, and news stories, and learn about the broader historical context of your results.

If you choose to create a personal profile at www.genographic.com, you can share your story with Genographic Project participants, gain further insight into your lineages, and connect with others around the world who share your deep ancestry. Registering also enables you to receive email updates on the project, and ensures you can access your results if you happen to lose your anonymous participant ID at any time.

By contributing your story to the larger community, you’ll take part in a real-time research project and, in the process, may learn something new and fascinating about yourself. It’s like having a subscription to your very own genetic history—and to the history of all of us.

The Human Story

Working together, we are unveiling the story of the greatest journey ever told: how our ancestors migrated from their African homeland to populate the Earth tens of thousands of years ago.

Together we can chart a more complete map of the early stages of human history by carefully comparing the DNA from world populations that have been genetically, and geographically, stable for hundreds or thousands of years.

How many migrations out of Africa were there? What role did the Silk Road, with its caravans and bazaars, play in dispersing genetic lineages across Eurasia? What can our genes
These are just some of the important questions the Genographic Project is asking. And through your participation, you will play a valuable role in helping answer them.

Welcome to the expedition of a lifetime.

Photographs by: David Evans (girl, Tajikistan), Jacob Halaska (Machu Picchu), Jean Philippe Schweitzer (Shibuya district, Tokyo)

FAQ: About the Project

1. **When will I receive my results?**
2. I’ve had my DNA tested through other genetic testing sites like Ancestry.com and 23andMe. How do my Genographic Project results differ from theirs, and why?
3. **What is the Genographic Project?**
4. **What’s the difference between the Geno 2.0 test and the previous test?**
5. **Who is Dr. Spencer Wells and what are his credentials?**
6. **Is this a genealogy study?**
7. **How can I participate?**
8. **Has the Genographic Project received any outside review and approval?**
9. **Are any pharmaceutical or insurance companies involved in the Genographic Project?**
10. **Who is involved in this project?**
11. **Is the Genographic Project supported by government funding or linked to any government research?**
12. **Does National Geographic make a profit from the Genographic Project?**
13. **What is the Genographic Project's relationship with Family Tree DNA?**
14. **How does the Genographic Project differ from the Human Genome Diversity Project (HGDP) proposed in the early 1990s?**
15. **Is the Genographic Project going to publish its results in book form or on TV?**
16. **Are discounts available for teachers?**
17. **How do I contact the Genographic Project?**

Answers

1. **When will I receive my results?**

   We are grateful for the enthusiastic response to our new Geno 2.0 kit and are glad you have joined the journey. Due to the high number of participants, some results may take up to 10 weeks to process from the time they are received at our lab. Thank you for your patience—our sincere apologies for any delay you may experience.

2. **I’ve had my DNA tested through other genetic testing sites like Ancestry.com and 23andMe. How do my Genographic Project results differ from theirs, and why?**

   The Genographic Project is a research project of the National Geographic Society, which encompasses work carried out by our scientific team to elucidate new patterns of human migration, as well as public testing through the participation kits. Our testing focuses on deep ancestry from an anthropological perspective. It is not primarily a genealogy testing service, such as that offered by Ancestry.com, although you do have the option of seeing how you are related to other participants in the Our Story section.
ancestry, that is not their primary focus. The genetic technology we use for our testing is a custom-designed genotyping chip optimized for the study of ancestry, with far more Y-chromosome and mtDNA markers than are available with any other test. Our autosomal markers are similarly optimized for inferring ancestry, rather than medical testing, and we feel that it is the best technology available for this purpose.

3. What is the Genographic Project?

The Genographic Project uses advance DNA analysis to work with indigenous communities and the general public to help answer fundamental questions about where we originated and how we came to populate the Earth. The project is a not-for-profit, non-medical, multi-year, global initiative by National Geographic that uses genetics as a tool to address anthropological questions on a global scale. Launched in 2005, the first phase of the Genographic Project enlisted a consortium of 11 global regional scientific teams who, following regional institutional review scientific protocols, undertook sample collection and DNA analysis in their respective regions. More than 450,000 members of the public have taken part in the first phase of the project by purchasing a Genographic Project DNA Public Participation Kit to trace their own ancient ancestry. A portion of the proceeds from the sales of the Genographic Project Public Participation Kits returns to support the project research as well as the Genographic Legacy Fund, which offers grants for indigenous and traditional community-led language revitalization and cultural projects. Building on the science learned from the first phase of the project and using cutting-edge technology, the Genographic Project entered its second phase in 2012. The updated Geno 2.0 Public Participation Kit invites members of the public to take part in this second phase of the Genographic Project to learn unprecedented information about their ancestral makeup. Participants can choose to submit their data to the Genographic database while participating in this real-time research initiative.

4. What’s the difference between the Geno 2.0 test and the previous test?

The first-generation Genographic Project Participation Kit gave participants the choice to trace either their maternal or their paternal results but not both (only males can test their Y chromosome since women do not carry one). Results determined each person’s haplogroup, or ancient line of descent, at a relatively low level of genetic resolution. The Geno 2.0 test leverages what we learned from the first phase of the Genographic Project to give participants in Geno 2.0 a much richer and more clear picture across their genome of their genetic makeup and ancestry. The new test analyzes thousands of markers on both the Y chromosome and mtDNA, providing the richest levels of genetic and geographic resolution for these lineages.

