



Origin Stories Episode 18: Empathy
August 25, 2016

Meredith Johnson

0:00:09.9

This is [Origin Stories](#), The Leakey Foundation podcast. I'm Meredith Johnson.

The [2016 Euro soccer games](#) ended just a few weeks ago, and in case you weren't following it Portugal beat France. There's this video from that game that went viral. In it, you see a guy who's crying because France just lost the finals and all of a sudden, a little boy comes up to him. The boy is wearing a shirt for the Portuguese team. It seems like they're strangers. The boy notices the man is upset and touches his wrist and then they shake hands. The boy pats the man on the back and then the man gives the boy this huge bear hug. It's like in an instant, this fan who was so upset is totally changed. He gives the boy a thumbs up and they walk away.

If you follow Frans de Waal on Facebook, you will know that he watches videos like this.

Frans de Waal

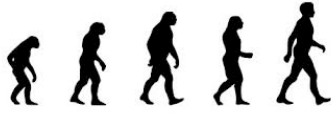
These things get extremely emotional. You see all these fans hurting each other.

Meredith Johnson

Frans de Waal is as a primatologist at Emory University. For him, the kind of behavior you see with the sports fans in this video, with the people hugging and consoling each other is actually a window into something else. It's a way of looking at empathy.

Frans de Waal

Empathy is that you're sensitive to the emotions of others. You sometimes match them, so if someone is afraid, you're going to be afraid. If someone is sad, you're going to be sad. Empathy by itself is not necessarily a positive characteristic; it's an ability to be affected by the emotions and the situation of somebody else.



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0:02:02.2 And humans. We're so easily affected by the emotions of others that we feel for the people in that video, even if we will never meet them and we don't care about soccer at all. Behaviors like empathy and cooperation are key features of humans. Our species' success has depended on traits like empathy and the ability to cooperate. Empathy is something scientists used to think was unique to us, but early on in his career Frans de Waal was doing research on chimpanzees and he noticed that sometimes after a fight the chimp who lost the fight would be comforted by other chimps.

Frans de Waal

Who then touch, or groom, or embrace and show calming behavior towards the other and I call that consolation behavior.

Meredith Johnson

As a young scientist, Frans de Waal didn't pay consolation behavior much mind at first.

Frans de Waal

For the longest time, I sort of ignored that. I didn't do much with those observations. I reported them, but that's about all.

Meredith Johnson

But then he went to a conference with some child psychologists who were studying empathy in children. They were talking about how kids as young as one or two, would stroke the face of someone who is upset. The psychologists called this behavior empathic concern.

Frans de Waal

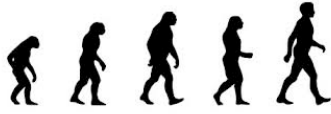
And I said well, if that's what you classify as empathy, then I see a lot of empathy, because basically what they were describing was consolation behavior.

Meredith Johnson

These days, thanks in part to Frans de Waal's research animal empathy is something that a lot of scientists are taking seriously.

Frans de Waal

But at the time, it was sort of revolutionary to call it empathy because people had never used that word for what animals do.



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Scientists have looked at empathy in all sorts of animals; monkeys, chimps, bonobos, elephants, birds, dogs, even rats. For de Waal, seeing empathy in so many animals, especially in our close cousins like chimps and bonobos, suggests that empathy has its roots deep in our own evolutionary history of humans and it turns out that humans may not be the only ones with a special ability for empathy. Producer Nancy Rosenbaum has the rest of our story.

Nancy Rosenbaum

That's right, we're not so special. A lot of mammals show empathy and in their own unique ways.

Frans de Waal

That chimps embrace and kiss and elephants, they cannot do that kind of thing, they stick a trunk into the mouth of somebody else, or they rumble. They have deep rumbling sounds that are reassuring to each other.

Nancy Rosenbaum

But there's one empathic animal in particular that Frans de Waal has spent a lot of time looking at; the bonobo. For a long time, scientists thought that chimps were our closest ancestral relatives, but it turned out that bonobos are just as close to us. We share ninety-nine percent of our DNA with them.

Frans de Waal

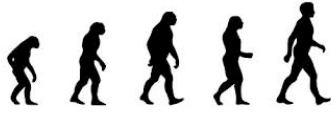
The bonobo is this sort of elegant version of the chimpanzee. You know, a chimpanzee has a very thick neck and very big shoulders and especially to males. They're really built like a bodybuilder and they're extremely strong animals and the bonobo is much more elegant.

