



**Episode 44: Custodian of the Ancestors**

**Link to audio file:** <https://radiopublic.com/origin-stories-6VPVbG/s1!17aco>

**Host:**

This is *Origin Stories*, the Leakey Foundation podcast. I'm Meredith Johnson.

**Zeresenay Alemseged:**

[sounds of cameras clicking] And now, the famous Lucy - dating to about 3.2 two million years old. [more camera sounds]

**Host:**

What you're hearing is the sound of Leakey Foundation grantee Zeresenay Alemseged introducing President Barack Obama to our most famous fossil relative, Lucy.

**Zeresenay Alemseged:**

That connection that you can have with the earliest fossils is just mind boggling, mind blowing. So I will ask you to touch one of the bones. What you're doing is touching a human being that existed 3.2- 3.4 million years ago. Every single person here is connected to this ancestry...

**Host:**

Obama met Lucy and even touched one of her vertebra during his visit to Ethiopia in 2015.

**Zeresenay Alemseged:**

[inaudible 00:00:51].

**Barack Obama:**

That's amazing. But now the... So Lucy was on the chain to

.

**Zeresenay Alemseged:**

Yes.

**Barack Obama:**

She's one of the first erect hominids.

**Zeresenay Alemseged:**

Exactly.

**Host:**

I remember watching this online at the time and wondering how they pulled this visit off; the logistics involved. Because as a former event planner and a fossil-loving nerd, I think about that kind of thing.

How do you safely bring one of the world's greatest treasures, the irreplaceable 3.2 million year old fossil skeleton of Lucy, from her secure vault at the National Museum of Ethiopia, through the busy streets of Addis Ababa to the National Palace?

**Host:**

What if something horrible happened? Luckily for all of us, the operation went very smoothly and President Obama was moved by the experience. The next day, he shared his reflections on meeting Lucy in a speech to the delegates of the African Union.

**Barack Obama:**

Now, yesterday I had the privilege to view Lucy. You may know Lucy. She's our ancestor, more than 3 million years old. In this tree of humanity with all of our branches and diversity, we all go back to the same root. We're all one family. We're all one tribe. And yet so much of the suffering in our world stems from our failure to remember that, to not recognize ourselves in each other.

**Host:**

Our show is about that tree of humanity, the long and exciting shared history of our species and the others that came before us. Much of what we know about our human story is preserved in the bones of our fossil ancestors and relatives, like the famous *Australopithecus* known as Lucy.

**Host:**

In January of this year, what honestly seems like a lifetime ago, I traveled with the Leakey Foundation Fellows Tour to Ethiopia, a beautiful country with an incredibly rich history. A country with a hominin fossil record that stretches back millions of years. And

there, in Addis Ababa, at the National Museum of Ethiopia, I had the incredible privilege to see the original, actual Lucy.

**Host:**

It's a dream I never imagined would come true. Okay. It's January 8th, 2020, and we're standing outside the National Museum of Ethiopia where we are about to go see Lucy.

**Mulugeta Feseha:**

So welcome to Ethiopia, welcome to Addis, and welcome to our museum. Okay? So we're going to head to the fossils.

**Host:**

While I was there, I also met the person who arranged Lucy's safe transport to her meeting with President Obama, Yared Assefa. The curator of the museum's hominin fossil collection and the person responsible for preserving the heritage of all humanity.

**Host:**

Every fossil found in Ethiopia stays in Ethiopia. And if that fossil is part of our family tree, it's brought to the research wing of the National Museum, where it's put under Yared Assefa's care. The hominin collection is on the upper floor of the building. The high elevation in Addis made the climb surprisingly difficult. When we eventually made it up the stairs, we went through two steel gates and down a hallway to the fossil preparation lab, the first destination for any Ethiopian hominin fossil.

**Yared Assefa:**

Come in.

**Host:**

Our group was greeted by Yared Assefa in a sunny work room with padded tables and security bars on the windows. A whiteboard propped up against the wall described the step-by-step process that happens when a fossil is added to the collection.

**Yared Assefa:**

My name is Yared. I'm just in charge of this section, which is the hominid section where we find our distant and recent ancestors. So now we are in the first room of the hominid sections where we prepare fossils before doing research on them.

**Yared Assefa:**

If it needs to be washed, we wash it. If it doesn't need to be washed, if it's going to be prepared with air supported air scribes, we use just this tool. So this is an air scriber. It's air supported. [sounds of a machine blowing a stream of air]

**Yared Assefa:**

Using this, we can remove every foreign matter which covers the fossils, so we do like this. Then when we need to repair the broken pieces we use glues and glue it up. So once we finish just the preparations here in this section, the fossils will go to the next door, which is already dedicated for keeping fossils for the next generation and just to do research on them. So now let's go to the next door.

