

Common Reading Series: The Evolution of Between-Community Relationships in Humans

ROBERT MCCOY: I'd like to welcome you to the 2019-2020 Interdepartmental Lecture Series. This August, the undergraduates in this room-- that's most of you-- became the eighth annual cohort of students to take the Roots of Contemporary Issues History 105, which is the foundational first year university common requirement here at WSU. The course aims to equip students with the critical thinking and research skills and historical insight necessary to address the global challenges facing humanity today.

We're also coordinating with the Common Reading Program, so this is a Common Reading event. Karen Weatherman will be outside of the doors after the lecture for you to sign in for that as well. Tonight's public lecture is designed to engage students and faculty at WSU and the wider Pullman-Moscow community with cutting-edge scholarship that addresses vital contemporary issues in global and historical perspective.

Tonight, our speaker is Anne Pisor from the Department of Anthropology. She came to WSU last fall from a postdoctoral position at the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany. She received her PhD in anthropology from the University of California Santa Barbara.

She's published in a number of prestigious journals, like the Proceedings of the National Academy of Sciences, the Proceedings of the Royal Society, and Evolutionary Anthropology. Now, at WSU, she teaches classes like Sex Evolution and Human Nature, the Evolution of Cooperation and Primate Behavior Ecology. That's a good one. Her lecture tonight is titled, "The Evolution of Between-Community Relationships in Humans. How Did We Come to be Such a Nice and Aggressive Primate?"

Before I invite my colleague, Dr. Pisor, to the podium, I would like to thank the Department of History for its sponsorship of this lecture. I would also like to thank Dr. Katy Whalen for her organization of the lecture as well. Let's give her a golf clap.

[APPLAUSE]

It's a lot of work to organize these sorts of things and we appreciate it. Sincere thanks for your interest and attendance tonight. As a courtesy to our guest speaker and fellow audience members, please silence your phones until the conclusion of the question and answer session that follows tonight's presentation. So now, please welcome Dr. Pisor.

[APPLAUSE]

ANNE PISOR: Thank you. Can you guys hear me OK? All right, how's everybody doing? Good? Excellent.

All right, so tonight I'm going to be talking to you about the evolution of between-community relationships in humans, in us. So before we can get into that, I want you to just take a quick look around the room, if you would. So just stop and I want you to look at your neighbor.

Who are you sitting next to you right now? Who are you sitting next to? Do you know the people you're sitting next to?

OK, anyone not know the person they're sitting next to? Hands up. OK, a few of you. All right, how about where you're from? So ask your neighbor where they're from if you don't know. Where are they from?

OK, so what did we learn? So who is from the same town as the neighbor that you're sitting next to? Raise your hand if you're from the same town as your neighbor.

Raise your hand if you and your neighbor are not from the same town. Let's see your hands. OK, the vast majority of you.

OK, so I just have a question for you. Why aren't you all killing each other right now? Why aren't you fighting? Why aren't you tearing your hair out? Why aren't you just having a big show out there, if you will.

This is a weird question to ask humans, right? The question is, why would we be nice to strangers that we're sitting next to? And for us, we just take that for granted. That's just what we do.

But if you guys were a bunch of chimpanzees, it would just be complete chaos in here right now, right? Everyone would be baring their teeth. You guys would just be kind of duking it out with your hands. People would be running all over the room. It would be a total mess, right?

So let me ask you this. I asked why you guys aren't killing each other right now. Do humans, on a serious note, sometimes kill people who are from other places or other groups? Yes. That does happen.

Now, do humans sometimes not kill people who are from other places or other groups? Yes. Would we even say most of the time that's true? Right. Not complete chaos in here. Good evidence.

So here's the question that I'm going to ask you, and this is what I want to talk about tonight, why? How did humans come to be like this? Why don't we look more like chimpanzees?

We're really closely related to them, it ends up. Why are we not so violent, so aggressive towards the people that we don't know from other places? So that's what I'm going to be talking about this evening.

All right, so to talk about how humans came to be the way we are when it comes to between-community relationships, I'm going to use anthropology. Now, this is not a coincidence. I'm an anthropologist, so I'm obviously biased. But anthropology is a really good way to try to understand why humans have the kinds of relationships we do with other people.

So anthropology, if I break down that word, anthropo, it's like the anthropocene or anthropogenic. Anthro means humans, OK? So when you hear the anthropocene, we're talking about the era of humans.

Nod if you've heard anthropocene before. OK, few of you. Era of the humans. Now, ology, whether it's psychology, sociology, anthropology, we're talking about the study of something. Sociology, the study of society, anthropology, the study of humans.

So when anthropologists ask questions about humans, we usually have a couple questions we like to ask. The first one is what is human nature? What makes humans who we are?

And then the second one is, how do we understand the diversity that characterizes our species? How do we go about understanding why we differ in the ways we do. These are the two things that anthropologists are really interested in.

And we have lots of different methods for figuring that out. So we might do this by digging. If you're an archaeologist, you kind of dig down into the ground and look at what past humans were like. We can learn a lot from that.

We might do this by recording language. Linguistic anthropologists are interested in how people are using language to signify different things that are happening in their lives. We might do this by observing. We could observe people, we could observe non-human primates.

And we can also ask people. If we're working with living people, like I do, we can just ask you, how do you feel, what's your opinion, and we can get answers from that. So there's lots of different ways to do anthropology.

