The sex-strike theory of human origins

Chris Knight and Camilla Power

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The first Word was spoken by a woman.

It was ‘No’.

Acted out in sounds and gestures and exploding into a chorus of laughter, it was a signal to the male sex that their behaviour needed to stop.

Chris Knight and Camilla Power will explain how menstrual bleeding was constructed as the world’s earliest taboo and how blood-red ochre came to symbolize ritual potency as our species emerged.

`https://www.youtube.com/watch?v=2e5YrawHcXw`

Introduction

Camilla Power: Hello to everybody. We’ve got quite a nice crowd on Zoom. That is because we thought we wouldn’t be here because of the strikes, but that hasn’t happened now. The strikes were called off thanks to kind of winning some terms. So strikes do work.

Today we are going to be talking about how human culture started on the picket line. So it’s entirely appropriate.

I’m going to hand over pretty much straight away to Chris Knight, who is the originator and author of the Sex Strike Theory.

Chris’s Talk

Chris Knight: Yes, so yes, all human culture.

language, kinship, religion, was actually born on a picket line.

And I know that might sound a bit strange.

As soon as you think about it, it’s kind of self-evident, but I agree that most people haven’t thought about it in quite this way.

I’m gonna start with this kind of standard view.

Now, sex strike is, It’s a theory of human origins.

It’s particularly, of course, a theory of the origins of human symbolic culture.

So although I’m very interested in how we got to be on two legs and how we got an opposable thumb and various other things, and especially interested in why we’ve got such large brains, my theory sort of assumes some of those things and deals with what’s probably the most difficult and controversial thing, For example, how on earth do we get to language? Language is really, in biological terms, looking at all the different species there are with all the different communication systems.

As Noam Chomsky emphatically pointed out, and that's one thing I agree with Noam Chomsky on, language is just off the scale compared with any other.

system of communication.

Other animals have extremely complex systems of communication, but the particular kind of digital features of language and the fact that it enables you to talk about kind of anything at all, including unicorns and dreams and fantasies and life on Mars and also anything you like really, it's absolutely extraordinary.

And I'm, you know, I'm now writing a book with my colleague Jerome Lewis on how that might have happened.

And it actually an extremely difficult problem.

Don't think it's obvious that language is a better system.

Most animals wouldn't think it was better at all when it's really very, very improbable that we would ever emerge on this planet with this thing which we call language.

But I'm not going to start there this evening.

I'm going to start with a very basic fundamental feature of all human societies, and that's the incest prohibition.

And the major standard sort of theory within social anthropology to explain why all human cultures have a prohibition, a taboo on having sex with a sister, son, brother, daughter, and so on.

Levi Strauss pointed out this strange paradox about this prohibition, which is that it's universal.

And yet normally, if something's universal, it's part of biology, it's part of human nature.

Freud, of course, taught us that actually humans do have instincts and those don't preclude incestuous fantasies and instincts.

Apart from that, if the avoidance of incest was kind of natural, part of human nature, kind of an instinct, why would you even need a rule, why would you even need a prohibition? And there's no doubt about it that we have a prohibition.

So let me stress this point, just in case anyone doesn't know this, Claude Levy stress was the great founder of what used to be the major paradigm in social anthropology called structuralism.

A French scientist who did some field work in South America, wrote an extraordinary book called The Elementary Structures of Kinship and spent most of his life studying mythology.

And Levi shows starts his elementary structure as a kinship by pointing out this paradox that the incest taboo is universal.

So therefore, we would think of it as part of nature, but actually it seems to be part of culture.

And in fact, it's a cultural norm or a cultural rule.

How did it first become imposed? So I'll start very briefly with his theory and I hope I'll convince you that it's, although it's very influential, it's actually not a very good theory.

So Levi Stos argues as follows, that way, way, way back, before we were language speaking symbolic creatures, when we were some kind of evolving humans, maybe some kind of apes, we had the kind of system that chimpanzees have today, when all the males fight each other for possession of the females.

And you can end up with a one or two, like a dominant alpha male, maybe a few mates of his in a kind of coalition.

And they monopolize sexual access to a whole hiring of females.

It's not quite the way to describe chimpanzees today, but it's certainly true that the males do dominate females.

And what's particularly important, and this is part of what Levi Stov said is right, is that quite often a female will be harassed by her older brother or father or sex.

And quite often, among common to disease, she will be raped by a more powerful relative.

And in fact, the reason why with the great apes, our closest primate relatives, the reason why on coming of age, the females move out from their territory and have to abandon everyone they knew, have to abandon their mum, have to be all on their own in a completely new territory, We think the reason they move out is because there isn't an incest taboo and they want to get the hell out of being harassed by their male relatives.

And so the only thing to do is just move.