**Host:**

Yared led our group back down the hall and unlocked the door to the fossil vault room. We filed in and gathered around a handsome wooden conference table topped with a green leather pad, like you'd see on a fancy desk. The room is lined with large locked safes containing the fossil remains of our ancient ancestors and relatives.

**Yared Assefa:**

So this room and the next two more rooms are dedicated for researching and for fossil storing. So in each room, we have safes and we have also wooden cabinets. Yet at the same time...[sound trails off]

**Host:**

He described the collection for us. The entire hominin fossil record of Ethiopia. Our relatives and ancestors who once walked the earth and now reside in his care.

**Yared Assefa:**

So generally, from the fossil record, we understood that there are 22 species. So out of them, 14 of them are found here in Africa. And then out of 14, 13 of them are found here in Ethiopia. So that's why we always claim that Ethiopia is the cradle of humanity. Now I'm going to show you Lucy.

**Host:**

And then very carefully, tray by tray, he brought out the skeleton of Lucy arranged from head to toe, cradled in foam in four shallow wooden boxes. One tray contains the pieces of her skull and lower jaw. Next, the shoulders, arms, and finger bones. Then the tiny pieces of her ribs and vertebrae arranged just so. And then her pelvis and lower legs.

**Yared Assefa:**

This is Lucy. It's a 40% complete fossil complete skeleton, first discovered in 1974. But before they discovered Lucy, our knowledge of our ancestor was based on the few fragments of fossil remains. So almost all part of the body is represented by fragments.

**Yared Assefa:**

For example, we have the cranium vault. So from that, we can come up with how big her cranium was. But we have the upper arm. This one, the ulna, this one. And this one and this one. Again, we have the wrist here. And then the phalanx, the finger. Then we have most of the backbone. We have the rib again. Even we have the sacrum, the pelvis.

**Yared Assefa:**

This one is the most important part of your skeleton which can tell us more about her bipedality. Again, we have the tibia and the femur. So she was a biped, because the pelvis by itself is more similar to the modern human.

**Host:**

It was humbling and awe inspiring to be in the presence of Lucy. The *Australopithecus afarensis* woman who lived and died 3.2 million years ago in what is now called the Afar region of Ethiopia. Her name in Amharic is Dinknesh, which means you are marvelous. And she truly is.

**Host:**

When we finished our time with Lucy and the other fossils, the rest of our group went to see the museum. And I sat down with Yared Assefa to learn more about what it's like to be responsible for some of the rarest and most meaningful treasures in the world. Okay. Can we start by you telling me your name and what you do?

**Yared Assefa:**

My name is Yared Assefa. I'm Paleoanthropology Curator by the Authority for Research and Conservation Of Cultural Heritage in the National Museum of Ethiopia.

**Host:**

How long have you been doing this?

**Yared Assefa:**

Almost seven years, since 2013, acting as the custodian. And to some extent, just researching, a researcher on human evolution of the Ethiopian human ancestor remains.

**Host:**

Can you tell me what you do in your job? What is a day like for you?

**Yared Assefa:**

As a curator, I'm supposed to do everything which is associated with that of keeping fossils for the next generations. So we always do documentation of fossils using different softwares. And then we also do that, just the preparation, when fossils came from the field before taking its original place, it has to be prepared. It has to pass through different curatorial activities, like refitting, preservation, even cleaning, what we call air scribes.

**Yared Assefa:**

So once you do the preparation, the next step will be just organizing fossils according to taxonomy, and according to their chronologies, in order to make easy the study which is going to be done on fossils. Then the next step will be, we also have our own constant knowledge transfer for our public using the local network. So I also take part in those activities.

**Host:**

So teaching people about...?

**Yared Assefa:**

Teaching people, yeah. Giving ideas about fossils and even giving training for original heritage conservation experts. Because the fossil is already with them, so we have to enrich them with the appropriate knowledge. How to stay, and how to keep fossils without affecting its context.

**Host:**

Can you tell me a little bit about what you have here? What you keep?

**Yared Assefa:**

As paleoanthropology curator, I can tell you about human ancestors. But I know the history about the start of paleoanthropology in Ethiopia. The Emperor Haile-Selassie was invited for a visit by the Kenyan president. During that time, the president of Kenya was Jomo Kenyatta. So the Emperor Haile-Selassie got the privilege to see the human fossils discovered by the Leakey family.