In fact, one way that you can do anthropology is hopefully soon going to be a major here. So we're hoping to soon be able to offer a major in human biology here at WSU. It's going to be available at minimum on the Pullman campus, but everything is to be determined on that. And so this is pending final approval, so stay tuned. We're waiting for the accrediting institution to get back to us on this.

So anthropology includes human biology. This also gives us insight into why humans are the way they are. OK, so we're going to use anthropology. And what I'd like to start us out with tonight are a couple questions. We're going to apply these questions anthropologists like to ask.

First, what is human nature? So tonight, I'm going to take this and apply it in a specific way. And I'm going to ask, for example, if we're going to ask a question like this, we could say, are humans aggressive or are humans nice? What do you think?

Humans aggressive, hands up. Humans nice, hands up. Not wanting to raise your hand for either one because you think it's both, hands up. Uh-huh. Yep, that's what I think too.

And so we can understand both human nature and the diversity that characterizes our species when it comes to aggression and niceness. So we might ask why we're sometimes nice and why we're sometimes aggressive. Why is there variability among different people? Why do we vary in the way that we're nice or aggressive in different situations. These are all the kinds of questions we can answer when we're thinking about these kinds of relationships.

OK, so what is human nature? To do this tonight in the first half of the talk, what I'd like to do is actually compare us humans to our closest living relatives and try to make some inferences, try to make some larger understanding about how humans were in the past and whether we've inherited certain kinds of tendencies of behavior from other humans that came before us, from our ancestors. So let's look a little bit at human evolutionary history.

And to do that, what I'd like to do is look at the last seven million years of human evolution. Seven million years is a long time, right? So we're going to go way back.

Now, I'm not going to take you all the way back and not in all that detail. If you're interested in that, we have classes for that here. But just to give you a little teaser of how it works, we're going to start with humans today and look at our closest living relatives to try to make inferences about the past.

So we have two living relatives today with whom we share about 99% of our DNA. That is, of those genetic codes in your body that tell your body what to do and how to do it, we share 99% of that with chimpanzees and bonobos. If this is your first time hearing about bonobos, raise your hand.

OK, yeah, welcome to primatology. Bonobos are very closely related to chimps. And we're going to see a video of them later so you'll get to know them a bit better. OK, so we have these two living relatives that are very closely related to us. And what we can do as anthropologists is try to understand what life is like for chimpanzees and bonobos and use that understanding to make inferences about human evolution.

So chimpanzees and bonobos, first thing you should know is they're actually pretty closely related to each other, more so than either is to humans. And the reason for that is that they diverged into two different species only about two million years ago. Which sounds like a really long time ago, I know, but in evolutionary time, that's not that long, two million years.

Now, the thing that divided the chimpanzees and the bonobos into two different populations, that stopped interbreeding is a river. So a river basically showed up between them. And because of that, they haven't been, say, having sex with each other for the last two million years. So they're now two different species.

And so basically, what we can do is we can say, OK, those two are pretty closely related. They're both closely related to us. And we share a common ancestor with them. That's why we're so closely related. And we called this the last common ancestor.

We shared a common ancestor with bonobos and chimpanzees, as I said, about seven million years ago. And the way this happened was that seven million years ago, our ancestors of all three of these species, us, chimpanzees, and bonobos, were living together in the jungles in Africa. Now, what happened at about this time is that there was a bit of climate change. Climate change is a ubiquitous feature of human evolution. It's always been a factor for us.

And what happened is that some of those jungles died back. So when they died back, what they left behind was grassland, savanna. And the members of this population, this last common ancestor population that stayed in the jungle, these became the ancestors of chimpanzees and bonobos.

And those that ended up on the savanna, those are the ancestors of you and me. These are the individuals that became walking on two legs humans. Took awhile, but that's what happened through the course of evolution by natural selection.

Now, I have a dotted line here on the screen, you'll notice, because there's a lot that happens between the last common ancestor and humans, *Homo sapiens*, us as we know ourselves today. And there's a lot of different dead ends. There's a lot of different species that came on the scene that look a lot like us that walked on two legs, and they're gone now.

Now, if you want to know more about all those species, you should take either Anthropology 101 or Anthropology 260. There's my pitch for you. So those are classes that will teach you a little bit more about those different species.

But for today, I'm going to focus on just two genera, genera is the plural, larger groups of species. One is *Homo*, just like us, *Homo sapiens*, other species that are really closely related to us, and the other one is *Australopithecus*. So we'll get to that in a bit.

All right, is everyone feeling OK? Common ancestor about seven million years ago for the three species alive today? Nod if you're good. OK, all right.

Now, let's make an observation about humans today. You all agreed, humans have both aggressive tendencies sometimes and nice tendencies sometimes, am I right? Got a little bit of both. So we know this about humans.

Now, what about our closest living relatives? If we want to understand whether basically, between-community aggression is part of our evolutionary heritage, we need to look at these other two species and see if they have it too. So let's start with chimpanzees.

All right, so this is what we're going to do, as I just said, see if maybe it was present in our last common ancestor. So if chimpanzees, for example, have violence towards members of other communities, and maybe if bonobos do too-- we're going to see that here in a few minutes-- then maybe what that would suggest is that our last common ancestor had violence towards other communities. If all three of us have it, maybe that suggests that it was something that has been present for a long time in our lineage. But if it's not, that's going to tell us a more complicated story. So let's see how we do.