Nancy Rosenbaum

Scientists study chimps in order to better understand human behavior and evolution, but the thing about chimps is they can be pretty violent.

Frans de Waal

So, many scientists they flock to the chimpanzee and the chimpanzee is very dominance oriented and very violent, at least between communities and that's why we have all these scenarios in anthropology about how our ancestors were violent and had lots of warfare and that's how we became so successful by eliminating groups like the Neanderthals and so on.



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0:05:37.4 Nancy Rosenbaum

Unlike chimps, bonobo societies are dominated by females, and they're basically hippies. In a study led by University of Minnesota primatologist Michael Wilson a few years ago, researchers observed a hundred and fifty-two cases of chimps killing each other in fights, but with the bonobos, there was only one suspected case.

Frans de Waal

Which gives you a little bit of an indication that the bonobos are far more peaceful species and I think for the anthropologist it is a wonderful occasion to see a different side of the human species also if you look at bonobos, because bonobos have a lot of peacemaking skills and empathy skills that have been neglected in scenarios of human evolution.

Nancy Rosenbaum

And those peacemaking skills? They give bonobos an emotional edge over other apes.

Frans de Waal

Bonobos are more sensitive, I think, to the emotions of others. This has been known for a long time since it's such a sexy species.

Nancy Rosenbaum

Did you say it's a sexy species?

Frans de Waal

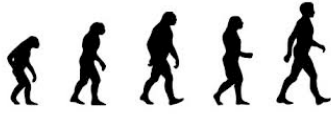
Yes, it's a species that instead of fighting with each other, they resolve conflicts with sex.

Nancy Rosenbaum

All of this makes bonobos a really good species for studying empathy. Tucked away in a tropical forest in central Africa there's a bonobo sanctuary. Frans de Waal and his research partners have been studying bonobos here for over a decade. Many of the bonobos who live here are orphans whose parents were killed by bush meat hunters.

Frans de Waal

It is perfect for observation conditions, but of course, the drawback is that these are traumatized orphans and we know from human studies that orphans who are not raised with a lot of love and affection, they don't develop a lot of empathy.



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0:07:11.7 Nancy Rosenbaum

Eventually, these orphan bonobos in the sanctuary grow up and they have their own children. De Waal has compared consolation behavior in the orphaned bonobos with bonobos who have been raised by their own moms.

Frans de Waal

When you look after an incident where let's say, one bonobo was attacked by another one and has lost, how long do they scream? And you have some bonobos who scream for two seconds and then it's over and you have others who scream for three minutes. Now, three minutes is a very long time to scream given how much voice they put into the screaming.

Nancy Rosenbaum

The reason de Waal looked at how long the bonobos screamed is because screaming is actually a clue into something else. Something important. Humans have it, too. De Waal calls it emotional regulation. A good example of this in humans is when a toddler falls down and scrapes their knee on the sidewalk. With some kids, they easily shake it off with a little hug or a kiss, but with other kids, they totally lose it and they can't stop crying.

Frans de Waal

And what we found in the study is that there was a very good correlation between consolation behavior. So how much do you console others who are in distress versus how good you are at regulating your own emotions, which is a connection that has been found in human children as well.

Nancy Rosenbaum

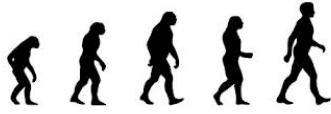
So do you mean that bonobos that were more likely to console were also better at regulating their own emotions when they were upset?

Frans de Waal

Yes, that's exactly what we found and the reason the disconnection exists is that let's say if I'm watching someone who's distressed, I will get distressed myself, but in order to then provide help I need to get over my own distress.

Nancy Rosenbaum

When it comes to humans, de Waal said that children who have a hard time getting over their distress have lower levels of empathy. He found something similar with the bonobos. The bonobos who were raised by their moms didn't scream as long when they were upset. They were



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0:09:23.1 better at emotional regulation than the orphan bonobos and the bonobos whose meltdowns were shorter, the ones who got over their bonobo boo-boos quickly? They were the ones who were also more likely to console another bonobo. But parenting wasn't the only thing that predicted consolation behavior in the bonobos. It turns age matters, too, but not in the older is wiser sense.

Frans de Waal

In the human literature, they say that we become more empathic with age. So that adults, for example, have more empathy than children. I've always doubted that.

Nancy Rosenbaum

The reason for de Waal's doubt on empathy is that the adult studies and empathy are usually based on self-reports, whereas the studies on kids, those are based on observation.

