The Revolutionary Origins of Language (2026 Seminar)

Jerome Lewis and Chris Knight

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Contents

Discussion & Audience Questions 29

Chris Knight and Jerome Lewis explain why language and society are fundamental to the emergence of humans as a species, or the 'human revolution' as they call it.

Drawing on primatology, linguistics, evolutionary theory, biological and social anthropology, in particular of existing central African hunter-gatherer societies, their forthcoming book 'The Revolutionary Origins of Language' (Yale UP, for 2026) shows how fundamental to language emergence was early human societies' unique cooperative childcare, ritualized practices and egalitarian politics.

They argue language emerged not just for practical communication but through dramatic, shared cultural performances (like "sex strikes" or political theatre), fostering deep trust and symbolic understanding, a shift from primate dominance to shared humanity.

Chris Knight is the founder of the Radical Anthropology Group and author of *Blood Relations: Menstruation and the origins of culture* (1991).

Jerome Lewis lectures in Social Anthropology at University College London.

`https://vimeo.com/1176021658`

Camilla: Tonight we are welcoming two of the major contributors to RAG to talk about the book that they're publishing with Yale University Press this summer on the revolutionary origins of language and I've been watching this book, Burgeon and Flourish and Flower and Bloom.

So they have told us about it as it was going along.

So now this will be a wonderful time to hear their kind of whole experience, whole story of how the book has come together and we had last week, of course, Cedric Books, who's one of the major interdisciplinary workers on the Faculty of Language.

The week before that, we had Ian Watts giving us the whole story of the last half million years, how women founded symbolic culture.

So now today, we're really getting down to the nitty-gritty of how women invented language.

Chris, what was the book going to be called originally until...

Chris: Well, it was the first attempted title, I suppose, was When Eve Laughed.

I'm going to hand over to you.

I mean, various objections were launched against the idea of Eve being a single person and a little bit on the religious side and so that had to be dropped.

What was the intermediate? So the book was originally going to be called When Eve Laughed and then because of the word Eve and religious connotations and the idea of a single person, I think one or two other reasons.

Although I must say I did very much like When Eve Laughed.

It was a great title because it had the word laughter in it, and laughter is a critical part of our theory.

Long before you had language, you had laughter, and it was very much a precursor, and it's one of the building blocks for language.

We were persuaded by our publisher, by Yale University Press, to be absolutely sure that not a trace of sex or gender could possibly be allowed in the title of the book.

The reason being that there were two men and even when we changed the title to The Revolutionary Origins of Language, no hint of sex or gender in it, We were still urged to be very honest and open about the irony.

There were two men.

It's astonishing.

There were two men, and yet we're writing about women.

To me, scientists have always been writing about males and females, and if you're doing science, I don't think science cares too much about your sexual anatomy.

But anyway, there you are, that's Yale University Press.

We're actually quite pleased, I think, with the title, The Revolutionary Origins of Language, because there's no question about it.

There was a thing called the Human Revolution.

Humans, we are very, very, very strange creatures, and possibly the most weird and wonderful part of being human is being able to speak.

So anyway, The Revolutionary Origins of Language is currently our title, and it's a good title.

Shall I say a little bit more about these difficulties about being men? Perhaps that's not necessary.

Is that enough on the title?

Jerome: Yeah, I think so.

I mean, what we might finish on is we'll return to the title to talk a little bit more about why revolution seems like a good word and the metaphors that emerge from revolution that aren't normally included in scientific texts.

but actually have a very real explanatory relevance that really...

Chris: I mean, language is just utterly, utterly, utterly off the scale by comparison with any other animal system of communication.

It's just, it's just, it's so, different.

Do you want me to say a bit about what language is?

Jerome: I mean, kind of think...

Chris: I mean, the word language, obviously, the language of the bees, the language, I think, of the trees, the trees talk to each other, all sorts of versions of language.

The technical term that linguists use language, what shall I say about it all? It's remarkable because all other animal systems of communication have to be reliable, because a fundamental principle of Darwinism is that although the natural world is full of cooperation, it's equally full of competition and so trickery, deception, telling

lies is always a kind of risk and our closest primate relatives, chimpanzees, gorillas, great apes, bonobos, They require reliability in their signals.

So if you can manipulate a signal, you can cheat with it, and no animal wants to be cheated, wants to be deceived.

So even though, for example, chimpanzees, if you bring them up in a family, they're perfectly capable of quite complex signing, artificial signing.

You can teach them something like American Sign Language, a rather crude version of it, And they can use metaphors.

The wonderful chimpanzee, Kanzi, was a little story, but he died a few months ago.

He came across a beaver and he didn't know the word for beaver, but he did know the word for gorilla, and he didn't know the word for gorilla.

So he just came up with a water gorilla and it's just beautiful and it's just showing that the reason why chimpanzees and other animals don't talk is not because they're stupid.

is because nobody would trust a form of communication which could be deceptive and in order to make sure that you only respond to like true signals, the signals you're listening to and responding to have to be connected to the body.

So as soon as you can manipulate a signal, you can trick with it.

So in an important sense, I'm in a chimpanzee, wildbuck, or let's take a pant.

That shows that you're getting a bit aroused.

It's like bodily proof of your emotional state and listeners to sounds like that need to be sure that you're not just tricking and as soon as you can make whatever sound you like, you can make all sorts of different sounds, then of course there's nothing reliable about the system of signalling.

So, reliability is what stops other animals producing anything remotely like language.

There's A blockage to the complexities of what we call language, because there's just not going to be kind of infinite trust around.

We have to be so, trusting of each other to rely on words which could easily be lies.

Jerome: Perhaps you need to mention?

Chris: A little bit about the social organisation and so the whole community that you're operating inside has to be one with extraordinary levels of trust treated as normal.

When we hear people talking to us we assume, we don't assume that the signals are exactly true.

It's even more astonishing.

Even if what we're being told is patently false, and actually pretty much everything in language when we speak is kind of not literally true, it's kind of false.

Because even if somebody's telling us a fairy tale, we're interested.

We're interested in one another's thoughts anyway.

They don't have to be literally true and in fact, the basic principle of human language is metaphor and just think about it.

What do we mean by metaphor? We mean something that's false.

I mean, a classic cliche example, Romeo and Juliet.

Romeo says, Juliet is the sun.

Now think about it.

Is Juliet the sun? Well, the sun's that big hot object.

I think it's hydrogen fusing into helium and it's not a woman.

The sun, you know.

So Everything we say is in some sense metaphor, even if you come into the room and say, Oh, it's a bit hot in here you're not supposed to say, Yes, it's a bit hot in here, you're supposed to open the window.

So so in a way, metaphor is everywhere.

In other words, we never we don't normally speak absolutely literally, like as if we're tapping a keyboard pressing the right key.

So, if you're if you're if you're doing what Noam Chomsky was attempting to do, Perhaps I should say a little bit about Nonchotsky.

Jerome: You just need to mention why do animals distrust one another so much.

Chris: Well, there's no moral framework.

A chimpanzee society is not a moral community.

You do what you can get away with doing.

You do what you feel like doing.

a dominant alpha male chimpanzee will be quite a nuisance actually to females.

I mean, the female may want sex, she may not want sex, but the dominant male doesn't really care too much either way and one of the things that happens in a chimpanzee society is that females have to move away from their natal group as they come of age and want to have sex because they get hassled by their brother or father.

So the idea of any kind of moral system, kind of forget it, It's not that chimpanzees are horrible creatures.

They could be quite loving and tender and affectionate and cooperative, of course.

But there's no system of moral prohibitions or rules against doing this, that, and the other and everyone has to, actually, in order to be successful in their society.

In a human society, you have to know how to share.

You have to know how to respect others and there's a general moral framework, which is actually, that is incredibly difficult to explain in Darwinian terms.

Darwinism doesn't know anything about morality.

Darwinism doesn't have morality.

Morality isn't part of Darwinian theory, and yet here we are, and there's no society in the world which doesn't have, say, an incest to do.

There's A thou shalt not component.

It's not just that people don't feel like incest.

Sometimes people might especially in childhood, they might feel like doing all sorts of things, but there's a moral framework and once there's a moral framework, and we

need to explain that, of course, and we have to explain it in Darwinian terms, we can't suspend Darwinism and say, well, it's just there.

We have to explain how Darwinian evolution led to a moral framework.

Once you've got some kind of morality, then one of the major sources of really bitter and sometimes violent conflict, which is sex.

I mean, sex is kind of nice, but it's also, as Marshall Sun has actually said in an article I read years and years and years ago, I think it was in 1960 in the Scientific American, sex comes with violence in the animal world and somehow, in our case, within communities which are normally functioning human communities, actually particularly hunter-gatherer communities, that violence has been put in its place, has been transcended, leading to levels of trust which are quite extraordinary, quite almost like bizarre.

But with those levels of trust, language becomes possible.

Jerome: And perhaps now is...

opportunity to just explain the alternative which was say promoted by Chomsky.

Chris: Yes, okay, I wrote another book a few years ago called Decoding Chomsky.

So, okay, Jerome's invited me to say what is language by contrast with a dominant paradigm.

So according to Noam Chomsky, Language is a natural organ.

It's a module or component within the human brain.

He called it the language organ or the language acquisition device, various other names and you can study this without going anywhere near any branch of anthropology, sociology, social science, social psychology, because it's just a natural thing and you just do natural in the sense of physical science and according to Chomsky, I think the best way to think of it is Chomsky was working for the US military in the Massachusetts Institute of Technology and he was thinking in terms of a mainframe computer, one of these huge early computers.