So chimpanzees, let's start with that. Chimpanzees live in different communities. In some areas, there's a bunch of different chimpanzee communities that live right next to each other. And sometimes, these communities run into each other.

So what do you think happens based on what I've told you about what I thought you guys should be doing tonight if you were chimps? What do you think happens when two chimpanzee communities come together?

AUDIENCE: Trade negotiations.

ANNE PISOR: Trade negotiations, I love that. Yeah. I would love this banana. Can I please have this banana? No, no, two bananas. Trade negotiations, absolutely.

No, it's usually pretty bad news. So if we ask what happens in this circumstance, what usually happens is that the outcome is lethal. Particularly male chimpanzees will go on patrols. They'll patrol the edge of their territory.

And if they find a member of a neighboring group, whether it's a male, a female, or an infant, that's it. There's a lot of deaths that happen in between community encounters for chimpanzees. So it's pretty violent when that happens. There's very few, if any, between-community encounters in chimpanzees that aren't messy and bad and full of aggression.

All right, so if we go back and think about humans, some anthropologists have suggested that chimpanzee behavior in terms of between-community behavior can give us insight into human behavior. Maybe this tells us a little bit about how humans act when they come into contact with other groups. So maybe. Maybe that's true, right? They can give us some insight.

Now, if we go back over here and add this to our plot, we now have one piece of evidence that maybe our common ancestor was aggressive. We see this in chimpanzees. But we still need bonobos, right? Got to know what happens in bonobos to really fill out this picture.

So let's take a look at bonobos. What are they like? Now, when you have a between-community encounter in bonobos, what do you think happens?

AUDIENCE: Throw hands.

ANNE PISOR: They sorry? What's that?

AUDIENCE: They throw hands.

ANNE PISOR: They throw hands? OK. What else? I heard something over here.

They fight? Friends? OK, I like that people are like, fight, friends. We're trying to get a little bit of the love and the hate here. OK, that's good.

All right, so here's what happens. First of all, let me tell you that when they come together, there is not an immediate fight necessarily in bonobos. In fact, I'm going to show you a little footage from my collaborator, Martin Surbeck. He's at Harvard.

And what he finds is that chimp-- sorry, chimpanzees-- bonobos who come into contact with one another are often in contact for several days. So this is a video of a bonobo, two different bonobo groups who have been in contact-- it's playing somewhere, there it is-- --who have been in contact for the last three days when this video is being shot. Everyone see OK?

Now, first thing you're going to see is a fight. You see all the shaking branches. This is aggression, right? There's been a big disagreement. The individuals are chasing each other up the trees. Not so great.

Watch what happens, though, to release the tension. It's a little x-rated. I'm just going to tell you that right now. So down there in the bottom right, tension release.

Oh, but somebody else isn't happy about that, so you get a little bit of aggression. Quiet moment. And then maybe another a little tension release there in the bottom left. Uh-huh.

OK, so mind you that these are bonobos from two different communities, and they're hanging out together and they're doing a bunch of stuff together, both x-rated and non-x-rated, right? So question for you, what would you say, are bonobos aggressive towards members of other communities?

OK, yes. Are bonobos nice towards members of other communities? Depends on your definition of nice. Oh, yeah. Getting friendly, right? Stuff was happening. So bonobos have a little bit of both.

Now, researchers have been very quick to say that bonobos are the peaceful chimp, the hippie chimp, right? They can actually get along with members of other communities. They just want to have sex and have a good time is the basic message.

Now, the thing about this, though, is that we saw some aggression, right? It was not just all about love and a good time. And in fact, Martin has documentation that basically, a lot of times when bonobo communities come together, individuals can be left with cuts, they can be left with broken bones. It's not all fun and games.

So it seems like in bonobos, we have both a mix of aggression and of niceness happening between communities, OK? And just in case I slip and say the word tolerance, just you know, niceness and tolerance are the same for the purposes of this talk. So if you're nice to a member of another community, you're being tolerant towards them.

All right, so if we go back over here to our kind of tree, if you will, of human evolution, what we see is that bonobos look a lot like humans, right? They have both aggression and niceness towards members of other communities. So what this maybe tells us is that in fact, our last common ancestor perhaps was not only aggressive towards members of other communities, but perhaps also sometimes nice, right? Maybe that's where we got it and where bonobos got it. So this is something that we potentially have some mixed evidence for.

Now, with humans, I think the game has really been changed. So let's take a closer look at that. If we have this continuum of behavior towards other community members from aggressive to tolerant, we can see perhaps that chimpanzees are mostly on the aggressive end, right? Things are almost always aggressive when they come together. Things are often deadly. It's bad news.

Now, when bonobos come together, though, with members of other communities, you see a mix of things. There's not often deadly encounters like we see in chimpanzees, but we do see some aggression. It's not all fun and games. There's kind of a mix.

Now, here's the thing, when we ask whether humans are aggressive or nice towards members of other communities, we've agreed we're both, right? We're both. But the thing is is that humans can both be more aggressive than chimpanzees towards members of other communities, we can be more deadly, and we can also be nicer.

We're on both ends of this distribution. We're further out. We can be both nicer and more aggressive towards other people in other places.