**Yared Assefa:**

So one of the questions that Haile-Selassie raised to the Leakey family, I don't remember the name of the guy who gave them just the privilege of explaining what was displayed at that time. So they asked him if there is any possibility just to come to

Ethiopia and to do the same research. So the guy during that time, maybe you can fill this gap.

**Host:**

The guy Yared's talking about was actually Louis Leakey, who showed emperor Haile-Selassie the hominin fossils of Kenya during Haile-Selassie's visit to Nairobi in 1965. The Emperor invited Louis Leakey to come to Ethiopia to look for fossils, and Louis very much wanted to go, but he wasn't well enough.

**Host:**

His son, Richard Leakey, put together an international team from Kenya, Ethiopia, France, and the United States. The group included famed Kenyan fossil hunter Kamoya Kimeu, Leakey Foundation founder Allen O'Brien, (who was a businessman, not a scientist), geologist Frank Brown, and paleoanthropologist Clark Howell - both of whom would later serve as chairs of the Leakey Foundation Scientific Executive Committee. The group traveled to a region called the Omo, where they found the very first hominin fossils discovered in Ethiopia, the start of the museum's hominin collection. The fossils they found are known as Omo 1 and Omo 2. They belong to our species, *Homo sapiens*. These fossils have been dated to around 195,000 years old.

**Yared Assefa:**

This is the beginning of paleoanthropology research in southwestern Ethiopia, which is near to the Turkana Basin.

**Host:**

A few years later, the French geologist Maurice Taieb was traveling along the Rift Valley in Ethiopia and he saw many fossils on the surface in an area called Hadar. He wrote a letter to the young paleoanthropologist, Donald Johanson, asking if he'd be interested in coming to Hadar to look for fossils.

**Yared Assefa:**

So they developed a multidisciplinary research group. The Ethiopian government gave them the permits, and they went to Hadar in the early 1970s. And in their second field season, 1974, they discovered Lucy. So that's the second start of paleoanthropology in the Afar region.

**Yared Assefa:**

The first one is in the south Omo in the 1960s. So starting from 1960s up to now, we have almost 1,600 human ancestor fossils. If you put them in species, they cover almost 13 species in the time period from six million years up to present. At 6 million, *Ardipithecus kadaba*, at four and a half million, we have *Ardipithecus ramidus*. And from 3.8 to 4.2, we have *Australopithecus anamensis*

and the recently launched discovery by Yohannes Haile-Selassie, which is a cranium. It's also in that group. And then at 3.4, we have *Australopithecus deyiremeda*. At 3.3. we have the child of Lucy in quotation that's Selam.

**Yared Assefa:**

Then at 3.2, we have Lucy. Then at 2.5, we have the first toolmaker by the name Garhi. By the way, Garhi's an Afar word which means surprise. Because before the discovery of this cranium, just researchers know the technology, but still they don't know about the maker.

**Yared Assefa:**

So when they found the cranium, they were exciting because next to the tool they found the toolmaker. So now just the gap is filled. So in order to express their excitement of the discovery of that precious cranium, they took a word from the local language, Garhi, it's an Afar word s its species name.

**Yared Assefa:**

Then at 1 million, we have *Homo erectus*. It's the first guy who moved out of Africa. Then at 200, we have the Omo skulls. Then at 160,000 years, we have the father of modern humans, *Homo sapiens idaltu*. So all these fossils are here. So that's why we love to say that Ethiopia is the cradle of humanity.

**Host:**

So what is it like to care for something like that? I mean, there's no... It's not replaceable. It's unique. It's a treasure for everybody in the world - and for Ethiopia. What is it like to have the responsibility to care for that?

**Yared Assefa:**

Oh yeah. It's a great responsibility. It's a great... Actually the word great does not explain it because it's precious. It's not only just the heritage of Ethiopia. It's the heritage of the whole world so that if you are looking for yourself, this is the place where you're found.

**Yared Assefa:**

So if something bad happens. So that means for me, it's putting yourself in a place you can not get out again. So it's a great responsibility. That's one of my reasons why I want to pursue my PhD in this field of study. If the Ethiopian government gave me this responsibility, if the Ethiopian government gives me such a privilege to stay with and to keep these fossils for the next generations.



**Yared Assefa:**

So instead of just keeping keys an opening for researchers and doing some research. Why should I not do something which can be remembered by the coming generations? Because when you live on this planet, you are not living forever. So you live for a certain period of time. So as our fathers did, I have to do something which can be kept in this ground once I leave, so people can remember me just by listening - by what I already left behind. So it's a great responsibility. I don't have words to express it.