Frans de Waal

I'm a very big skeptic on self-report. I think people lie all the time and I am so happy I work with species that don't do self-reports very well, and so I'm very distrustful and what we found was exactly the opposite. We found that the young bonobos were more empathic than the adults and I think the adults, they become more selective. That doesn't mean that they don't have a lot of empathy, but they react to others in a more selective way than the young ones who get upset very quickly by things that happen around them.

Nancy Rosenbaum

When it comes to empathy, de Waal has seen differences across the sexes and not just with bonobos.

Frans de Waal

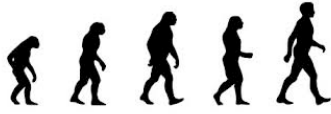
All the studies that I know on animals, on rats, and elephants and apes, the females show more empathy than the males.

Nancy Rosenbaum

But age and sex aside, the biggest predictor of empathy is something else entirely.

Frans de Waal

Well, the main factor, and this is found in all the studies on all the animals, is how close they are to the other individual.



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0:11:02.2 Nancy Rosenbaum

So whether we're a mouse or a human being, we're more likely to show empathy to someone we're familiar with.

Frans de Waal

And this, of course, has a flip side, is that we have trouble having empathy for individuals who are different from us or who more distant from us and so this is a universal also in human studies is that empathy is very biased.

Nancy Rosenbaum

When we say that someone is empathic, we usually mean it as a compliment, but as de Waal sees it, empathy isn't all sunshine and rainbows.

Frans de Waal

You can also use empathy to screw somebody. You can use empathy— if someone who sells you a car for a price that is too high, for example, is going to be very empathic towards you as long as the deals being made and then you drive off and then the empathy is gone, probably. So empathy can be used to manipulate others. Empathy is by itself not necessarily a positive characteristic. It's an ability.

Nancy Rosenbaum

Consolation is just one way that de Waal has investigated empathy in animals. He has also looked at another kind of behavior; something that might not seem like it has anything to do with empathy. (Yawning)

Frans de Waal

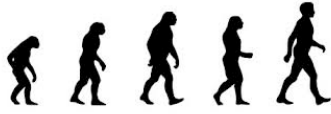
People yawn when other people yawn and we know that that's related to empathy and it is based on the same sort of motor mechanism and it also correlates. People who are very sensitive to the yawns of others, they are the ones who are very high on empathy.

Nancy Rosenbaum

When someone catches a yawn from someone else scientists call that yawn contagion. De Waal decided to test yawn contagion in chimpanzees. He did that by showing them videos of other yawning champs.

Frans de Waal

And if you show them videos of chimps that they know, you see that effect. If you show them videos of chimps that they have never seen before who are strangers, they don't show that affect.



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Nancy Rosenbaum

Similar studies have been done on humans and in those studies, researchers saw the same thing as what de Waal saw in the chimps.

Frans de Waal

If a person stands next to a stranger who yawns, they are unaffected usually. They stand next to their wife who yawns, they're going to be yawning themselves.

Nancy Rosenbaum

In all his years studying empathy in animals, there's one memory in particular that stands out for Frans de Waal. It was a male chimp named Amos who was living at the [Primate Research Center in Georgia](#) where de Waal works. Amos was really sick. De Waal separated Amos from the rest of the group, but he kept the door to his area half open.

Frans de Waal

So the other chimps, they could reach in and they could touch him, but they could not get in there and he could not get out of there.

Nancy Rosenbaum

Some of the other chimps started grooming Amos through the opening.

Frans de Waal

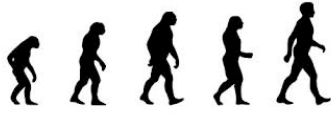
And he would be sitting there panting heavily, but that was also a female who would bring straw to him. So he had a nest and so she added straw to the nest and she even would put it behind his back a bit like what humans do in a hospital where they put pillows behind the patient in the hospital to make them more comfortable. This female was putting straw behind him to make him probably feel more comfortable.

Nancy Rosenbaum

De Waal says that over his many years of research he has seen chimps and bonobos go so far as to take the perspective of somebody else.

Frans de Waal

It is more than just a consolation response of common behavior aimed at the distressed party, but also some understanding of their situation and that shows a bit more of the complexity, very similar to human empathy.



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0:14:42.8 Nancy Rosenbaum

As humans, we can take our empathy for granted. Now, de Waal is looking to see if empathy can be observed in other kinds of creatures, like creatures of the cold-blooded variety.