Geno 2.0 will run a comprehensive analysis to identify more than 3,000 genetic markers on your mitochondrial DNA, which is passed down each generation from mother to child, to reveal your direct maternal deep ancestry. In the case of men, we will also examine more than 10,000 markers on the Y chromosome, which is passed down from father to son, to reveal your direct paternal deep ancestry. In addition, for all participants, we will analyze a collection of more than 130,000 other markers from across your entire genome to reveal the regional affiliations of your ancestry, offering insights into your ancestors who are not on a direct maternal or paternal line for both males and females.

Included in these markers is a subset that scientists have recently determined to be from our hominid cousins, Neanderthals and the newly discovered Denisovans, who split from our lineage around 500,000 years ago. As modern humans were first migrating out of Africa more than 60,000 years ago, Neanderthals and Denisovans were still alive and well in Eurasia. It seems that our ancestors met, leaving a small genetic trace of these ancient relatives in our DNA.
ancestry, helping to fill in the gaps between what you may know about your recent genealogy and your genetic results. This element was not available during the first phase of the Genographic Project.

Finally, in keeping with the Genographic Project’s commitment to openness and transparency, your genetic data is freely available for you to download and use in any way you like—for additional analyses, sharing, and so forth. Your data belongs to you.

You can view sample results in the Buy the Kit page.

5. Who is Dr. Spencer Wells and what are his credentials?

Spencer Wells is a leading population geneticist, a National Geographic explorer-in-residence, and director of the Genographic Project. He obtained a Bachelor of Science in Biology from the University of Texas at Austin in 1988, and a Ph.D. in Biology from Harvard University in 1994. He was a postdoctoral fellow at Stanford University between 1994 and 1998, where he trained with famed geneticist Luca Cavalli-Sforza, considered the “father of anthropological genetics.” It was there that Wells became committed to studying genetic diversity in indigenous populations and unraveling age-old mysteries about early human migration.

His field studies began in earnest in 1996 with his survey of Central Asia. In 1998 Wells and his colleagues expanded their study to include some 25,000 miles of Asia and the former Soviet republics. His landmark research findings led to advances in the understanding of the male Y chromosome and its ability to trace ancestral human migration. Wells then returned to academia at Oxford University where he served as director of the Population Genetics Research Group of the Wellcome Trust Centre for Human Genetics.

Since the Genographic Project began, Wells’s work has taken him to over three dozen countries, including Chad, Tajikistan, Morocco, Papua New Guinea, and French Polynesia. He recently published his second book, Deep Ancestry: Inside the Genographic Project.

6. Is this a genealogy study?

This is not a genealogical study, and your DNA trail may not lead to your present-day location. Rather, your results will reveal the anthropological story of your ancestors—where they lived and how they migrated around the world over tens of thousands of years. The autosomal results will reveal insights into recent admixture over the past 6 generations—for instance, if you have one parent of Asian descent and another from Western Europe, this mix will be reflected in your results.

7. How can I participate?

You can become part of this real-time scientific project, and learn details about your own ancestry, by purchasing a Geno 2.0 DNA testing kit online.

8. Has the Genographic Project received any outside review and approval?

Yes. The Genographic Project received full approval from the Social and Behavioral Sciences Institutional Review Board (IRB) at the University of Pennsylvania Office of Regulatory Affairs on April 12, 2005. The IRB operates in compliance with applicable laws, regulations, and ethical standards necessary for research involving human participants. Furthermore, the research protocols are reviewed by Institutional Review Boards in North Eurasia, sub-Saharan Africa, India, the Middle East, East Asia, South America, and Australia. Each research institution prepares, reviews, and submits the protocol, informed consent form, and any applicable revisions to their respective IRBs and to other pertinent organizations for approval.
phase of the project, any proposal that is submitted for a Genographic scientific grant will need to demonstrate relevant IRB and/or ethical committee oversight prior to funding.

9. Are any pharmaceutical or insurance companies involved in the Genographic Project?

No. Individuals own the rights to their own samples and can withdraw from the project at any time and ask for their data to be removed from the database. This right extends to communities where the consent has been communal in character. The generic, non-individualized research generated by the project is meant to be shared; the Genographic Project consortium will release the resulting genetic data (on an anonymous and aggregate basis) into the public domain to promote further research. The genetic data will not be treated as inventions and will not be patented.

10. Who is involved in this project?

Three main organizational groups oversee the Genographic Project:

**National Geographic Society**: A core team at National Geographic developed the concept of the Genographic Project with its Explorer-in-Residence and Project Director, Dr. Spencer Wells. The Society provides overall coordination for the project, including management of grant and field operations, sales and distribution of the Participation Kits, communications, education, and other related activities.