And so how did this come to be? We've now painted a picture of what our evolutionary history looks like in terms of what our last common ancestor might have been like with chimpanzees and bonobos, but how did humans come to have such a larger repertoire of between-community behavior than chimpanzees and bonobos? So to talk about that, what I'd like to do is rewind about two million years ago.

Now, two million years ago in Africa, there was a two-legged ape on the scene, one of our ancestors. And this genus-- again, it's a group of closely-related species-- was called Australopithecus. Looked like that.

Any family resemblance? Got the two legs at least, right? But they haven't lost their hair yet. We'll get to that in just another few hundred thousand years. Don't worry.

Now, our ancestors, Australopithecus, living in Africa two million years ago. If you had to take a guess, would you guess that Australopithecus was potentially aggressive towards members of other communities? I'm hearing some no. What do you think, yes or no? Thumbs up for yes, thumbs down for no.

Probably aggressive. Why do we think that? Who else is aggressive towards members of other communities? Chimpanzees. Who else? Bonobos. And? Humans, right?

So it's probable that they had the exact same evolutionary heritage that we do. After all, they're our ancestors, right? So they were probably aggressive towards members of other communities already. But the game is about to change for humans living in Africa.

So Australopithecus is living in Africa, and about two million years ago, things get very variable. The environment starts to become increasingly unpredictable. Over the course of centuries, the temperatures are going up and coming back down, and this is really changing the landscape in terms of lots of different things, what foods are available, whether there's a lot of forest or a lot of grassland, that's changing, right?

Now, the foods that Australopithecus really like to eat are becoming increasingly hard to get. So Australopithecus was still eating a lot of fruit. Chimpanzees also love fruit. So do bonobos, for the record.

They're eating a lot of fruit when they can get it, but it was becoming increasingly hard to get. And what we see is this increased specialization in things like meat and tubers. Now, what's a tuber? Who knows what a tuber is? Yes?

AUDIENCE: Like a plant stalk for the root.

ANNE PISOR: Yeah, OK, plant stalk for the root. Who has an example like, from the grocery store?

AUDIENCE: Potatoes.

ANNE PISOR: Potatoes, right? Those are tubers. So Australopithecus had been eating things like tubers and meat, but just not as much of them.

Suddenly, as the environment starts to change, these become a more and more important feature of the diet. And what's more, this seems to be about the time that we mastered cooking. Now, what does that mean?

To master cooking, what do we have to control? Fire, right? We don't have evidence going that far back yet for fire existing, but it seems like this is what was happening at the time. So we've got tubers, we've got meat, and we're cooking those things on fire.

Now, this is really a game changer for our ancestors when all of these things start to kind of become increasingly important. And these things involve not only tracking animals to be able to hunt them and kill them, it involves things like making fire, crafting tools to be able to butcher those animals when you can get them. Finding tubers can be hard. You have to know what kinds of plants to look for and where to find them.

These are all things that require some stuff. And the stuff that they require at minimum includes learning, what you're doing right now. And potentially, this also included culture, so the ability to kind of pass on this learned information across generations and generations to build on that information. So this is what's going on about two million years ago.

Now, I've got a question for you. Yeah, I'm totally giving away my punchline from my error here in animation. So still, let's play along. What do humans have that helps us learn and helps us learn about culture?

AUDIENCE: Big brains.

ANNE PISOR: Big brains, thank you. We got some brains. Brains help us with those kinds of things. Now, that's right there on the side. Great, thanks, very much appreciated.

Here's what starts to happen. As Australopithecus evolves into Homo, which is our genus, Homo sapiens is our species name, what we start to see is we start to see bigger and bigger and bigger brains. Over the course of just a few hundred thousand years, we go from small brains, just a little bit bigger than a chimpanzee, to brains that are about twice as big minimum, even larger than that.

Now, the issue with big brains, though, is that big brains are expensive. So I apparently really botched the animation job on this, but you can see the plate of food, right? That's what I wanted you to see. You see the plate of food?

Imagine that that is the total number of calories that you take in on any given day. Brains are so expensive that for adults, they require 20% of the calories that you eat every single day. They go straight into your brain.

And if you're a kid and you're growing a big brain, sometimes up to 50% of your diet is going straight into your body and into that brain. Is that a lot of calories? It is. You can't spend those

calories on other things like playing or growing your body bigger, brain only. So big brains are really expensive.

And here's something else that's happening as we have this transition into Homo. Big brains also require some really specific things. They require salt, for example, to be able to run our neurons, and we've got a lot of them. And they require things like omega-3 fatty acids, which really help kind of boost the way our brains function.

Hands up if you've heard of omega-3s before. Yep. It's becoming a health thing now. But guess what? It's always been a health thing for Homo, our genus.

So you can get things in the savanna, for example, that help you get omega-3 fatty acids. This includes things like turtles, for example. If you can get fish, that's great.

And bone marrow, so get those bones from an animal, crack them open and suck the marrow out. Not my cup of tea. Maybe it's yours. But omega-3s are in there.

All right, so here we are, right? The origins of Homo about two million years ago. And we need all these calories and all these special nutrients to run these big brains.

Now, what happens if a community runs out of calories? What happens if they don't have sufficient access to things like omega-3s or salt? How are they going to solve that problem?

So if we think about a community in isolation, we've got a few different options. For example, migration's an option. The community can pick up and move and maybe go to where there's more resources.

Another option is storing food. Maybe they can find the good stuff. Maybe they can smoke some meat, try to preserve it for later and have that food for another day.