It had to be housed in a huge building with all kinds of cooling mechanisms to stop the thing from catching fire and everything Noam Chomsky says about language does apply to one of those 1950s mainframe computers.

As soon as we think about it, I think any, I don't know, any critical mind would just realise this is complete nonsense.

But for example, one of those mainframe digital computers, it didn't communicate.

So these computers didn't talk to each other.

You had this computer, big one, and he had an input, and then all sorts of things going on inside the computer, and then it delivered an output.

So, according to Chomsky, language is not for communicating, it's for computing.

Silently.

His theory of the origin of language was, again, very, very strange.

It was that once upon a time, he calls it a fairy story, but he kept on with the same fairy story, once upon a time there was a evolving ape-like human wandering around and he called it Prometheus on one occasion.

So it had to be a male and then there was a massive supernova explosion in some distant galaxy and it sent all these cosmic waves around the place and this individual, Prometheus, was hit by these rays and that they triggered a macro mutation, a huge mutation and this mutation installed, is the word to use, as if it was a computer module, installed a fully functioning, perfect language organ instantaneously in the human brain and so the language was, language in Chomsky's terms, was this mechanistic digital computational module, which you could study using purely natural science.

Don't go anywhere near anthropology, prehistory, primatology.

It's just a natural object in the head.

You're looking a bit worried, all of you.

Jerome: Well, it is a preposterous theory.

Chris: I mean, the most bizarre thing is that a completely crazy theory about what language is and how it emerged It was the dominant theory throughout the second-half of the 20th century, ever since the 50s and you just couldn't argue with Chomsky.

It was like arguing with the Pope.

If you're not the Pope, you're always wrong.

Or maybe it's like arguing with the king.

If you're not the king, the king's always right because he's the king and you just, Chomsky was like this figure, this institutional figure and in my book I described the result of this as a kind of religion.

In other words, people just believed in it and the religion, in my view, is called, the word for it I use in my book is scientism.

It's a kind of, not exactly, worship isn't quite the right word, but it's kind of reverence for a thing called science.

But this science has to have no hint of anything social in it and the reason, it's all a little bit strange and complicated, but the reason he couldn't have anything social in it is because the social side of things was what Chomsky described as politics.

So he did politics and he did science.

There had to be no connection with them.

So everything social about his science has to be put into his politics and there had to be no, it had to be like a firewall.

between the science and the politics.

So the science had to be exclusively natural science.

Is that clear? Yeah.

Whereas actually, of course, language is social and then there's a few other things as well I might as well put in there.

Because we're dealing with a computer, if it's within the Tromskin framework, computers don't, or at least didn't in those times, The computer doesn't learn anything.

Everything has to be pre-installed.

So you might then come to the question of how does a child acquire language through this device called the language acquisition device.

So Chomsky was asked about that and he said, well, and it's exactly as if it was a mainframe computer, all the world's different languages have to be pre-installed inside the module and what happens is that the child and he claims that this is like how it works with a human child.

The child has installed in it from birth all the world's languages, including all the world's past languages and all the world's future languages.

When you think about that, you realize that's probably true if you've got a computer because a computer doesn't wander around picking things up, learn from its neighbors, engaging in conversations.

It's just a huge, big digital machine and so you would have to install all the world's languages in it.

But what Tromsky then says is that what happens is, and the child might be in, say, England, but it's not in Tanzania, it's not in Japan, it's in England and so, and it picks up a few sounds, and it thinks, oh, I must be in England.

Oh, I know English, it's been installed already.

So it brings up English, and it knows all that, and then it comes out with English.

because it's been pre-installed.

Because if you had learning, can you see what the problem is for Chomsky? If you have learning, that's about, that's culture.

Culture is learned behaviour, not instinctive behaviour.

So there you are.

Jerome: Yeah, it does sound extraordinary, but this really has been the dominant paradigm and the reason why our book is revolutionary is because it also profoundly challenges that paradigm and looks at the roots in what we know from archaeology, what we know from primatology, what we know from many other...

Well, I'm going to hand it back to Chris.

But, I know I'm just because it is so shocking when you have Chomsky's theory explained to you with the clarity that Chris does, that it was so pervasive and so accepted and I think that what we're providing in this book is an alternative which is based in evidence.

It's not based on speculation, on philosophical imaginings.

It's based on the evidence and that's what we want to share.

Chris: You might have thought that some time ago, given that Darwin was writing in the 1850s, 1860s, that by this stage we would...

like collectively, as scientists around the world, we would have by now a theory of the origin of language.

There isn't a theory.

I mean, we think we've got a theory, but even in our case, we don't really claim to have a theory of the origin of language, as if language is a separate faculty or something you can take in isolation and actually, I've been involved in this for many years.

I've been involved in a thing called EvoLang, which we set up in the late 90s, an international biennial conference on the origins of language.

But it's now considered the hardest, or perhaps, or possibly the hardest problem in science to explain the origin of language and actually, Jerome and I think there can be no such thing as a theory of the origin of language.

As if language is some special thing which has got special advantages which can evolve independently.

What we think is that we might be able to explain the origin of everything that makes us human, laughter, song, dance, formal kinship structures, forms of cooperative labour, exchange, all those things.

So when we think in terms of explaining everything that makes us human And there is evidence for lots of that, of course, because there's archaeological evidence and ethnographic evidence and all sorts of evidence.

What we're saying is that language is just one component of all that.

So if you're not already evolving all the other things, laughter, song, dance, kinship structures and all those things, language can be a part of all that.

But without those other things, you can't imagine, realistically imagine language even beginning to evolve.

So we're in this rather difficult situation where we're forced to try to develop a theory of everything.

It's hard, isn't it? I mean, a theory of everything.

How can you have a theory of everything? It's actually simpler to explain kind of everything than to try to explain one of the components of human symbolic culture as if it's an isolated thing.

So for example, it's just not true that language is better than a primate call system.

It's not better.

It's like that's rather like saying, I don't know, what are these bank cards? I mean, bank cards are better than you know, giving and taking, gift giving and exchanging.

You couldn't even have a bank card.

You couldn't even have money, of course, without a huge lot of preceding developments.

Money's not like better than gift exchange.

It's a completely different system and it presupposes a whole lot of previous developments before you can even imagine having money.

What would money be worth in the rainforest? I mean, or one of the metaphors I used to use, which actually was quite successful, I remember Steven Pinker of all people, being quite keen on this idea.

You know, imagine in the rainforest you've got chimpanzees and different creatures, and then you've got a bank card.

That bank card is very useful to having your bank card.

You can get on the phone, tell people in the hotel in some different part of the world this is my bank card number, can I please stay for a week in your hotel? It's incredibly useful.

Think of a bank card in the rainforest.

When's it going to evolve? No, it's not going to evolve.

You've got to go through early hunter-gatherer society, hierarchical societies, hunter-gatherer societies which have got an element of hierarchy, and then you've maybe got to herding, farming, the Roman Empire, different other empires.

You've got to get through all those things.

You've got to get electronic.

Eventually you might get a bank card, but not until you've got all those previous things and when we're talking about the original language, we're having to go through a whole lot of previous things to get there and each of these things is a frightening circularity about it.

How can you have ritual, for example, If you don't have language, how can you have language without ritual? They're all interdependent and as a result of that, we came up with something which really does exist and the best model is something which Jerome documents in his work on the Benjeli, the Bayaka Benjeli from the Congo and it's called Mwajo and the point about Mwajo is it's a particular form of Almost mocking laughter.

Old ladies, babies are safe enough, grandmothers are safe enough to begin a mojo and inside mojo is kinship, levelling, morality, language, song, a whole lot of things inside mojo.

Mojo is a way in which women, through their solidarity, laugh at misbehaving, usually men.

So some guys doing something absolutely stupid, usually in connection with sex and gender relations and what happens is the next morning, perhaps Jerome will be able to, must be much better at explaining this to me.

I'll just say it really quickly and Jerome can feel it.

We think everything begins with mojo, put it that way, because mojo contains everything in it and mojo is, how do I put this? No man likes to be laughed at by a bunch of women.

So levelling laughter, a form of laughter which is teasing, mocking, raucous, eventually the whole community is size-splitting with laughter at this enactment which is women are performing to make fun of some guy and soon the whole community is in size-splitting laughter.

Everyone's laughing except for one person, the target of the humour and then what happens is he gets it, ah, they seem to be laughing at me and the women keep on laughing and laughing and laughing until eventually he joins the human race.

He sees the funny side of his own stupid behaviour, joins in with the laughter, and only then do the women stop.

Inside Mwajo is language, is morality, is ritual, is all those different things and over time they begin to disaggregate and separate from each other.

That's kind of our whole theory.

So the idea that language emerges because it's better, it's only better under these particular circumstances.

Once you've got laughter, once you've got levelling, therefore once you've got considerable egalitarianism, once women are powerful, perhaps I should just add this point.

Again, I first came across this in an article by Marshall Sahnins in 1960, The Origin of Society.

When women have solidarity and don't just chase after the most dominant male, or don't just succumb to the power of the most dominant male, once women have got the solidarity, then there's no point men fighting each other, because they're not going to get sex that way.

So if women have got solidarity and only want sex with men who are going to be helpful to them and their babies, then there's no point fighting, therefore men stop fighting, they use their potential for violence in a different way, chasing after the wild animals and bringing back the meat eventually.

That takes a very long time for that part of it to happen.