**Genographic Consortium**: In the first phase, internationally recognized experts in human population genetics and related disciplines, located at 11 research laboratories and universities, led regional efforts to obtain and analyze DNA samples from indigenous populations during the first generation of the Genographic Project. One additional scientist focused on DNA collected from ancient samples. The participating centers are located at: the University of Pennsylvania in Philadelphia (USA), Institut Pasteur (France), Universitat Pompeu Fabra (Spain), Russian Academy of Medical Sciences (Russia), La Trobe University (Australia), Fudan University (China), Madurai Kamaraj University (India), National Health Laboratory Service (South Africa), University of Auckland (New Zealand), Universidade Federal de Minas Gerais (Brazil), and the Australian Centre for Ancient DNA at the University of Adelaide (Australia). Members of the consortium continue to be involved with the project at various levels during the second phase.

**International Advisory Board**: An international advisory board, composed of leading global authorities in a number of related disciplines along with representatives of indigenous communities, ensures the adherence to strict global and regional sampling and research protocols, following the principles of free, prior, and informed consent. Members of the board also help define the community-led initiatives of the Legacy Fund.

11. Is the Genographic Project supported by government funding or linked to any government research?

No government funding has been sought for the Genographic Project by National Geographic. This is an international, decentralized effort to explore and understand our common past as a species.

12. Does National Geographic make a profit from the Genographic Project?

No. National Geographic is a nonprofit scientific and research organization. A portion of the net proceeds from sales of the Geno 2.0 kit will be used to fund additional Genographic research as well as indigenous cultural conservation and educational efforts.
13. What is the Genographic Project’s relationship with Family Tree DNA?

Family Tree DNA (FTDNA), a leading genetic testing company, partners with National Geographic on public participation testing for the project. Family Tree DNA also works with the Genographic Project to help address individual questions from public participants regarding participation and results. More information on Family Tree DNA can be found at [www.familytreedna.com](http://www.familytreedna.com).

14. How does the Genographic Project differ from the Human Genome Diversity Project (HGDP) proposed in the early 1990s?

The Genographic Project has been designed from inception to consider the limitations of other studies such as HGDP—especially in terms of objectives, approach, and methodology. The Genographic Project is studying the human journey—how we are all related and how we arrived at where we live today. There is no medical research of any kind in the Genographic Project. It is nonprofit, nongovernmental, nonpolitical, and noncommercial. No cell lines will be created. All the information belongs to the global community and is released into the public domain. The scientific consortium authors scientific papers based on their analysis, and the data associated with the research is made public. The Genographic Project is a nonprofit effort, and its noncommercial focus is fully supported by all its partners.

We have sought and continue to seek advice and counsel from leaders and members of indigenous and traditional communities about their voluntary participation in the project. It is an integral part of all outreach and the modus operandi of the project. The Genographic Project global community is a true collaboration between indigenous and traditional populations and individuals, scientists, educators, and communicators and connectors. Helping communicate community-led stories and promoting preservation of their languages and cultures is integral. In addition to answering questions of scientific interest to indigenous and traditional populations and the general public, we have established the Genographic Legacy Fund to provide some way of giving back something tangible to both participating and non-participating indigenous and traditional peoples in support of their aspirations to promote and protect their cultures. Also, the Genographic Project actively involves the public in this real-time effort, which underscores the broad appeal and universal story we are trying to tell.

Transparency is also a key attribute. We aim to be accessible and have people be able to understand our goals, methods, and results. When the HGDP was first discussed over 15 years ago, the “language” of DNA and genetic anthropology was foreign and closed to all but a few scientists. Discussion and third-party review was less open and frank. Today that language is more familiar to many of us, and many of the ethical, privacy, and communication issues are more clearly understood by the global community. Our methodologies and protocols are open for review and we continue to welcome further suggestions for improvement and best practices.

15. Is the Genographic Project going to publish its results in book form or on TV?

All results are and will be published into the public domain following scientific peer review and other relevant community permissions. At present, Spencer Wells has published two books that document past and more current research: [Journey of Man](http://example.com) and [Deep Ancestry](http://example.com). The results of the Genographic Project may be presented on television, radio, the Internet, newspapers, magazines, and other media including books.

16. Are discounts available for teachers?

Yes, the Geno 2.0 kit can be purchased by educators at a discount. Educators can apply online from the National Geographic Education website to receive the discount.
Once an educator has applied for the discount, he or she will receive an email from GenoThreads@ngs.org with information on how to order the discounted kits. Questions can be emailed to GenoThreads@ngs.org.

17. How do I contact the Genographic Project?

If you would like to place an order, you can order online or call 800-437-5521 to reach the National Geographic catalog. If you have questions about an order you have placed, please call 888-557-4450 to reach catalog customer service. If you have questions about your DNA analysis or your results, please email us at genographic@ngs.org. Email service allows our team to provide you with the most information. If you are unable to use email, you may call us at 713-868-1807. Please note that due to the nature of the project this phone number cannot be used to place orders or to receive updates about orders, billing, or shipments. If you have a question about the wider project, email the team at genographic@ngs.org.