**Host:**

Were you in charge of the fossils when President Obama came to see Lucy?

**Yared Assefa:**

Yeah. Actually, when he came, their plan was to display Lucy in this room, but when the security guys came and they don't want to allow him to come to here. Why, I don't know, maybe it's related to the security.

**Yared Assefa:**

So the former director of the museum just wrote a letter to us to move the original fossils to the national palace. So with a very strong security, Lucy, Ardi, Selam, moved to the national palace and we displayed them there. He saw them there. He was impressed. Even he was, I don't see any cry on his cheek, but from his face and from his reactions, you understood that he was very excited.

**Host:**

That's great. So, it all went well.

**Yared Assefa:**

Yeah, it was well because everything was done in a planned and secure manner. Actually, we argued with the former director not to take original fossils to the National Palace. But he's my boss. If he wrote a letter and order me, there is no choice. You see? So the only thing which you need to do before moving the fossils is you have to sit down and plan.

**Yared Assefa:**

If something happens, how can you tackle it? You have to do everything before moving

**Host:**

Do you, do you have a favorite among the fossils that you take care of?

**Yared Assefa:**

Are you going to make me, or you put me in trouble with other fossils.

**Host:**

Oh yeah.

**Yared Assefa:**

Really?

**Host:**

You don't have to answer.

**Yared Assefa:**

All fossils are my favorites because every piece has its own significance for the field of paleoanthropology. So I'm not going to discriminate. All are my favorites.

**Host:**

Why is it important to have Ethiopian researchers do the work here?

**Host:**

Because that's a thing that the Leakey Foundation really cares about.

**Yared Assefa:**

So even I'm the one just asking this question, still the foreign researchers, researchers from Europe, researchers from America, they are very useful for us. Still, they open our eyes. If we give a place for the African students just to do something in this field of study. So we can see the origin of humanity from a different angle, you see?

**Yared Assefa:**

So from America, I think there is the same ways of understanding. Again in Europe, there is also a different one. So if you add again, African ideas, so finally what you have is, it's a perfect one from America and from Europe. And then from Africa. It's harmonious, you see it's harmonious.

**Yared Assefa:**

So still we have to have just a place to forward our ideas, our discoveries for the scientific society. Thanks to Dr. Zeray Alemseged, he has already brought a scientific forum to Eastern Africa by the East African Paleontology And Paleoanthropology Association. So that was a good privilege for African students.

**Yared Assefa:**

And instead of putting the forum in America, you have to bring the forum to Africa. So in 2017, it was held here in this compound, I presented my masters thesis. That's because of just the forum. I think the Leakey Foundation was one of the supporters of that forum.

**Yared Assefa:**

So we have to give an open door for African students to contribute something for the field of paleoanthropology, by the way, the paleoanthropology here in Ethiopia, if you ask somebody what's paleontology, they don't know. They don't have any ideas.

**Yared Assefa:**

If you ask them, what's medical science, what's engineering, they know. You see, in order to attract interested students in this field of study, we have to have more open doors.

**Host:**

How did you get interested in this?

**Yared Assefa:**

Okay. That's an interesting question. Well, when I did my first degree, I took two paleontology courses. When I take those two paleontology courses, I was asking myself because before that's I have an idea about paleoanthropology, but when I was in the university, I was asking myself, "So what does it mean? How can somebody answer questions related to humanity?"

**Yared Assefa:**

By the way, thanks to the instructor, because the way he presented was very unique. It's not like 'chalk and talk.' He was just involving students and it was a sort of interactive study. So because of that, it was something burning in my heart. So finally, after graduation, I got the opportunity to be a teacher in one private school, in high school, grade nine and 10, but still, I was not satisfied by teaching. So still some question was in my heart, but I couldn't understand it.

**Host:**

Yared said he was always on the lookout for an opportunity to work in the field of paleoanthropology. And one day he saw a listing for a job at the National Museum.

**Yared Assefa:**

So automatically I called the human resources director. And I asked her, I'm a biology graduate. I'm interested in this field of study. I've taken two modules when I was in university. So I asked her, "Can I come the next day to apply?" So she welcomed me and I applied and I passed the examination.

**Yared Assefa:**

There was an interview. And then there was an examination. I passed everything and I got this privilege. So when I entered this room almost for two days, I was not sleeping well because – imagine everything was far from me before I got the chance to join this one.