Frans de Waal

The thing is that I usually assume that empathy is a mammalian mechanism which all the mammals have, but it's not limited probably to the mammals— that's the issue is that we have quite a bit of evidence for birds and if birds and mammals have empathy, then you've got a look at some common ancestor like the reptiles.

Nancy Rosenbaum

De Waal thinks the capacity for empathy may go hand-in-hand with parental care.

Frans de Waal

Parental care requires mechanisms of being sensitive to the emotional state of somebody else and so all species with parental care, and in some reptiles have that, may have that mechanism.

Nancy Rosenbaum

De Waal suspects that researchers will find that more creatures have empathy than we originally thought.

Frans de Waal

In all the studies that we do on animals, we always find that everything we observe is older than we think and I think the same thing is going to happen with empathy, is for the moment we think it's a mammalian thing, but it may be actually more widespread than that.

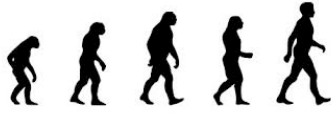
Nancy Rosenbaum

Right now, de Waal is on the hunt for empathy in yet another animal— fish. For Origin Stories, I'm Nancy Rosenbaum.

Meredith Johnson

And I'm Meredith Johnson. Frans de Waal is the CH Candler professor of Psychology at Emory University where he also directs the Living Link Center for the Advanced Study of Ape and Human Evolution. He is the author of several books including *The Age of Empathy* and most recently, *Are We Smart Enough to Know How Smart Animals Are*.

This episode was produced as part of the Being Human Initiative. A joint project of the Leakey Foundation and the [Baumann Foundation](#). Dedicated to understanding modern life from an evolutionary perspective. The Being Human Initiative is all about why we experience our lives



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0:16:44.5 the way we do including our thoughts, feelings, and behavior and so, we're bringing you the Being Human bonus where we talk about how the science in this episode applies to real-world situations. Today's guest is Natalee Hanson.

Natalee Hanson

It was a little mind-blowing to listen to the episode and to have these behaviors described in the animal world and go "I see that in my classroom all the time!"

Meredith Johnson

Natalie is a special education teacher in Northern California. She found lots of connections between Frans de Waal's work on empathy and her own work.

Natalee Hanson

This bonobo that is screaming for three minutes, "Oh, that's my kid that went and hid in the closet and rubbed his ears for a minute because that's how he needed to regulate!" It's not a typical behavior, but it serves a purpose and I started writing behavior management plans for these bonobos.

Meredith Johnson

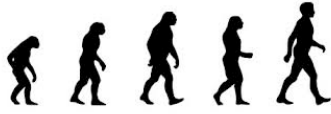
Natalie works with middle school kids who have emotional and behavioral disabilities and empathy is super important in her classroom.

Natalee Hanson

Empathy is one of the number one things that I think about on a daily basis in the work that I do. Empathy is sort of everything when you're trying to create a safe classroom in which students are able to learn because they feel understood or they feel like someone's actually trying to help them, that they don't feel alone, they are not scared to take risks, and empathy is huge in that, because the students want to feel like their emotions and their place is understood and they expect empathy from other people and what gets hard is if you're in a room full of everyone who is expecting empathy from everyone else, but they're not necessarily giving it, that can cause some friction.

Meredith Johnson

Most of the kids Natalie works with have significant disabilities that make it hard for them to understand feelings. And like the orphaned or traumatized bonobos Frans de Waal mentioned in our story, many of the students have had significant, in their early childhood. This makes it really hard for the kids to regulate their own emotions and can impact their ability to be empathetic.



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Natalee Hanson

So in the episode, it was mentioned how bonobos who had experienced trauma, they're more inclined to scream for longer and they have difficulty sort of coming down from whatever triggered them to start screaming. They need more time and maybe a different approach to help them get back to being okay. I thought his analysis of that was spot on. When I see kids that have experienced trauma, what happens is, it creates a trigger for them. Something that reminds them of that trauma, or even in a lot of cases forces them to sort of relive that trauma and then we see their behavior change and that can look like becoming extremely withdrawn, hiding, running away, becoming physically or verbally aggressive because they can't really deal with that emotion and most of the time, they can't really even name what they're feeling and they can't necessarily describe what they're feeling and they need someone else to come in and sort of help them regulate because they don't know how to do for themselves.

Meredith Johnson

But one thing that's different about being human is that we can learn to regulate our feelings and we can work to build our empathy skills. This is what Natalie does with her students every day. Natalie says the place she starts when teaching the skill of empathy is teaching kids to recognize their own emotions, to build up a vocabulary for their feelings.