But the point is that language disaggregates from a whole, and it's actually not so difficult to explain the whole.

It's just like everything, because everything starts out as one thing.

That's it.

Jerome: It's not it.

So one of the very beautiful chapters in the book is a comparison between chimpanzees and bonobos and I think just to get into the importance of mum, it might be worth just sharing that.

Chris: Okay, so right.

So one of the critical things I mentioned earlier is that Stray tapes, unlike monkeys, are what we call, primatologists call male philopatric.

That means a female on coming of age and needing to get pregnant, she moves away from mum.

She moves away from her kin.

She moves away with all the kinship support she might have expected and the reason she has to move away is because otherwise she's going to get hassled by an older brother perhaps, wanting sex, and they do.

maybe the father who doesn't even know he's the father wanting sex, which also happens, so she has to move out and that's just another aspect of what I mentioned earlier, the idea of any kind of moral prohibitions, just forget it.

So she has to move away from mum and so that means that the chimpanzee female, young female, she gets pregnant and she's now got to work out how, all on her own, how to breastfeed, how to care for the baby without mum and if you're not with mum, you're not going to be with your sisters either as a female.

You're going to be on your own and that means you're going to get all sorts of hassle because your kin aren't with you.

You're in a strange group.

You're on your own.

Infanticide, again, many people on the left don't like even talking about that, but I'm really sorry about it.

But infanticide males killing babies, if they think the baby's not theirs.

Females killing one another's babies, because the intruder is moving into their patch and a whole chapter on all this.

So what's got to happen to start with is that somehow evolving human females have got to be able to stay with mum instead of moving out and they can only do that by themselves, a young female, maybe with a mother, maybe with her sisters, standing up to kin-related males and seeing them off, almost as if they were saying with their bodies, we're not moving, if you want sex, you've got to move and so living with mum was the first thing to happen.

I mean, I'm not sure, Derome and I probably are not all that sure, there are other people who may be a little bit more definite about these things, but somewhere around earliest **** or at least homo erectus, women began, or evolving human females began living with mum and once you're living with mum, you've now got support in childcare and to begin with, that support wouldn't come from men, from males.

The first person, an evolving human female, would solicit or expect support from, would be their mum.

So first of all, an evolving human female would expect and get, expect to get childcare support from mum and then childcare support from sisters as well and so you're beginning to get this critically important thing, which a marvellous sociobiologist, I spell that word out because it's very important.

Sociobiology was an absolutely brilliant development.

It means you're doing natural science, biology, but it's social as well.

It's also social science.

Completely transformed the study of primates.

So it's an absolutely liberated thing.

The whole of the left denounced socibology as some kind of fascism or something.

Of course, exactly the opposite way around, because prior to socibology, you had kind of eugenics, group selection and all that horrible stuff and then the main socibiologist, that means selfish gene theorists.

Selfish genes make cooperative individuals.

The number one pioneer of socibiology was somebody called Sarah Herdy, H-R-D-Y and it was she who established what is nowadays recognised as the fundamental principle.

How come we've got such strange brains, we can see ourselves as others see us, it's called inter-subjectivity.

We've got extraordinarily large brains, they got large over time, more or less speeding up a bit over time.

The reason why we've got these unusual brains, three or even four times the size of a chimp brain, is because of cooperation in the hardest job you can imagine.

What is the hardest job? The hardest form of work? Childcare.

As soon as childcare became cooperative, extraordinary things began to happen.

So Sarah Hurdy wrote this marvellous book, 2008 or 9 or something like that, a few years ago, called Mothers and Others, saying that without It's a kind of communism.

I like calling it communism.

Nobody privately owns a child.

A child is brought up by a number of different mothers and before long, male relatives as well, particularly to begin with, probably brothers.

So as a result of cooperative childcare, we have these astonishing brains.

But that would only have worked once females were living with kin, you can rely on your kin, you can't necessarily rely on strangers when you're talking about evolving human hominins, primates and of course, along with the solidarity between evolving human females and their refusal to allow sex, they didn't feel like, that cut from under the position of the dominant alpha male.

There's no point males Fighting each other for sex, which is what our males do, great apes tend to do, obviously it's not nothing but competition, there's lots of cooperation as well, but as long as females kind of allow themselves to be fought over by rival males, rival males will fight each other for sex and they won't be anywhere near the levels of trust you require for language to evolve and then the way in which what we call reverse dominance, so reverse dominance means females over a period of time, obviously, initially a million years or more, reverse dominance means, it is true that with chimpanzees, the dominant sex is the male.

It's not true for all chimps, it's not true for bonobos, they're the females that are dominant.

But in order for females, hominids as they evolve to turn things upside down, become dominant, at least periodically, is to be able to signal no sex to males and we could go into, we can work out really astonishingly precisely how groups of females logically would have signalled no in body language and I don't know, do we want to go into all that now or shall we leave that for a bit?

Jerome: A key point in comparing bonobos and chimpanzees is the way that females forage in these different groups and chimpanzee forests are, or chimpanzees compete with gorillas in the forest that they live in and as a result, females have to disperse and spread out quite a lot.

over the areas in which they forage and by foraging individually, they are much more vulnerable to coercion and manipulation by males who are seeking sex or other advantages from those females.

By contrast, the bonobos were a group of chimpanzees that crossed over the Congo River and entered a forest with no gorillas in it, so they didn't have to compete for food, so they had really abundant sources of food.

This meant that they could gather together, they could go foraging in large groups, and those large groups allowed them to create coalitions with one another that would overthrow the power of any male who might come along trying to rape them or cause trouble and this difference in foraging strategy, which led to women or females, sorry,

being able to stay together, produced a very different political dynamic among bonobos to the dynamic that Chris has just been explaining among chimpanzees.

Chris: I mean, so just if you don't know, but sorry, bonobos are chimpanzees. They look almost identical.

They are a form of, as Jerome said, these particular chimpanzees, there was a time when the Conga River more or less dried up and they found themselves in a kind of paradise.

It was lovely and wet and moist and fertile and so these large groups of chimpanzees that we now call bonobos became female dominated.

I mean, there's so many theories all around the place.

Richard Wrangham is so famous as a primatologist, saying, oh male dominance is natural.

Chimps are, for all our closest primate relatives, and they're very male-dominated.

Yes, common chimps are pretty male-dominated.

Every young male coming of age, he has to beat up his mother.

You know, it's expected of him that he should do that, to establish his dominance.

Even today, people think, oh, this is these are chimp disease, they're close genetic relatives.

But no, they're just as close genetic relatives and they're matriarchal, mostly.

There's all sorts of complexities about it all if you want to go into details.

But there's no question that on average, when it comes to, for example, a certain amount of food, and there's a male around, the females will, what they'll, probably you've heard of this, two females will get together lean back, put the genitals together, do a bit of GD rubbing, now they're bonded, and now any male that tries to get their food, he will just get beaten up by the females and then it's even more interesting because actually what happens is that the females are constantly, this is a bonobos version of chimpanzees, the females have they have babies, and a little, a baby like two-year-old, three-year-old chimpanzee infant, any male that gets near them when the baby is eating some food, some fruit which has fallen from a tree, the mothers are just watching and that male will just get jumped on by a bunch of females.

So there's no question that matriarchy, if you like, don't want to call it that, it's a little bit of a simplific, not a very good term really, but it's just as quote natural as patriarchy.

We are just as naturally genetically female governed as male governed.

So the idea that somehow some kind of gender equality and even edge of female dominance is somehow some kind of romantic fantasy.

Totally and utterly wrong.

Yeah.

Jerome: Okay, so we've talked about chimpanzees, we've briefly mentioned some of the early **** Homo erectus, and there's a lot more in the book about that.

And in an hour, to summarize, a rather long book is obviously going to fall short.

But it's really important to understand that contrast between the bonobos and the chimpanzees because it really shows the power that women gain by being together and this whole process of living with mum that Sarah Huridy so beautifully explains in probably our Homo erectus ancestors would have changed the dynamics of early hominin groups and it's important to recognise that of all those early hominins, we're the only ones that have survived.

These big brains have extraordinary costs associated with them and those of you who followed Ian's Watt's talk a couple of weeks back, he gave a beautiful and very precise explanation of the constraints that the bigger and bigger brains caused for evolving hominins and he described some of the strategies they developed in order to cope with that very intense demand for energy that brains require and just to put it in context, a chimpanzee's brain is 450 centilitres.

Our brain, cubic centimetres, sorry, I think a centilitre is a cubic centimetre.

But the humans get up to 1,800 cubic centimetres.

So we're talking about an extraordinary increase in brain size and sustaining that is part of the dynamics which led to the evolution of language.

But it could only happen in the context of these very powerfully female-centred societies and we then, unlike the other people who developed many theories about the origin of language.

We are very closely linked to the hunter-gatherer ethnography because, of course, today's hunter-gatherers are not primordial or primitive peoples.

They are very modern peoples.

They are influenced by the people who live around them.

They interact with global society and so on.

But nonetheless, the egalitarian hunter-gatherers of Africa in particular, they show us humanity in its most, they haven't accreted all these complexities that we have through farming, the need to organise labour around long-term investments in landscapes, in places, because they just hunt and gather each day.

Every day you wake up and you go and find the food you need for that day and of course that has its own challenges.

But when we look at these egalitarian hunter-gatherers, we can really see human society, not in its simplest form, because it's not simple to maintain an egalitarian society, but perhaps in its most humane form and that doesn't mean that there aren't lots of fights and problems, because of course we are humans and we fight and we argue and we do all those things.