Now, if you have another community here, say, Community B that's next to Community A, you might have some more options. You could go raid that community. Tell me when this is starting to sound like a video game. Feels like Civ V or something, right?

You can go raid that community. You can just start a war and take their food. And you can also engage in between-community trading or sharing. So this could involve things like swapping one thing for the other, that's trading. Or maybe even sharing, like, I'll share some of my food with you today, and I expect next time I need some, you're going to share with me.

Now, note that these involve both aggression and niceness. Do you see them? The aggression is the raiding and the niceness is the trading or the sharing. So you've got different options if you're a community about two million years ago.

Now, the question is, will Community A raid, for example, or will they trade and share? These are other options. And to figure that out, I think you have to think about the different costs and benefits of doing these things.

So some audience participation, what do you think? What are the benefits and what are the costs of between-community sharing versus raiding? Go for it, yeah.

AUDIENCE: [INAUDIBLE]

ANNE PISOR: OK, yes. So for raiding, maybe-- he's saying that you can get more resources if you raid relative to the trading, but with no violence, so there's no side effects. Did I get you right? OK. Yeah, go for it.

AUDIENCE: More long-term.

ANNE PISOR: OK, which one is more long-term, the trading or the raiding?

AUDIENCE: Trading.

ANNE PISOR: Uh-huh. So you can keep that going. The raiding's a one-time thing, and after you've done it, that's it. What's worse, they might come after you afterwards, right?

I saw another hand. It was over here somewhere. Same thing? Same thing, OK. Other ideas? All right, yeah right here, I haven't heard from you.

AUDIENCE: It's more food they'd have to process because everyone [INAUDIBLE].

ANNE PISOR: OK, so if you're raiding, you have less, but with trading, you might have more because there's more production?

AUDIENCE: No, like, you'd have to collect more.

ANNE PISOR: I see, to share than you would for raiding. OK, so there's a cost of sharing because you'd have to produce not only for yourself, but enough to share with somebody else. With raiding, you just go get it. You don't have to worry about doing that.

OK, yeah. So there's different costs and benefits, right? And we can think about how these different costs and benefits may have actually affected the way that we today think about between-community relationships.

If they had different costs and benefits for our ancestors, this may have affected reproductive success, and that may have affected the way that our brains work. If you're brains worked in a certain way that promoted reproduction, that's more likely to continue on, be in the next generations. Nod if you're following along. Sounding OK? All right.

And so those aspects of our psychology could be passed along if they promote reproductive success, right? So maybe we pay attention to these kinds of things now. Maybe we pay attention to the different benefits and costs.

So thinking about between-community trading and sharing, there's a couple different situations where I am going to suggest that you might expect to see that happen for humans. So here's situation one. In situation one, there's a shortfall that strikes an entire community.

So this might be a flood. Maybe a river kind of burst its banks and floods the community, maybe it's a landslide. This happens often in Bolivia. Landslides might take out one community and not another. I'm going to talk about Bolivia here in a little bit.

Or maybe it's a drought, right? You have one valley that's not getting enough rain, the valley next to it is getting sufficient rain. So when the shortfall strikes the entire community, one thing you could do is share some food, send that food over.

Another thing you could do if you're in Community A and don't have food is that you can maybe go visit Community B. You go over there, see your friends, spend some time in their households and get some food. And it ends up, if we look at humans who are living in small-scale societies, that is, societies that are much smaller than ours in terms of production and number of people, we see this a lot. A lot of times, there's visitation when times get rough or sharing.

Now, what about situation two? There's another one here. So maybe something really important is never available in Community A. Maybe Community B is the only community in the area that has access to salt.

This is definitely true in the Amazon basin. You have certain places that have a lot of salt, and in other places, you can't get any, so you have to trade for it. Salt's important to run brains. You need that.

Maybe it's a source of omega-3. One community has access to a river, another doesn't, so they can get fish. Maybe it's tool-making materials. If you're going to make those tools to butcher animals, you need to be able to get the good stuff, the good rock. Maybe it's in a certain place.

Maybe one community specializes in making status items. Today, that might be something like a smartphone. In the past, it could be something like pottery. It could be something like a really nice blanket. In one community and not another.

And it may be that another community has specialized knowledge that they can share with you. Maybe they're really good at knowing where to go to get meat. That's something that you can learn from them. So these are all resources that may live in Community B, and Community A may want access to them. So this might be another reason to have between-community sharing or trading, to get access to these kinds of resources.

One thing I do want to note here is that in general, you're going to see this coming up later, but these things are all important for production, for food, including feeding that big brain, and even stuff we just desire. Might give us social status or something like that. Now, let's put this all together, what we've learned so far.

So our last common ancestor with chimpanzees and bonobos was probably aggressive with members of other communities. But if we take bonobos as an analogy for human behavior as a close relative of ours, then we might note that they were sometimes also tolerant to members of other communities, in that video, right? So maybe we are seeing a mix of that. Maybe that's what our last common ancestor looked like.

Big brains in Homo, though, were a total game changer about two million years ago. Basically, what happened is that those big brains came with very specific needs for calories and for nutrients that we didn't have before. And in humans, in the Homo genus, including Homo sapiens, when times get rough or when something's not locally available, we've got options, right?