Natalee Hanson

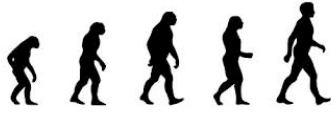
So getting kids to identify, "Oh, when I'm sad my stomach hurts," or "If my stomach hurts, maybe I'm feeling sad, or maybe I'm feeling this way." Just giving them the words so that they can talk about what they're feeling and then also helping them pause, "Okay, I see your leg is a little agitated. How are you feeling right now?" "Oh, I'm a little nervous because you're about to give us a quiz." "Okay, that's good. So you're feeling nervous. How can we help calm that for you?" And step-by-step helping them go through that process.

Meredith Johnson

The next step is learning to see another person's perspective. Like, for instance, if a student gets mad in class and throws their book across the room.

Natalee Hanson

How do you think that's making other people feel? And really start on that perspective-taking and as a group, we can talk about it. If the book hit the wall of the classroom next door, what do you think those kids are feeling? How about the kid right next to where the book landed? How do you think he's feeling? Do you think he feels safe in the classroom?



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0:21:25.6 Meredith Johnson

You can't read another person's mind and really know how they're feeling, especially when recognizing emotions is a skill you're still working on, but one of the building blocks to being empathetic is learning to recognize cues that can give clues to other people's feelings.

Natalee Hanson

“Oh, they have a frown on their face. Maybe they're sad or they're upset about something.” “Oh, that person's crying. Something may have happened to them. Do you want to see if they're okay?” or “That person is smiling and jumping up and down. They must have got some really good news. Maybe they want to share with you.”

Meredith Johnson

The hope is from there, the kids are on their way to taking another person's perspective. To making the connection between their own actions and how those actions make someone else feel.

Natalee Hanson

The perspective-taking piece is always really, really tricky because, especially in middle school, when things are about belonging and identity and you get so focused on yourself when you're going through all this adolescent stuff. It's already hard at that point and then you add a trauma or a disability on top of that— my heart just breaks for these kids and it's tough, but I've seen successes and I know that it can be done and that's what tells me that empathy truly is an ability and a skill. It's not just something you have or you don't.

Meredith Johnson

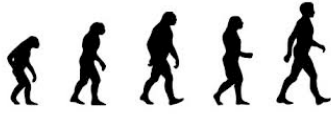
And even if you think you have these skills down, empathy is something we all need to pay attention to.

Natalee Hanson

So I think being able to understand that emotions and abilities such as empathy are a vital to community building whether you're human or a chimp or a bird or whatever sort of animal, but it's key to community, which is key to survival. In my opinion, if we want to continue as a pretty successful species, we're going to need to be able to build empathetic communities and strong community ties and be able to rely on each other and feel comfortable enough with each other, console each other when we're upset, celebrate with each other when something good happens. If we want to keep going in a good direction empathy is going to be a very, very key thing.

Meredith Johnson

Thank you so much, Natalie.



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0:23:25.5 Natalee Hanson

No problem! I enjoyed this.

Meredith Johnson

And thank you for listening to the Being Human bonus.

Origin Stories is a product of the [Leakey Foundation](#). The Leakey Foundation advances human origins research and offers educational opportunities to cultivate a deeper, collective understanding of what it means to be human. We give research grants for scientists and share their ground-breaking discoveries through our podcast, website, and lecture programs. We also give scholarships to students from developing countries to attend field schools and earn advanced degrees.

We are in the final week of our fundraising challenge and we are so close to meeting our goal. IF you've ever considered a donation, now is the time. A generous sponsor has offered to match every donation dollar for dollar, up to one million dollars. You can help the Leakey Foundation fund important scientific research and outreach programs like this podcast. Visit the leakeyfoundation.org/donate before August 31st and your donation will be doubled. That's L-e-a-k-e-yfoundation.org.

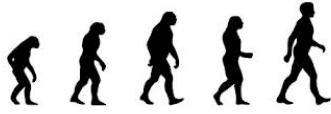
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This episode was produced by Nancy Rosenbaum. Our editor is Audrey Quinn. Special thanks to Natalee Hanson and Rich Halton.

Our theme music is by Henry Nagal. Additional music by Box Cat records and [Podington Bear](#).

I want to say a special thank you to all of you who have rated and reviewed Origin Stories on iTunes. It means a lot to us and it really helps people find the show. So, if you like the show, tell your friends about us and write us a review.

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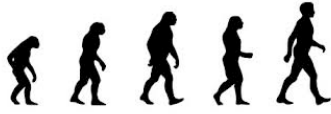
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