All those things are present, but the way they manage them is what's so interesting and when you look across all the cultural and geographic diversity of hunter-gatherers, egalitarian hunter-gatherers in Africa, you can see that there are a core set of features and those core features are really crucial to understanding something of this deep past and it's just an echo.

It's not that we're saying hunter-gatherers are those people of the deep past, but through those shared characteristics across all these different groups in Central Africa,

Southern Africa, Eastern Africa, we can elucidate some of the core features of what was likely to have been the echoes of those distant pasts and these are some of those groups and although we don't have historical, much historical material about hunter-gatherers, the archaeology certainly of Central Africa is really difficult because the trees mess up all the accretions that are normally used.

But in Southern Africa, and we may have time to touch on some of that perhaps, these things have, there's some very interesting evidence and I think Ian gave an excellent talk to it and I'd strongly recommend if you're interested in understanding that more, have a relook at that talk.

But what we do have is the genetic evidence and this is very interesting because what it does, so this is tracing mitochondrial DNA, the DNA that's passed from a mother to her daughter And we can see when we look at the entire story of humanity that our mitochondrial genetic tree, you can see it just on the right-hand side there, comes down to the pygmy groups of Central Africa and the San, and indeed the Hadza are somewhere in there too, as at the root of our family tree, if you like.

So the genetic evidence is really supporting this understanding of these core features as being some echo of this very deep past and what's particularly remarkable, and this might sound like a slight sidetrack, is that the musical styles of the San and the Central African hunter-gatherers and the East African hunter-gatherers, the Hadza, this polyphonic singing style, is shared between them all.

So even though they speak different languages today, they occupy different habitats.

they share a musical style and this is really quite remarkable and is something that I've worked on quite a lot in my own work and what's interesting about this musical style, and there's an ethnomusicologist, Victor Grauer, who has done some work looking at this, and his hypothesis is that when we listen to the polyphonic singing of these groups, we are listening to the echoes of the very ancient singing style that our early forebears and foremothers would have been using and why is singing important? Well, in looking at the evolutionary story of humanity, there was a point where humans came out of the safety of the tree, **** sorry, came out of the safety of the trees and started living on the land and at that time, the, oh, I'm already there.

Right, I'm sorry, we're not following script here.

At the time when the humans came down out of the trees, they were suddenly exposed in much more open landscapes to these frightening predators of that period and we were excellent prey for those very fearsome big cats and those big cats have remarkable night vision.

When what seems to us pitch black is for them clear and so they do most of their hunting in the dark of the night and one of the theories for the origin of fire is that it's a way of keeping the big cats away.

But it's also a way of telling the big cats where you are, which has its own disadvantages too.

So what we hypothesize, and when the piece of music that you, or the recording you were listening to just before we began speaking, you may have heard the forest

sounds And then as the forest sounds started to be suddenly infused with a yodeling, a very quiet yodeling that built in intensity and what that is a recording of is women collecting mushrooms and as the women move through the forest and do their gathering activities, they sing very loudly and they sing in order to keep the dangerous animals away from them because they've got all their children with them and they themselves don't want to surprise a dangerous animal because it can cause so much trouble and so when I was doing some work on this and we asked a woman, why do you sing like this? And she said, well, we sing to stay alive.

We sing to keep the animals away and so this made us think that actually perhaps one of the most effective ways for those early **** groups to protect themselves from these frightening predators was to sing and why is that? Because if you, the natural reaction when you come up against a big prejudice, make yourself big and scream and shout and make as much noise as you can.

Very sensible, spontaneous reaction.

But if you had to sustain that all night long, how long could you scream for? Myself, I'd probably run out after about 30 seconds and I would be hoarse.

Perhaps a stronger screamer might scream for five or 10 minutes.

But then beyond that you start to get very exhausted.

So clearly those early hominins had to establish some techniques which would make that pleasurable and could make it last for the whole night and polyphonic singing is very effective at doing that because even if you're just four people, each person is singing a different melody.

Those melodies then intertwine and create a song above the singers and that song sounds from the outside, it's very difficult to actually calculate how many parts there are, how many singers there are.

So by singing polyphonically our theory is that early groups of women and children particularly would have been singing all night long to keep those animals away and particularly at dark moon when there's no light and you're most vulnerable to being hunted by these fearsome felines.

So four people sound like 10 or 12 or even more and this is a way which the vocal dexterity, one of the reasons chimpanzees can't speak, they could speak if we could teach them, is that they don't actually have the vocal dexterity in order to do that and a lot of research in Language Origins has looked into why and how that could happen, or how that vocal dexterity could develop.

But when you just think of those small groups of women and children who screamed and gave up after an hour, well, then they start getting eaten by the felids.

Whereas those groups that could turn that into something pleasurable that they maintained over long periods would have been the ones who survived.

So you get very strong selection pressures for...

early hominids to start to sing.

So singing, we argue, predates language, but was a vital part of the way that language was made possible and this is what Chris was mentioning earlier about a theory of everything.

In order to understand how language could come about, we have to 1st understand how these precursors emerged in order to create the conditions for language to be possible.

So singing together to scare off those frightening predators is something which any thoughtful early **** would have realised could be a practice which could be also applied to those annoying alpha males that keep coming and trying to rape or force sex onto whichever young women they find attractive and so From the group of singing women, realising that they have power over these fearsome predators, they understand that same power can be used to control and keep away the advances of those alpha males that they're not interested in, or when they want to say no and this now goes back to the importance of song in all these hunter-gatherer societies and one of the very, there are many things we can say about this, but because of, in the interest of time, I'll just say this rather briefly now.

But what really is key is that when children start coming of age, it's very important that they start to learn how to manage sex.

Because as Chris was saying, sex is the key conflict point in society.

If you are constantly either trying to keep away these predatory males who are coming to try and abuse you or one of those males trying to manipulate.

The power of understanding what proper sexual comportment is, not something which you can teach just by telling people, because of course it's an instinct, it's something inside us, but it's something that is reined in through ritual practice and Bolu, over here on the top right, is a children's Mokondi Masana.

It's a spirit play of the children among the Bayaka and in the spirit play, the boys call the spirit from the forest in a secret place, and the girls do beautiful singing and dancing to seduce the spirit out of the forest into the camp so that it brings its joy and blessing to the community and And what the girls have to do is they have to wiggle their backsides very quickly and make them very beautiful and for Bayaka, a woman's backside is the really beautiful part of a woman and so what the girls are doing is they are learning to use the sexual attraction of their bodies to draw in the spirit, the thing that they want.

The boys have to then create a barrier to protect the girls from touching the spirit and the girls need to withdraw so that they don't get hit by the spirit or touched by the spirit and it's a an education in how to behave sexually.

So the boys understand that they can't touch a woman without her permission.

The girls understand that they have a great power of seduction, but they need to also control it and they need to manage it so it doesn't run out of control and these sorts of ways that these communities teach their moral system are not ways which are based on the judge telling you or the book telling you this is how you behave.

It's done through practice, it's done through the regular repetition of these scenarios that educate people in different ways of coordinating and collaborating together and because sex is such a point of conflict, it has to be well managed in society and these rituals are a key process by which that is done.

But as I was saying, the group of women who understand that they can then manage, keep away the predators, can also understand they have power to control those alpha males and what we see in all these groups of egalitarian hunter-gatherers are very powerful rituals still today of reverse dominance, where the women take over the camp, they ritually take power, take control of the community and we don't really have time to go into it, I think.

Chris: Can I just say something on the basis of that? There's a wonderful concept which was developed by Mona Finnegan.

Mona Finnegan did this under during, did a stint of field worker among the same group, the Bayaka.

She wasn't there for very long, but what she managed to derive from her field work was absolutely beautiful and she pointed out something rather important, which is that the Bayaka have this enormous element of gender power that women wield, reverse dominance.

But they don't, when the women take power, They don't have any motive to just keep it.

So when you get patriarchy, the men take the power.

There's all sorts of myths about what happened when they did and how violent these men were before they established their men's house.

So what Mourner points out is that when the women take power, they don't have any incentive to keep it.

It's about the time.

So the women take the power and they have it for quite a while.

It's playful.

They tease the men, they mock the men, they take the power.

They're very rude about men's private parts quite often, especially if they don't think they're much good and after a while, maybe a week, okay, they're getting a bit bored with having the power, and they think, well, why don't we just let go? So they're kind of on purpose surrender the power, because it's really time for the men to take over.

Maybe it's a bit of a period with neither side having decisive edge of power.

So in the case of Jerome's people, there's Nagoku, this is his raucous, onslaught almost like, all the girls and the women, they burst into the camp, they take the power, they're very, very cheeky and disrespectful, they make their point about who's in charge and then, okay, it's the men are expecting to be allowed to turn and of course, eventually, maybe a few weeks, the men do and when the men take the power, it's a jengi.

But the men strut around with their muscles and they're stamping their feet and of course, the women quite admire the brawn because it means these men are powerful, they can be good hunters, they can defend them.

But what you get is a pendulum.

The women take the power, and then the men take the power.

a few weeks later perhaps, and then the women take the power, and then the men take the power.

So it's not really matriarchy.

I mean, when men over time in the course of history take over the power, they hold on to it and they keep it.

We call it patriarchy.

What Morna calls this pendulum of power is communism.

But it's communism in motion.

It's A pendulum and we suspect that ultimately this went back to a roughly lunar pendulum.

Waxing moon, waning moon, waxing moon, waning moon.