And those options include things like migration, storing food, or maybe it also includes something like visiting a neighboring community when you don't have what you need. There are relevant costs and benefits to each of these strategies that humans weigh when they're making these decisions. And finally, items shared, traded, or even bought in the contemporary context include things like food, status materials, and even knowledge can be things that we share between communities. So there's lots of potential benefits to having between-community relationships for humans.

All right, take a quick little stretch. I can tell there's a little restlessness. I'm through the first half. There's you a little stretch. OK.

So do you want me to just kind of-- you want me to keep anything short? How much more time?

ROBERT MCCOY: Probably about 10 minutes.

ANNE PISOR: OK.

ROBERT MCCOY: I'll do the speed run... [INAUDIBLE]

ANNE PISOR: OK. OK, so the good news is that I wanted to talk about human evolution more than anything. The bad news is that I'm only going to get 10 more minutes to talk to you guys about Bolivia, but I'm going to do it.

So in the last 10 minutes of this talk, what I want to do is I want to focus on contemporary between-community relationships in Bolivia. Now, let me just skip through this. Yep.

How do we understand the diversity that characterizes our species today? Remember, this is one of the other questions that anthropologists really like to ask. So what I'm going to ask, if I can get my iClicker to work, is what increases the likelihood that individuals will be friends or interested in relationships with members of other communities?

So let's take this question to South America. So everyone can see this map, right? See the map? That's Pullman up there. And we're going to go travel to Bolivia.

So I'm going to click on this. This is going to go forward to Bolivia. And what you're going to see is you're going to see-- if this runs, which I hope it does, you're going to see us moving down to the southeast to arrive at Bolivia. There we go. Come on.

Yeah. That's cool. You can take my word for it. Everyone knows South America? Yeah? You've seen it before on a map?

Smack dab in the middle of South America there is a country called Bolivia, and that's what I'm going to be talking about. So here's Bolivia. It's bordered by Brazil, and Peru, and Chile, Paraguay, Argentina, smashed right in there.

And it has three main regions, the Pampas, the Amazon, and the Andes. And let me just tell you briefly, because we're short on time, why I want to study between-community relationships in Bolivia. Two big reasons.

One, Bolivia is a plurinational state. So starting in 2009, they recognized 37 different indigenous groups in the area. They're called Pueblo Indigenas, so Indigenous Pueblos.

Basically, each one of these gets to operate under its own ways of doing things, its own ways of doing justice and so forth. Now, what happens is that this is really changing the benefits and costs of having between-community relationships for people who are living in Bolivia, the payoffs are shifting. The second thing is that Bolivia is really rapidly adding things like cell towers and roads, and that's giving people new opportunities to maintain relationships across large distances. So these are the two reasons why it's really interesting to study between-community relationships in Bolivia.

Now, here's where I do this awkward fast forward thing that everyone does when their talk's too long. Just give me a second. We'll get there.

So here's the long story short. The relevant benefits and costs of relationships in Bolivia right now are in flux when it comes to between-community relationships. All right, so let's ask this question again. What increases the likelihood that individuals are interested in between-community relationships today in Bolivia?

So what do you think? Quick couple guesses. What's going to change this? Yeah, go for it.

AUDIENCE: Benefits to the their community.

ANNE PISOR: Uh-huh. OK, so benefits to the community of the person when they're making a decision. OK, yeah, over there.

AUDIENCE: Cultural relevance. They have similar [INAUDIBLE]

ANNE PISOR: OK, so maybe two cultures that are similar to one another are going to have more opportunity to trade or form relationships. Is that right? OK. Or talk.

AUDIENCE: More in common.

ANNE PISOR: More in common, yeah. That might really help build bridges. That is true.

AUDIENCE: Where their relative is.

ANNE PISOR: Where their relatives are helps a lot. If you already have kin in another community, that really helps build bridges. Absolutely.

Here are some predictions. I'm going to predict that in Bolivia, when there are shortfalls that strike entire communities, between-community relationships are going to be more important. That's what we learned from human evolution.

I'm going to predict that when something important is never available in a community, whether it's something like salt or something like cell phones, between-community relationships are going to be more important. And finally, I'm going to suggest that when communities have members who are from the same Pueblo Indigenas, as they pointed out over there, that they're able to maybe get things off the ground more easily. That's when you're more likely to see between-community relationships.

So here's prediction one. When shortfalls strike entire communities, are people more likely to form between-community relationships? The answer is actually no. And I figured that out using a couple different techniques.

One's called ethnography, where you take notes about daily life, what people say, and you get a sense of what their life is like. And the other way was using experimental economics. Econ majors, anyone? Econ majors?

AUDIENCE: [WHOOPS]

ANNE PISOR: Nobody? OK. Lots of enthusiasm in the back, yes. Econ, right? Experimental economics can help you learn a lot about human behavior.

Now, it ends up that in Bolivia, people actually use same-community strategies for managing shortfalls in times of need, in times of flood and so forth. So they have systems for storing rice. They eat their animals when they run out of food if there's a lot of drought or if there's a big flood. And migrant labor can be a way to really make ends meet when droughts have been bad. So you don't really need between-community relationships to manage these kinds of things in rural Bolivia.

But what about something that's not locally available in the community like, ever? This is something that's important in rural Bolivia, and between-community relationships provide access. So for example, things people mention when they talk to me about this include things like technology. So you need access to smartphones, to TVs, to computers, all the good stuff through relationships in different communities.