But can you see they move because there isn't a taboo? The movement isn't a taboo.

It's what happens if there isn't a taboo.

Okay? And there's no doubt about it that females don't like being harassed by their brothers and fathers.

And there's no doubt about it either that there's some genetic damage in incest in the sense that there are certain genetic risks.

But the point is with chimpanzees and other primates and many other animals, the males don't care too much about those risks because with a male, your eggs, your sperm are very cheap, cost nothing to produce, and having sex with your sister, okay, the baby may have some problems genetically, but of course the male can always go and get somebody else pregnant.

With a female, that's her, one of her few babies she'll ever have in her life.

and any damage will be extremely costly to her.

So it's not surprising that the females tend to resist being hassled and tend to resist incest, but the males are much less resistant.

Now, Levi-Schuss kind of acknowledges that.

Okay, doesn't really go into much detail about it, but he sort of acknowledges that.

And then he has this surprising theory.

I've just never been able to get my head around it.

But one fine day in the course of human evolution, The male of the species, early humans, invented the incestor booth.

And you think, oh, I see.

And he sort of suggests that there's something to do with having kind of digital mind and being able to distinguish between sister and wife.

These females I mustn't have sex with, these females I must, and I can tell the difference because I've got that kind of mind.

More concretely, he suggests that what happened was that the males initially were monopolising their own sisters and daughters, then this amazing thing happened, a kind of spark in the male's head.

If only I were to just give away my sisters and daughters to these other males over the hill there across the valley, they might give me their sisters and daughters.

And then we'd have a relationship, we'd be in-laws, and we'd all have these ties between us.

And let me say something absolutely clear, he says, in those exchanges, like women being exchanged between neighboring groups of males, the females are instruments.

They're instruments of exchange between different groups of males.

The females have no agency whatsoever.

And once a female has been exchanged and married, that's it.

She has no agency.

She's married.

And he argues as if marriage is a kind of permanent thing.

The female who's been married off in that way won't have kind of any ability or right to sort of say, no, I'm not happy about this.

you're married and that's kind of it.

Um, and that's the theory.

Males invented the incestor room.

The females had no say in it.

They were just instruments in the exchanges between males.

And when I read that way, way, way back, what must have been 21 or 22 or something, thinking about these things, slightly worried about sex, I suppose, because I wasn't being too successful myself and the things were going around in my head.

I'm trying to work it all out.

I just thought, this just doesn't ring true to me.

So what I'm going to be suggesting, and this is what's called sex strike theory, is that it's ever as simple.

It's just that females not only decided they didn't like incest, they didn't like being hassled by their brothers and fathers, they took action.

And the action they took was females supported each other in resisting incest.

And as soon as you think in those terms, you realize that the sisters must have been able to form coalitions and signal no in some way.

Kind of in some ways, at the beginning of my thinking about it, I didn't really care exactly what way, but somehow females had to be able to join together and signal no.

What do I mean by no? I just mean signal no sex, just rebuff any male approaching them for sex.

Was anyone here last week? One of you was here last week.

Okay, I better say it again then, I think.

At least you remember the story I told.

The story, okay? The story of the Seven Sisters.

Do you want to help a little bit with this? Perhaps we can just say it between each other.

Is it too much to ask you to remember the story a bit?

Camilla Power: The Zoom people weren't easily here.

Chris Knight: Okay.

All right.

Okay.

Camilla's Brian Mandy, we're on Zoom and it wouldn't be right.

Okay.

Camilla Power: Not fair.

Putting you on the spot there.

Chris Knight: Not right.

Okay, right.

So putting people on the spot is also not right.

So where are we now? Get my glasses out and I'll read the story again.

Okay.

You may wonder, all of you, including everyone on the Zoom, what I'm doing now, because I'm going to a miss.

And of course you might think, oh, You can't prove a theory with a myth because science is one thing and myth is another.

Myth isn't science.

Well, of course I agree with that, but I also think that myths which are recurrent around the world, there's kind of something behind them.

They're extraordinarily complex metaphors and metaphors are always wrong.

A metaphor is by definition a false statement, but behind the falsehood, is a kind of truth.

And in fact, it was Claude Debriest himself who developed, in most ways, I think would say inaugurated what he called the science of mythology.

So I'm not going to be too embarrassed about reading out a myth because it actually expresses the whole of what I'm going to be arguing so beautifully.

It puts it so simply, and in my view, so absolutely correctly.

And it's called The Seven Sisters.

The Seven Sisters are the Seven Sisters, the constellation of the Seven Sisters.

which across the world is extraordinarily significant, indicating seasonality quite near the horizon for a lot of the time.

And, you know, the Seven Sisters, it's just the...

Sorry? Pleiades.

The Pleiades, of course, is the word for them.

That's right.