In other words, you didn't exchange power moving between one pole and the other every day, every week, every year.

A convenient rhythm would have been the very same rhythm that humans were adopting in aggregating together to sing during dark moon and then surrendering power.

around full moon and having sex and so is that is that communism and motion? It's a beautiful concept where it's not it's not just equality, it's not static, it's a constantly dynamic movement.

Do you think we should start moving towards grammar?

Jerome: Yeah, well...

Chris: Go on then.

Jerome: Well, just to, just briefly, When you look at the way that BIACA, their language music spectrum, you suddenly see that the division we make between, say, language and music is a really difficult division to justify when ethnographically on the evidence of how people actually use the potential for communication that we have and so, they have a whole set of communicative strategies which are disguised, which aren't intended to be understood by everybody or everything around them and they're crucial actually for moving around the forest, for hunting successfully, for various communicating between groups.

But then you start to get spoken interaction.

But even spoken interaction is not just words.

It involves gesture, of course.

But it also includes all sorts of onomatopoeic and other sounds which are not meaningful, but accompany a speech act to give it more character, to give it more emotional content and it's only when you really get to ordinary talk in the middle there, that you

have something which is similar to what we would recognise as language, but that's always interspersed with all these other types of sound, these conversational duets, where people will stretch out the vowel sounds and overlap each other's utterances, so they become much more song-like and then you get the muajo, the theatrical re-enactments, which involve mimicry, just sound mimicry, physical mimicry, occasionally some words perhaps, but really don't depend on that at all.

These expletives, idiophones, all parts of accompanying speech that don't have any formal meaning content, but add to the emotional complexity of what's being expressed and then of course you get on to the sung fables and the spirit plays, which are these much more complex, more musical.

But even the sung fables will mix language, with music, and so on.

So the point being that when you really try and look at these things in their practical, real contexts, you can't start making the very simple divisions that we make normally in linguistics and science.

Chris: Still, despite that, conceptually, you can distinguish 2 poles, music and language and they are actually opposites.

Because with language, languages, for example, it's a digital system.

By digital, it just means one tiny little sound can actually modify and even reverse a whole sequence of previous sounds.

You can have a whole long sentence and add a knot at the beginning And it doesn't just add to the complexity of your sound, it can actually reverse it.

You mean just by one tiny little sound, just a few digits, a few...

I mean, it's digital in the sense that you have these distinctive features.

You have voiced, you have a b and a p.

The only difference is that one's got a sound while you're saying that, making that moving the lips together, p, p, p, p, that's pin.

Add voice, that's just a digital switch.

Bin, you can move from pin to bin and there's nothing in between pin and bin.

It's either a pin or a bin and you might hear somebody and listen, oh, what are they saying? Oh, they sounded pin and bin.

If it sounds a little bit in between, it's not because you've got a bin-like pin.

It's completely opposite.

Music doesn't do that at all, of course.

With music, you add to the mix and adding an extra note, even a very different note, it can't modify.

That's a technical term.

It just means completely alter the significance, all the previous sounds.

With music, the way the music starts is going to set the tone and probably the mood of the music, the emotional significance of the music, won't change very much.

It'll just be modified a little bit but not reversed.

So there are significant differences between music music and what we call, what linguists call language.

But as Jerome's saying, in real life, of course, everything's a everything's a bit of both.

Everything's a bit of a, speech is musical and music has elements of speech in it.

Maybe we should move over to grammar a bit.

Jerome: Yeah, I think so.

Chris: The person that I found most astonishingly ingenious and interesting and inventive and clever was a primatologist called Bruce Richmond, writing in the 80s, in particular, I think in the 90s as well and he was unusual as a primatologist because although he didn't do hunter-gatherer research, he knew that in order to explain the origin of language, you had to be familiar with hunter-gatherer cultures and that made him, most primatologists, they just do primatology and not much else.

Bruce Richmond was much more broad in his horizons and his scope and so, what do I say now? He described how when a child learns language, it doesn't learn words.

It learns what are called constructions.

So he wouldn't just learn the word milk, and he wouldn't learn the word milk.

The child would hear more milk.

So he would hear a whole phrase, perhaps a whole sentence and then it would build on that, because if it wanted more milk, it would say more milk, but supposing it, there's actually some orange juice on the table, it would say more juice and then it wanted to carry on playing a game, so it might say more play and what it never does is reverse it.

wouldn't say play more or milk more or juice more.

It would say more milk, more play, more juice, more whatever more walk, more, I don't know, more bouncing up on my, on daddy's knee or something.

So what it turns out now that the thing which remains, as you ring the changes, more milk, more plain, more juice, some part of that stays the same, the more and the milk and that's the grammar.

So the grammar isn't this complicated, weird thing that Noam Chomsky went on about.

It's something to do with a language organ and I don't know, all that stuff.

It's just the, when you, when children, when children start like at school, Oh, good morning, Mrs.

Martin, or whatever.

You know, they have a little sing-song and then if it's a different teacher walks into the class, Oh, good morning, this other teacher.

But somehow there's an aspect of it which remains the same and you just call that the grammar.

But what you have are constructions and construction is a really, at first sight I thought this is just too woolly.

Why call a thing as construction? But construction is just chunks of language and a child will have the whole chunk and then it would modify a certain part of it to move from this teacher that's walked into the classroom and the other teacher which

walks into the classroom or this kind of drink or the other kind of drink or this kind of whatever activity.

So what remains the same, just call that the grammar and suddenly you realise that each construction, because there could be another one like the more the merrier.

Okay, that's a construction.

The bigger the better.

You can then invent something like the cleverer the funnier, I suppose, if it's a joke.

So that's a construction and you never say better thee more, better more thee.

So the bit of the construction, which as you ring through the changes, remains the same, is the grammar.

But the critical point is that each construction has its own grammar.

So grammar's not a monolithic structure that Chomsky was looking for, this thing called universal grammar, the same grammar everywhere, which he said, what Chomsky said was that as long as you don't say anything, as long as you don't make any sounds, All the world's languages are the same language, but only if you don't make any sounds.

Well, obviously, if you don't make any sounds, it's hard to claim that it's language.

Here we start from the sounds, which are musical sounds.

They're repetitions, and the part which doesn't change is the grammar, and the part which does change might be a verb, a noun, a phrase, whatever it is, but one bit changes and the other doesn't and then what Richmond said is right.

How do we get from this, how do we get from the musical chants, lovely sounds which feel good for the child because it's getting a feeling of sameness, you know.

It's like if in say more milk or the more the merrier, you mix up too many things, you change too many things, the child can't hold all that in its brain, it has to hold something which is the same, just change one little bit and then what he argued is in order to get to like what we might call standard like language, you have an open slot.

So you have a little song, it's a kind of ritual song, and in one point in that song you have what he calls an open slot, which means you can stick into, it could be the song we all sing when we're going to pick blackberries, or you know, some kind of nuts or something, or the song we sing before we all arrange our sleeping places.

So we sing this song, and when you sing that song, it kind of means that activity, because that's the song you sing during that activity.

But supposing you were to, while you're going out looking for honey, you suddenly think about your friend who died.

There could be a little place in the song that you sing when going out for honey, when you remember the friend who died and that's called, and you stick that only in a certain place within the repeated song, and that's an open slot and then, okay, you might think it's a little bit difficult.

You're going to collect honey, you're all feeling cheerful, you suddenly have a thought, you want to share that thought.

It's about the friend who died a week or two ago, fell out of a tree or something and of course that has a different emotional meaning.

It's a little bit difficult to stick an element of 1 song, a brief element of 1 song, into a different song.

But that then gets called, technically by linguists, recursion.

You have a embedding.

You have one element, meaningful element, actually emotionally meaningful element, and you stick it into the middle of the open slot of another, perhaps longer and more often repeated.

sequence of singing.

Of course, when you do that, if you transfer the funeral lament, the sad song to remember somebody who's died, when you stick that into a cheerful song about going to collect honey, obviously quite a lot of the emotional significance of the lament will get lost because it's put in a different context and what you're doing as you're beginning to lose the emotional component and you're getting a more like cognitive component, you're getting closer and closer and closer to something which actually isn't primarily emotional.

I mean, speech is not emotional.

I mean, you can get very emotional when you're shouting at somebody or singing at somebody or drooling.

You know, of course, speech can be emotional, but By its essence, by definition, speech is intellectual or cognitive and not emotional and the more you have these open slots inserted into one another, the more narrowly cognitive and digital in that sense.

I mean, the whole question of digitality is a whole other issue because there's no way that chimpanzee pantoots or or food calls or other kind of copulation squeals, all the other things, they're not digital at all.

The listener is interested in how aroused, how much food, what quality of food a chimpanzee makes.

When A chimpanzee discovers lots of food, like a whole load of bananas, it can hardly keep the food call to itself.

It's so excited by the food that everyone knows, you can almost hear the salivation.

But that's, but you're interested in, the listeners are interested in points within a continuum, not either or meanings, but the digital, but the open slot theory of Bruce Richman gets to, because when you put segments of 1 emotional song inside another, you increasingly lose the emotional meaning in it, and what's left is usually increasingly over time becomes more of a shorthand.

therefore more digital, therefore more language-like.

But the critical thing is that the grammar doesn't get lost.

But what is also important is that there's no idea of an overall grammar of the language.

There's elements which are often repeated, but different constructions coming from different sources, perhaps from a neighboring language.

They will have their own grammar and what you end up with is you get something more like a termite nest.

than a computer.