You can find a place to stay when you send your kid to university in the city. They have somebody they can stay with if you know someone in the city. They'll help you with forms if you need to do a government form, right? Someone from the city can help you with that.

And further, people in other communities know about paid positions, migrant labor, good jobs, right? That's what you know people in other communities for. And these relationships are maintained with things like travel and technology, Whatsapp and Facebook being the favorites, of course.

Now, when it comes to prediction three, things are a little more complicated. Is it that communities who are from the same Pueblo Indigenas are more likely to form relationships? It depends.

So I work with three different communities, three different populations. Two of them, the Interculturales and the Mosestenes, do not actually really care whether their friends are from the same Pueblo Indigenas or not. It just doesn't really cross their minds.

Now, for the Tsimane-- that's another group I work with-- it does matter. And the question is, why? It matters for two very specific reasons. Now, the Tsimane have been involved with other communities in terms of winning indigenous rights in Bolivia. They have been working with other communities.

But what's different for them is that they're facing a lot of inequality. So compared to the Interculturales, for example, and the Mosestenes, they make a lot less every month. Now, you think that between-community relationships could maybe alleviate that, but the problem is that they suffer a lot of discrimination.

So the Interculturales and Mosestenes, for example, agree that the Tsimane are kind of at the bottom rung of the social ladder, and the Tsimane say that about themselves too, OK? So for the Tsimane, there's just not a lot of affordances to having relationships between communities when they're suffering such discrimination. So let's put this together.

In Bolivia currently, the benefits and cost to between-community relationships are in flux. People are not using between-community relationships to really manage shortfalls due to floods and droughts, but instead, what they're doing is they're using them to access non-local resources, things that are in cities, things that are far away. That's said, experiences of discrimination can really curb between-community relationships, and this is true whether we're talking about Bolivia, talking about the US, anywhere in the world, OK?

So let's recap here. What have we learned tonight? Let's start at the beginning. Humans can be both very aggressive and very tolerant to members of other communities. We established that.

Bonobos maybe are an analogy for human behavior. Maybe we can learn something about how our ancestors were by looking at how bonobos are both of these things, aggressive and tolerant. But during human evolution, because of these experiences of shortfalls, need for non-local resource access that were really acute for members of the genus Homo, what happens is we start to see the importance of things, like not only raiding, which leads to higher levels of aggression, but also between-community relationships as two different strategies.

So because of this, what I suggested is that humans, us, are sensitive to the costs and benefits of between-community relationships, and we act accordingly. So taking this a bit further, in 2019, this is as true as it has ever been for humans. Nod if you feel like this is true. Yeah? OK. Between-community relationships are really a thing.

And in rural Bolivia, they help people gain access to non-local resources. And what I think is that if we pay attention to how the potential benefits and costs of between-community relationships structure our lives today, we can learn a lot about ourselves, right? There's a lot to be learned from that.

With that, what I'd like to do is thank the three groups with whom I collaborate in Bolivia, the Interculturales, Mosestenes, and Tsimanes. I would like to thank a number of collaborators, both in Bolivia and in the US, also in Europe, and a number of different funders. And with that, I will take your questions. Thanks.

[APPLAUSE]

And if I'm looking at my phone, it's because I'm looking for questions to come in on Twitter too. I'm not just ignoring you.

ROBERT MCCOY: Questions?

ANNE PISOR: If we could just have you sit. I know it's a long night. If we could just have you sit for a couple more minutes. It can be a little distracting and hard to hear when people start leaving in a large amount. Thank you. OK, go for it.

AUDIENCE: So I'm a freshman on a political science major. It was recently brought to my attention that the Bolivian national government actually decriminalized the production of cocaine. Is that correct?

ANNE PISOR: That's not correct. But I'll tell you why.

AUDIENCE: OK.

ANNE PISOR: Yeah, we can get into that.

AUDIENCE: OK. So to what extent has that impacted the intercultural interactions in Bolivia?

ANNE PISOR: Yeah, so that's a really good question. So the question here is more than about cocaine, it's a question about coca. So coca is a leaf. It's a plant that's been used ceremonially in the Andes for a long time. We have evidence for it archaeologically going way back.

And so coca has become really important in Bolivia. It helps you keep awake. So if you chew on it, it'll keep you awake. If you're at high altitude, it'll help you deal with the altitude sickness.

And so because coca is so important to Bolivia, basically, the production of coca has been decriminalized, but not of cocaine. Now, that's complicated, because the US was in there a really long time telling Bolivia not to produce coca. And Bolivia went back to doing it. They kicked out USAID and other US organizations and went back to making coca.

Now, that does mean some people are making cocaine, but Bolivia has active groups of soldiers that go out and try to rip up fields when people are making cocaine and so forth. Yeah. Good question. All right, other questions? Checking Twitter.

AUDIENCE: So you said that the government is making a bunch of roads and telephone towers in Bolivia. Did that cause a bunch of controversy between the tribes who are so used to how it's always been?

ANNE PISOR: I always feel like you know something about this because you're setting me up for it, but you probably just know how it always goes, right?

AUDIENCE: Yeah.

ANNE PISOR: Yes, it caused conflict. So it ends up that in general-- and I don't want to speak for everybody in Bolivia. Again, there's 36, 37 different ethnic-- 36 different ethnic groups. I said 37, it's 36. And basically, it depends on who you ask.