**Yared Assefa:**

But when I came to here, when I see the real fossils, oh, I was nervous. It was a great responsibility for me. So how can I do my job properly? How can I achieve my responsibility? So now at this time, I'm just familiar of everything. So I'm not nervous because I'm just working with my recent and distant ancestors.

**Host:**

If you could answer any one question about human evolution, do you know what you would answer?

**Yared Assefa:**

Yeah, it's very difficult actually, because there are many questions still waiting for the fossil evidence. So I want to fill in that gap. So I'm not going to tell you exactly, I want to target this gap because there are so many gaps. But still one of my prominent question is also, I just want to understand just the link between the [inaudible] and the genus Homo.

**Yared Assefa:**

If I fill in one gap and my colleague will fill another gap, maybe after a hundred years, something like that, just our whole lineage would be clearly understood. Again, the other thing which I want to say right now, as a paleoanthropology curator, that's here in Ethiopia. We have this facility, we have this building, thanks to the Ethiopian government, but still we don't have just the right equipment for the study of paleoanthropology.

**Yared Assefa:**

For example, we don't have CT scan. In most cases, researchers request the authority to export for the use of CT scan. If we have CT scan here in this lab, fossils will not be

exported abroad. When they export it, if something happens, we are going to lose it. Like the loss of fossils happened many years ago in China.

**Yared Assefa:**

You see, so that history should not be repeated here in Ethiopia, in Africa. We need to have just highly sophisticated, 3D scanners for the study of paleoanthropology. Even materials for sampling, for dental sampling. You see?

**Yared Assefa:**

So such big and minor equipments are very essential for the study of paleoanthropology. And for the sake of keeping fossils preserved for the next generations. So we should not be just blamed by the coming generation. If we keep safely every fossil for the next generations, the next generations will bless us. They will not blame us. So at the same time we need to have, as I told you before, we need to have more and more trained manpower. That's all.

**Host:**

Thank you so much.

**Yared Assefa:**

You're welcome.

**Yared Assefa:**

My English...

**Host:**

Oh, it's beautiful.

**Host:**

Thank you to Yared Assefa for sharing his work with us and his fossil collection. Thanks as well to Berhane Asfaw and Mulugeta Feseha, who hosted us at the museum and to the other curators and scientists who we met there. You'll be hearing from many of these scientists on future episodes of *Origin Stories*.

**Host:**

*Origin Stories* is a project of the Leakey Foundation, a nonprofit organization dedicated to funding human origins research and sharing discoveries. Funding provided by the Foundation has made many of the fossil hominin discoveries in Ethiopia possible.

In addition, our Baldwin Fellowship program has been building scientific capacity in Ethiopia and other countries since 1978. We also have a new program called the Francis H. Brown African Scholarship Fund that provides up to \$25,000 for students or early career researchers in botany and geology from Ethiopia, Eritrea, and Kenya. You can learn more@leakeyfoundation.org, that's L-E-A-K-E-Y foundation.org/grants.

**Host:**

All of these wonderful grants programs have been overseen with great skill and dedication by my amazing colleague, Paddy Moore. Paddy is retiring today after 15 years at The Leakey Foundation. She listens to the show, so I thought this was a good chance to share my wishes for a happy retirement. I'm going to miss you, Paddy.

**Host:**

You can support our grants program and this show by donating to The Leakey Foundation. We're looking for 20 people to become monthly donors. We're calling our monthly donors "Bedrock Donors" because of the solid support they provide. The first 20 Bedrock Donors will have their donations quadruple matched, thanks to Bill and Debby Richards and Ann and Gordon Getty. Visit [leakeyfoundation.org/bedrock](http://leakeyfoundation.org/bedrock) and become a Bedrock Donor today.

**Host:**

I also want to tell you about our exciting new online series, *Lunch Break Science*. *Lunch Break Science* brings you short talks and interviews with Leakey Foundation grantees hosted by my colleague, Ariel Johnson. Every Thursday through August 27th at 11:00 am Pacific. Streaming live on Facebook, YouTube, Twitter, and [leakeyfoundation.org/live](http://leakeyfoundation.org/live).

**Host:**

The most recent episode featured Ethiopian researcher, Hailay Reda. Next week's episode will be all about the evolution of the immune system, so don't miss it.

This episode was produced by me, Meredith Johnson. Our editor is Audrey Quinn. Theme music by Henry Nagle, additional music by Blue Dot Sessions and Lee Rooservere. We'll be back next month with a brand new episode. Thanks for listening.