So Chomsky's model of a computational faculty is not nearly as good as this new idea and it's now that it's not Bruce Richmond.

Bruce Richmond anticipated, but one of the people who, well, construction grammar is now the dominant paradigm for language.

We, Jerome and I, kind of know Adele Goldman because we mentioned in Toruna.

Sorry.

Camilla: Goldberg.

Chris: Goldberg, sorry.

Adele Goldberg, sorry.

Thank you, Camilla.

Obviously a bit sleepy.

Camilla: We need to bring this together.

Can we get a little bit about the relationship between the emotional impact of ritual and the cognitive of this shorthanding? Yes.

What is the key point?

Chris: Do you want to go or should I do it? All right.

So a long time ago I worked out a very good theory, I have to say, which was called speech ritual co-evolution.

So ritual is necessarily, like music actually, music is vocal ritual.

Ritual is costly.

So when it's music, that's a form of ritual, vocal ritual, audible ritual or any other kind of ritual, you're not trying to cut corners.

You're not trying to if it's a lot of drumming, you keep drumming and drumming and drumming and drumming and dancing and maybe singing all through the night.

You're not trying to, you're not interested in any efficiency because this is the point which Camilla rather famously made in a discussion with Robin Dunbar.

If a sound you're making in order to bond with other people is quick and efficient, it's not going to work.

So in order to bond, you need to expend costs, you need to make an effort, and to really bond with lots of other people, just singing for a quarter of an hour isn't very good, but singing all through the night and dancing all through the night and drumming all through the night should get you really nicely bonded.

Speech is exactly the opposite.

With speech, You want to cut corners, you want to save time.

If somebody's tried to tell you something really complicated and important and they take forever and ever and ever on each vowel or consonant, you just think, come on, get on with it.

So speech is by definition quick, efficient, lots and lots of shorthands to get across a massive amount of information.

With ritual, in a sense, there's no information imparted at all.

It's a feeling of togetherness, a bonding.

But the critical point which I made in that article, which has been quite widely cited, Is that without one, you don't have the other? You're not going to be able to have speech unless your body...

because there's nothing convincing, nothing reliable, nothing reassuring in terms of truthfulness about a word.

It's just a quick, cheap, easy thing to do.

Okay, it's efficient, but what's efficiency? Why is that good if you don't trust people? So you need the costly ritual to liberate and make possible the cheap words and then finally, not exactly finally, but the next point I suppose I want to make is that those two things, the cheap stuff and the costly stuff, if they're simultaneous, it's not very good.

Because what you're going to do, if you're going to have cheap signals and costly signals all around the same time, you're going to get to something in between and the way I see it is that chimpanzees and other primates, they do cheap signals.

They make little, like with a trympanium infant will be wanting its mother's breast and it will poke that breast and that's called a nursing poke.

So there's a nursing poke, there's another signal for scratching my back.

You make a little gesture to say where you want to be scratched.

So you get these relatively cheap signals which are beginning to look a little bit like words and a nursing poke is like invented every time.

Every little infant chimp will invent a new version of a little poke in its mother's breast to get hold of the milk or a little chimp may jump over an older chimp's back and have a great fun putting its hand on its head and leaping over and then if it wants to do it again, it will say to the adult, it will make it a little part of that gesture, a shorthand version of that leaping over the head gesture.

But each infant has to make it up and the particular form of the gesture only survives in that little bubble of trust, a little bubble of mother and infant, an older male may be playing with a younger infant.

Within those bubbles, you'll get these little, almost premonitions of language.

But for language, as we understand it, to evolve over a period of time, That bubble of trust has got to be the entire community.

The entire community is going to be habitable for these little conventional signs and then you're going to get historical linguistics.

You're going to get the evolution of different types of word and construction and you're into the emergence sometimes of quite complex grammar, although actually not all languages Not all indigenous languages have a lot of grammar quite often, if everybody knows each other pretty well.

I mean, there's a particular language called Walbiri, which one of the people working alongside Chomsky at MIT was very familiar with.

He spoke it quite, he spoke it pretty fluently.

Walbiri, you could say kangaroo, spear, man.

Jerome: Sorry, it's time, Chris.

Camilla: We need to get to a pretty swift conclusion.

Chris: Go on, you conclude, you conclude.

Jerome: Well, look, so just to give some, you've had a rather meandering discussion of a number of different principles, and I'll just try and condense them.

So we have song emerging among these early hominins as part of their defence strategy for protecting themselves against predators.

It inspires and develops vocal dexterity because this lasts for a very long period of time.

But it also teaches those early human groups, particularly groups of women, that they have power when they are together and that power can be used not just against those predators, but it can also be used to control those philandering males that keep coming in and making people pregnant, but then disappearing off and so From that, Mwajo evolves this mimicking bad behaviours, and by mimicking bad behaviours with the humour that it is done with.

it creates the opportunity for the community to develop its moral norms, its expectations for what is correct behaviour and what is incorrect behaviour.

Once you have that, you are able to expand that bubble beyond the mother and the child to the whole community and that's why ritual is so central to maintaining human societies.

Every social group has its music because every social group needs its rituals in order to extend that bubble of trust to all the other members of the group and so once you have sufficient trust, then those shorthands which previously had to have lots of costly signal or costly elements to the signal can be abbreviated because you have a trusting community and then you eventually start conventionalizing those sounds and the structures, the constructions in which those sounds give meaning to others and so you start to have language and we call it a revolution because effectively the process which instituted the emergence of those trusting communities was a process which had to overthrow those patriarchal male-dominated structures that would have probably dominated our early hominin ancestors and so the revolution that created language was effectively women, groups of women, being able to impose order on those philandering males to rule out incest.

The incest taboo is a human universal and it is only with those steps taken by our foremothers that we really created the opportunity for sufficient trust to spread in a group of humans to make language possible and why, in order to explain language, we need to explain all those other things too, and why this talk has been rather meandering in trying to touch on some of those key elements.

But anyway, we hope in the book, you will look at it and you'll see a much better structured presentation of those ideas.

Discussion & Audience Questions

Camilla: Thank you. What a beautiful picture to end on.

[[]]

Jerome: These women have just been singing for 10 hours and no amplification sounds, just themselves singing away and they're still singing.

This is 9:00 in the morning and we started about 10 o'clock in the morning.

Camilla: It was a very difficult job to put the entire book into this one talk and we've had quite a lot, but I think we're getting the flavours of what's and an extraordinary book as well.

Jerome: And there's a beautiful section where we look at the myths and symbols of the world and how they reinforce and amplify many of these insights that they hold those echoes.

Absolutely.

Camilla: I mean, it really is a book which is about theory, about everything.

Chris: But it doesn't matter, does it?

Camilla: I think not.

I mean, in one of the articles worth reading as a prelude, if you can't get hold of the book yet, is the one that Chris and Jerome did, Wild Voices in Current Anthropology in 2017.

Especially the idea of reversal.

What is it? That everything gets kind of reversed.

Reverse dominance, reversal of...

Chris: It's like laughter is reverse mobbing.

Camilla: Laughter and mobbing and smiling, reverse anxiety, reverse fear.

So it's like everything keeping getting reversed and ultimately reverse sex.

to reverse dominance as well and so that is a particularly...

Chris: And feminine had nothing to do with gender and origins.

There's absolutely nothing whatsoever.

Camilla: The original gender constructions, perhaps.

Andrea: I'm curious about writing have this model of what you might call pure lexicality is stripped in emotion, because I'm sure if you walk through the streets of Naples.

Chris: You never have pure lexicality is stripped of emotion.

Andrea: Well, maybe I misunderstood it, but I thought that's what you were saying.

There's an idea that the more formalized the picture of the language, unless it's invested with emotional content.

Is that is that a fair summary of what we're saying?

Chris: Language doesn't have to be emotional.

Camilla: So can we come closer? Councillor Zoom can hear and the question is about the relationship between of lexicality and emotion.

Andrea: Yeah.

I would deny that there is such a thing as non-emotional lexicality.

Chris: I would disagree with you.

Andrea: I see that.

I think they engage with what's wrong with my disagreement.

Why are you right or I wrong or vice versa?

Chris: It's just obvious.

I mean, singing is one thing, talking is another.

Mostly we do a little bit of both.

We speak with emotion, but conceptually you could distinguish them and most linguists tend not to think of a lot of emotional sounds as speech, even though of course speech is almost invariably got elements of emotion and song in it.

We're talking about conceptual.

Linguists don't need the emotion when they're looking at grammar, for example.

Jerome: I guess it's to think about it in terms of heuristic categories.

They're categories that help us to think about things.

But in practice, they are mixed up and mingled and mangled and that's exactly it.

The point of the slide I showed was to just try and emphasize that porosity between these different styles in the lived practices.

But as an analyst, looking at a particular context, you can remove words.

I can say and.

Where's the emotional context? There are many things I could say which have emotional context.

Trump.

But– Yes.

But the point is, heuristically, for the point of analysis, it is possible to perceive or understand of those things we call words as potentially at least devoid of emotional context.

Chris: The other thing is that all animals, if they make sounds at all, certainly all primates, I think all mammals, I'm not sure about fish, express emotion with their calls.

I mean, emotional sounds are everywhere.

Grammar or digital distinctive features of speech like voiced and unvoiced consonants and stuff, it's unusual.

It's this particular thing which we need to have a particular explanation for.

The fact that we're emotional would describe dogs, cats, monkeys, chips, elephants, giraffes go on and on and on.