So most of the people I know really wanted the cell phone towers. I happened to mention this talk on Facebook, and half of the people who liked it were Bolivian. So they're very much on their cell phones and love it just like we do.

Now, roads are another story. So there have been some long-lasting controversies between people who are living in different areas, especially in preserves, or who have traditional tribal lands. They call it [NON-ENGLISH SPEECH] so communal lands that belong to traditional peoples.

And so when you're trying to build roads through those areas, people are obviously mad. And so there's a lot of back and forth. The government wants to build roads. People want those roads, but they want to be able to be involved in the planning of those roads, where they go and on what conditions. So that is causing some tension. Yep.

OK. Think there's some questions up front. Refreshing Twitter in case anyone asked me anything. No one's asking me anything on Twitter. I see you out there.

AUDIENCE: How has your experience being-- like, going into those indigenous groups and being accepted as you were and then trying to learn about them.

ANNE PISOR: Oh, that's such a great question. This is an anthro 101 right here, right? So being an anthropologist, and being an anthropologist who is ethical, is about being an anthropologist who tries to make their interests kind of meet halfway with the interests of the community, of the indigenous groups.

And so for me, it's been a bit of a journey to kind of find the way that my questions, the kinds of questions I'm trying to ask, can also be meeting halfway with what people are interested in down there. And so basically, it's come to the point now I spent a year and a half of my life in Bolivia, and so some of my closest friends are down there in addition here. Just makes you feel like you have two different homes. I call it two different places, basically.

But things are different, and there's a lot of distrust of the US. And so that's something I run into a lot in Bolivia, fear that I might be a spy, things like that. And so being an anthropologist is really interesting. Building that kind of rapport, that kind of close relationship is a bit of a journey, and it's always something we foster, just like with any friends, to try to win that trust. I hope I answered your question. Yeah.

AUDIENCE: When did you decide to be an anthropologist?

ANNE PISOR: I love these questions. You guys are giving me the soft ball ones. OK, so when did I decide to be an anthropologist?

All right, so I'm speaking you undecideds out there. Undecideds, come on, show me your hands. It was me once too. Yeah, I see you.

All right, so I started out college thinking, I don't know what I want to do. Maybe I wanted to be a counselor, as in a therapist. Maybe I wanted to be a senator. That sounded pretty good too. It was all these different things.

So I found I was really interested in psychology, anthropology, international relations, and biology. And by biology, I'm talking macro bio, not micro. Now, what happened is I was in a social psych class in my second year of undergrad, and there was one little paragraph in that social psych book, and it said, there is this thing called evolutionary psychology that asks where human behavior came from and why it evolved in humans, and talks about human psychology as something that may be a product of our evolutionary history. And my brain was just like, oh my god, yes. This is amazing.

So I immediately googled it. I was like, evolutionary psychology, and then my undergrad, UCLA, I was like, UCLA, and I found a professor who was teaching a class the next quarter on that subject. So I took his class, and I kissed his butt a little bit, and I ended up switching my major. So I ended up double majoring in anthropology and psychology because it combined my four loves. Combined that international relations, that biology in the evolution part, psychology, and anthropology. Hope that helps.

And refresh Twitter just in case. All right, I have a question on Twitter. Any other questions from Global that I need to be aware of? OK, I'll go ahead and take this.

Anne, did you run into any alternative hypotheses when you were looking at the evolution of niceness and aggression? What discredited those for you? Another really good question.

So one of the main alternative hypotheses is that humans actually are really aggressive towards members of other communities. And that's basically been the baseline assumption for evolutionary anthropologists. Now, this didn't really mesh with what I was seeing in the real world.

I was seeing a lot of variability in those relationships. I had to skip over the slide, but if you're a psych major or if you're majoring in international relations or poli sci, you probably know that relationships can go either way. There can be opportunities for collective action and collaboration that really change the tone for between-community relationships. So for me, I was kind of evaluating these two different hypotheses. It's like, is the reality that a lot of evolutionary anthropologists talk about the reality of humans when it becomes-- when it comes to between-community relationships, or is it more nuanced, like what we've heard in psychology and political science and so forth?

So those were my main two ideas in looking at this. And I've learned a lot, actually, through just thinking about human evolution itself and thinking about how humans came to be this way. That's really changed the way I think about how it all works. So great question out there, yeah.

SPEAKER: We did get an online question from Evan. You mentioned some native Bolivians are discriminated by other natives. How do these native groups determine the social standing of others, by resources or wealth, for example?

ANNE PISOR: Yeah. So much as it often is the case in the US, there are some discourses in Bolivia when it comes to different Pueblos Indigenas talking about each other that include things like backwardness, one group being backward relative to the other. Nod your head if you've heard of different groups calling each other backward before. OK, yeah, a few of you out there.

So what this seems to have to do with this is a lot is about money. So people feel like people who don't have money or don't wear the most Western clothing or don't own cars are not keeping up. They're not civilized. Sometimes you hear things like that.

And it seems to just be kind of this globalization having a lot to do with it. Having access to these kinds of nice global resources that people want are what leads to status between different groups. So a lot of that is playing into the discrimination that we see. So hopefully that answers your question, Evan.

ROBERT MCCOY: OK, I think we're at 8:00. Can we please give Dr. Pisor a round of applause. Thank you very much.

[APPLAUSE]

[MUSIC PLAYING]