I'm one of those people that thinks most animals are very close to being human in their emotions, mother, calling for a lost infant or something.

I mean, most animals, most complex animals are very like humans in emotion.

But what they don't do is they don't produce they don't produce speech sounds and that's the mystery.

The emotional part isn't really mysterious.

It's lovely, very important.

There's no huge puzzle about why humans have emotions.

All animals have emotions.

Is that all right?

Camilla: But do they? But do they?

Chris: I'll never be convinced about anything, because I, didn't have wonders.

No, mate, you are a person who's never convinced about anything.

Camilla: Rather, all animals have emotions, but how many animals are sharing emotions with each other, particularly intentionally? We touched a little on Sarah Herdy, and intersubjectivity is what really comes out of Sarah's idea is that what we did amongst the great apes was begin babysitting.

No other great ape does babysitting.

Out of babysitting came this capacity to actually begin to read and to allow your own thoughts to be read by another and that was this capacity of mental, mind reading, mutual mind reading, meshing emotional states.

That...

Chris: Becoming aware, even emotionally aware of your own.

Yes.

That is quite a chimpanzee.

It never gets to the point of self-awareness, not quite.

It's pretty damn close, especially if it's brought up in a human family.

But self-awareness, seeing yourself as others see you, which is what comes out of Mwajo, that is marvellously magical and wonderful.

Camilla: Mwajo is this technique of bringing people back to the human race because they become inter-subjective, they're getting that understanding.

Chris: Read Sarah Hurdy.

She's great.

The woman that revolved.

Camilla: Mother and mothers.

Chris: Father time.

Mothers and mothers.

She's absolute.

Camilla: Mothers and mothers.

Chris: She's recognized as the greatest Darwinian since Darwin.

Deservedly and if you haven't read Sarah Hurdy, and I mean, obviously you don't have to read Sarah Hurdy, but if you want to understand some of this stuff, she's by far the best scientist.

Camilla: Catherine Williams, did you want to say something about this book on animal sentience?

Catherine: It was just a thought, as Chris was making that very interesting point, because I'm A long-term RAC attendee and I'm a bit more scientific sometimes than we are.

I feel we're a bit more social anthropology here sometimes.

So I confess slightly shamefacedly that I read quite a bit around on cognition and neuroscience.

I'm interested in this question of, yes, how we came to be human, what's different about human beings.

So Jonathan Birch is a professor at, I think he's at LSE, isn't he, London School of Economics, but anyway, he researches and publishes on animal sentience and I'm sure I heard him say something in a talk recently, either him or Peter Godfrey Smith, the guy, the philosopher who looks at octopuses, that candidates for sentience include spiders and that really made me think about the continuum and how the transition comes to be made.

So I'm no kind of expert, just a layperson, like so many of us here.

But I just thought that was an open access book that I've posted in the chat by Jonathan Birch, if people want to look it up.

Chris: What's the connection with my octopus teacher connection?

Catherine: He's also, Peter Godfrey-Smith is also concerned, octopus cognition is very different from ours.

It's separately evolved and it's interesting because it's separate and different from us and so it might therefore help us ultimately to make better scientific questions and models for thinking about human cognition is the point.

So in reading serious lay books on cognition, That's one to read, the Peter Godfrey-Smith book on octopuses as well as Jonathan Birch, more generally on animals.

But it's all ultimately touching on how you arrive at whatever it is that makes a brain move into language communication.

That's one of the key questions.

Camilla: Thanks, Catherine.

Chris: You're not going to get anywhere near language with spiders, are you? I don't think.

Camilla: We won't, but they have interesting aspects.

Any more questions from me? To carry on.

Andrea: So the polyphonic singing that is obviously a big thing in the Viaca is some.

Does the polyphonic singing exist in all the other well documented? I mean, there are four cases that you have the forks of Venture Galley.

They've been to a different intergatherer to cite contemporary ones, and I suppose there were others that maybe in starkly time being documented a bit more.

Just, is it kind of universal, is the polyphonic singing kind of universal of those egalitarian hunter-gatherers or asylum?

Camilla: The question on Zoom is, polyphonic singing something quite universal to egalitarian hunter-gatherers.

Jerome: So it is in Africa, but it's not in Southeast Asia where the other groups of egalitarian hunter-gatherers live.

Anyway, the reasons for that are rather complicated and I don't understand them fully, but it is astonishing.

It may be due to recent missionary influence from Islamic and Christian missionaries being very critical of their singing practices and it's very, very, they're very shy to sing now.

So the, Kirk Endicott, He was the last ethnographer working 30 years ago who actually witnessed their musical life.

But apart from that, it's today very difficult to find out what their previous practices were.

So I had a student who I hoped would reveal that, an ethnomusicologist who went to live with some Southeast Asian groups, but they just refused, didn't want to sing.

We went to visit them and my daughter and wife started singing the Bayaka style and they loved it, but they still wouldn't see.

Camilla: It's a very interesting question.

Audiance member #1: Just now when I heard you answer this question, you again mentioned egalitarian hunter-gatherers as you did earlier in the seminar.

Is this implying that there's non-egalitarian hunter and gatherer?

Chris: Absolutely right.

Audiance member #1: Can you tell us about them briefly?

Chris: Most of Australians are not gender egalitarian.

Some are, but very unusual.

Western Arnhem lands, they used to be.

But apart from that, lots and lots of old men in control of the supply of.

Jerome: The way the Australians do it is that the men control, the elder men control young men's access to initiation, and you're not eligible for marriage until you've reached a certain point in the initiation cycle.

So the young men depend on the favour and goodwill of those elder men to admit them to the various levels of initiation, and the old men can make all sorts of demands on those young men before they will admit them to those different levels of initiation.

The result is a gerontocratic system where old men use religious practice as a means to control young men.

By preventing young men from marrying until sometimes they're in their 30s or 40s, it creates lots of young women who don't have husbands and those old men will work out ways to marry them and so there is lots of polygamy among the elder men.

But then there are different systems.

So for instance, in the northwest coast of Canada, you have a very serious hunger period in the winter when everything freezes up and freezes over and so the salmon

that people can fetch, can collect in autumn are vital for the existence over that hunger period.

So if you control a salmon river, you have great power over everybody and if you lose control of your salmon river, and you can no longer go and find salmon to sustain you in the winter, you will then go and beg to be accepted by that group that does control the Salmon River and in those societies, you have hunter-gatherer societies, you have nobles, ordinary people and slaves.

Slave chefs and the slaves are the people who've lost access to their salmon rivers.

Chris: Anthropologist called Brian Hayden, who does a wonderful lot of study on those hierarchical North-West coasts and so on.

The people with the huge totem poles.

Jerome: But so there and there are many other examples of various forms of inequality among hunter-gatherers.

Chris: Probably the probably the Ice Age artists of the Paleolithic Europe were not particularly gathered to quite a few signs of quite like in burials.

You get somebody obviously very important buried.

Camilla: But it's a tricky one, isn't it, Chris? Because We've got very large megafauna still being hunted, large game hunting, to what part of it doesn't work for women? Because there's plenty of evidence of women's ritual strategies.

Chris: Inclinical caves, which were witness initiations, actually.

Camilla: So it's that may be a very interesting and transitional case.

It's a very complicated case.

There would be one thing to make really clear, because sometimes archaeologists talk in terms of complex hunter-gatherers, simple hunter-gatherers and I know that Jerome will not accept many, many people who've worked, like Polly Bisna or Megan Beasley or Richard Lee, worked with Southern African Bushmen, very egalitarian.

They will always argue that these are extraordinarily sophisticated people in their politics, in the systems of maintaining egalitarianism.

My experience with the Hadza as well.

Chris: Jeremy, you've said that there's nothing more intellectually demanding and complex than maintaining an egalitarian.

Jerome: I mean, just to think right now how we might transform the society we live in into an egalitarian one and you'll start coming up against all sorts of barriers to your whatever ideas you might propose, because it is an extremely complex thing to do and it requires a whole set of mutually supporting, reinforcing activities and that's what we can see in these egalitarian hunter-gatherers still at work and why we can understand the much deeper political processes that serve to achieve that.

We skipped over it, the discussion we had on reverse dominance very briefly in the talk.

But is reverse dominance when the masses overthrow any alpha behavior, then might return back to some mid-state.

But that mid-state is maintained through what's called counter-dominance behavior.

So things like demand sharing.

Anybody has more than they can immediately consume.

Demand it off them and do so as aggressively as it's needed in order to...

Chris: Imagine where that would get us today.

Demand sharing.

Camilla: Just how unnecessary it is.

Chris: In ours with all the wretched wealth.

Jerome: Well, I think we have a lot to learn from them.

We have a lot.

Audiance member #1: So things in the realm press, that was really, really interesting.

I had a question about But you were talking about the foraging strategies and how singing became a foraging strategy in order to keep the weighted predators.

I think like there is an acceptance and an acknowledgement of vulnerability of perceiving yourself as prey to other predators.

Jerome: So as.

Audiance member #1: As prey.

Prey, yes.

Yeah.

While men who go hunting are seeing themselves as predators, right? They are the ones looking for prey and it made me think about what kind of sociality does this give rise to and how it varies for those of women who are the perceiving themselves as prey versus men seeing themselves as predators while cruelty.

It's almost as if this acknowledgement of vulnerability in women leads to solidarity and commonality, whereas in men it leads to the opposite.

Jerome: Yeah, well, just repeat that a little bit.

Sorry, that's a good question.

Camilla: Can you repeat? Can you repeat?

Jerome: Well, just the, when women forage together and they sing, that that's also an acknowledgement of their vulnerability as potential prey to those wild animals and when men go hunting, they are predators and so they don't encourage that same feeling of vulnerability that leads to the solidarity that women have between themselves and that's certainly true, and men will point that out.

But it's also, Bayaka men have pointed that out to me.

But it's also true to recognise that men, when you are hunting, the encounter can transform from one of being a predator to being prey and men are very they're really, it's a serious issue we worry about and we talk about and a lot of the preparation for hunting and teaching hunting is actually done, and that's men's mojo, is not what women's mojo.

Women's mojo is this mocking behaviour that really reinforces the norms and morality of the group, whereas men's mojo is teaching each other how to hunt without being in the presence of dangerous animals.

So they don't often do it in front of women.

Very rarely will they do it in front of women because they don't want women to learn our tricks because then women could go and get their own meat and wouldn't have to come to us for meat and it's important they come to us for meat because we like women and so those mwajo, the men become the animal they're hunting and they reenact it, they make it sounds, they respond.

So they might say as an elephant hunter, they'll describe how they came in with a spear in this particular part of the animal and then the animal and they'll start mimicking all its sounds and that's such an important education for these young hunters who haven't yet been in those extremely dangerous situations.

because they can watch the reactions of the hunter.

The hunter will talk how he got out of this really difficult situation and that is really important learning for the young men because it can so easily, you can so easily become proud.

Camilla: Oh, did you want to say something?

Chris: It's perhaps worth mentioning alternative theories because our book ends up with all the other.

ridiculous theories of origins of language.

About the origin of language, yes.

I mean, it used to be argued that of course language is needed because hunters need to talk to each other in order to coordinate their activities in killing an animal and of course, whereas women out in the savannah are facing all these dangers, they make as much noise as possible with this polyphonic singing, which exaggerates the impression of the numerical strength of those groups.

Men, of course, they keep quiet.

You don't, you make, I think the term's got a slide, we showed it, but I mean, men need to not make any sound except the sounds of other animals in order to trick the animals.

Jerome: Disguised forms of communication.

Chris: Disguised forms of communication and then, of course, we end the book with, the main alternative theory to our theory about the origin of language is, of course, the age-old theory goes back decades, that in order to have solidarity, you have to have an enemy.

It's like the spirit of the Blits, the Londoners, we're all together and facing them the bombing and stuff.

So it's the warfare hypothesis.

You need lots of, you need bunches of men fighting against other men in order to develop enough solidarity and for some reason, these complete idiots, and they are mainstream, they think that sexual morality is going to emerge out of water.

I'm just thinking about it.

I mean, the theories that are around are just insane, and yet they're more mainstream, maybe 'cause we haven't published our book yet, than our theories.

Camilla: Let's hope that's true.

One last question I'm taking, Christine, on Zoom.

Christine: We were...

sitting here thinking about what it's like, what it must be like to have everyone laughing at you and how horrible it must be and how the effect it would have on us would be, we probably just curl up into a ball and start crying and I think I can't really imagine laughing and so we just wanted to say, I don't know something about that.

Does it really work?

Jerome: Okay, so very good question.

I've, of course, had my jaw performed on me and it's painful and you watch and you see and you think, who is that? What's going on there? And then you watch and you think, oh, that looks familiar and then, oh, oh, yes and you start to realize this is me and everyone's giggling and laughing and making fun and And because I know the practice, I've seen it happening to other people, so I know that laughter is the only way out.

But it's really hard to laugh and you want to say, but you can't because you'll be drowned out by these women who have been very loud and vocal about it.

So you have to sit there and just grin and bear it and then a certain point comes and you think, oh, yes, well, I can see the humor and then you do laugh and then they stop immediately and so it's more like you get put into a situation and there are two ways out.

You can run off into the forest and just hide away for a few hours, which sometimes men do.

Or you can sit and wait and then find the laughter in yourself to actually see yourself from their perspective and it's when that happens that they stop.

It's a very subtle psychological process, but it's very effective and so because they're also very gracious, the elderly women, they do it with so much humour.

I mean, I could describe a mojo if you like, but the humour and hilarity is because they caricature the events.

They turn it into a comedic sketch and that transforms the sting in a way.

If they were, speaking angrily at you and everybody was laughing, you'd get angry yourself and you'd start to know, yeah, okay, so you want to argue about this? Well, let's argue about this.

But because it's in this caricatured comedic style, and these are elderly ladies, they are the widows, they're the ones who do mwajo.

If men try and do that to each other, it starts fights.

It just wouldn't be accepted.

But because the widows are doing it, you can't really argue with the widow.

You can't start fighting the widows.

So you're powerless apart from laughter.

I don't know if that makes sense, but that does make sense.

Christine: Thank you.

Camilla: And Dr.

E is suggesting that Bakhtin talks about carnival laughter, levelling laughter, because he's laughing with and not laughing at and it's like when you laugh at yourself, dissolving power or ego.

Yeah.

Jerome: And that's Morna uses a lot of Bakhtin.

Camilla: In her work as well.

Jerome: That's the work on reverse dominance.

Camilla: Yes, and the pendulum of power and the speaking bodies in motion.

It's Warner's beautiful work there.

Chris: Lower bodily stratum.

Jerome: Power.

Camilla: Lower bodily stratum.

Chris: Caught with the lower parts of everybody.

It's pretty funny.

Camilla: So, yeah, it's going to be, well, we saw already some in the reverse dominance pictures with the Yilan Bull Dance, for instance, there is plenty of exposure with some of the, and Ngoku, there can be plenty of very sexy exposure or very sexy.

Chris: We start off our book with a little preface and it begins, the first word is spoken by a woman and it was no, she was not alone.

We managed to get away with putting that early on in the book, even though we were told we had to keep any hint of what's in the book, namely anything to do with sex or gender, we had to keep it hidden because some reason why it was extremely ironic to be two guys writing about such things.

But that is the simplest message and of course, the no is spoken in ritual.

It's not a consonant and a vowel.

It's huge majo performance.

a way of saying, no, don't do that.

But it was just a funny way, in a complex way, in a rich way, in a way combining everything, commanding some music and chanting and laughter and ritual and so many other things.

All human life is in that no, which of course is a yes from the point of view of the women.

It's only a no guy that feels threatened by it.

From the women's point of view, that no is freedom, it's liberty, it's power.

Jerome: It's in system.

Camilla: It's in system.

There's everything.

Right.

Jerome: There was one last question here.

Camilla: You're going to get enough.

You're pushing it now.

You're pushing it.

We're going to wind up soon.

Chris: I'll just say here we have somebody who has practiced.

Camilla: No, it's about sex strikes.

Chris: Somebody who has practiced sex strikes.

Actually doing it against fascist.

This person's got some knowledge.

Camilla: Is it a quick question because to carry on the discussion now, well, let us think about the question and maybe carry on in the pub.

The question is what is observed in terms?

Audiance member #1: Of the, what's the word, in terms of the relationship between egalitarian, non-egalitarian and patriarchal, matriarchal? This is the question.

Jerome: There's not much difference between patriarchal and matriarchal.

It's just that in one male dominates and the other female dominates and the structures of power and authority can be just as mean and horrible in either system.

The relationship between egalitarianism and inegalitarianism compared to that.

Well, in an egalitarian system, if you have dominance over others, then the system's no longer egalitarian and part of the point about how we're trying to explain egalitarianism is that there's a a rebellion which is made at any point where power might seem to start to emerge.

So I have more food than I can eat.

Immediately I'm being demanded that food from me.

You give it to me and I can't refuse.

It's like in our society it's rude if Chris starts demanding my food from me or my shirt.

But Chris, you've got two jumpers on.

Give me a jumper.

But as soon as Chris would say, no, look at me, I'm an old man.

I'm an important person.

Then that would start to become the moment where those teasing, insulting, and Chris, you're nothing.

Let me give you an example.

There's a really dear friend of mine, Fata, and I just arrived in the camp where he was staying and we'd been there a day and a farmer from across the river, he was curious, who's this white man living in this camp? And so he came across the river in his boat and Fatah hadn't seen him before and there was another farmer lady selling alcohol at the end of the village and unfortunately, Fatah was a terrible alcoholic and so he saw this farmer and he grabbed him under the arm.

He said, I'm the big chief of all these people here.

Look at them.

I'm the big chief.

I'm the number one.

And if you arrive in a new village and you don't know me, the chief, you've got to buy me a drink because that's the, it is the normal thing that you do if you're in a farmer villages and so as he was dragging the farmer through the camp, there were some small boys.

There must have been 7.

eight years old, playing in the sand and they shouted up in Lingala so that the farmer could answer, He's a ******* idiot.

He's a liar.

Don't listen to him and you could see on the face of the farmer, he was like, I really be understanding what these children are saying? How could it be true? This important old man who's taking me along and so immediately that as soon as there's an emergence of someone claiming to be more than others, there are all these different mechanisms that come into play that really crash them down and in that case, it didn't work.

You know, the farmer went and bought him a drink.

But Fateh is also very insistent and difficult to refuse.

So anyway.

Camilla: Right, that's a really great place to end on.

I think we've got to applaud Chris and Jerome for their hard work in this talk tonight and fantastic.

Thank you so much.

The Ted K Archive

Jerome Lewis and Chris Knight
The Revolutionary Origins of Language (2026 Seminar)
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Radical Anthropology. <https://vimeo.com/1176021658>

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