There were seven brothers married to seven sisters who lived in a large hut together.

The men went daily to hunt rabbits and the women to gather roots of flags for food.

The husbands invariably reported bad luck in their hunt, with the exception of the youngest, who without fail handed his wife a rabbit.

This continued every day until the females held their conference and became convinced that they were being cheated by their partners.

They agreed that the youngest sister should remain at home the next day under pretext of having a pain in her jaw, and so watch the return of the party.

Next day, the men as usual took their bows and arrows and set forth.

The six sisters then departed, leaving the other concealed among the flags and rushes at the back of the hut in a position from which you could see all that happened inside.

Several hours before sunset, the hunting party returned laden with rabbits, which they commenced roasting and eating, except one which the youngest set apart.

The others called him a fool and bade him eat.

the remaining one, which he refused to do, saying he still had some affection for his wife and always intended to reserve one for her.

More for you, said the others.

We care more for ourselves than for these root diggers.

When they had finished, they carefully hid all the evidence of their feast.

When all this was later reported to the sisters, they cried a great deal and talked over what they should do.

Let us turn into water, said the eldest.

That would never do, responded the rest, for in that case our husbands would drink us.

The second proposed being turned into stones, which was rejected on the ground of being trodden upon by the fraternity.

The third wanted them to turn themselves into trees, which was not accepted because they would be used for firewood.

He noticed the sisters are trying to work out what they should metamorphose into, They're not interested in sort of saying no, like a consonant and a vowel.

They're thinking of body language.

How can we absolutely, emphatically make clear to these husbands they can't have us because we're fed up with them, okay? So they've tried these suggestions, each one rejected.

Everything proposed was put aside until it came to the turn of the youngest.

Her proposition, to change themselves into stars, was objected to on account of being seen, but overruled as they would be out of reach.

They proceeded to the lagoon where they daily collected flag routes and constructed a machine impossible to describe out of reeds and ascended to heaven and located themselves at the Pleiades.

These seven stars still retain the names of the originals.

Now that's a story from California, from Los Angeles County, a group called the Luiseno Indians.

way, way, way back in the early 19th century, very early 19th century, I believe.

And what I want to argue is that if, now being serious about it, being scientific about it, if you want to signal no, you're worried about being raped or hassled, can you see You've got to be using body language.

You've got to metamorphose yourself.

Act out that you're not who you are, and you've got to act out being very clearly a collective.

Now, at the end of that story, there's a strange little piece, isn't there? The women go down to the marshes and they get among the reeds, and they construct a machine impossible to describe.

The way I read that is that the storytellers were talking to some white guy, missionary or something, and they just knew they couldn't get it across to him what this was.

So they just said, well, it's impossible to describe.

And from all kinds of other evidence, it's pretty clear to me that they were metamorphosing themselves into these stars, but this machine took them into another world.

And the way women go into another world is by connecting with the moon and by synchronizing their menstrual periods, their blood signaling.

No.

I know that's another big leap for those of you who haven't come across this previously.

Okay.

The idea is that the reason why In all the world's fairy tales and all the world's myths, and everyone will have heard of this, you'll find heroes and heroines turning into animals.

Who hasn't heard of the prince turning into a frog? All the maidens turning into swans, or a woman turning into a bear in Amazonia.

turning into a jaguar, for example.

This movement between animal form and human form, it's the stuff of magic.

So all in a way, a way of sort of summing up the conclusions of Claude Livius Chosen, it's mythologic, I'm putting it a little bit simpler than he puts it, but it's something like this, is that the magic of the stories is that you die.

Dying means you move into the world of the dead, into beyond this world, into the other world.

And so, okay, you're alive.

And then in the story, something happens.

Very often it's you prick your finger or there's a nosebleed or something, a flowing of blood.

It's like a little death.

You're wounded.

The blood transports you into the other world.

So you've moved from life to death, which is emphatically not magic.

And now, of course, comes the magic bit.

You come back to life.

That is magic.

And in all the world's myths, where this movement between this world and the other world, life to death, and then back into this world is linked in some way with the model given us by the moon, which dies for three nights, totally dark, and then comes back to life again.

Linked, of course, and again, this is right around the world.

I don't think there's a single system of belief anywhere in the world where the word for woman's bleeding isn't something like our word here, menstruation.

Menstruation means moon change.

So right across the world, when women menstruate, it's kind of a little death, they're moving away from the world into seclusion, into another world.

And the word for this movement into the other world.

The word for this bleeding is I'm with the moon, I'm visiting the moon, the moon is with me, the moon is my husband, the moon is inside me, something to do with the moon.

So whether or not science, Western science agrees that menstruation has got something to do with the moon, indigenous people around the world kind of can't help saying that because it's for them, it's sort of obvious, even if today there's no precise correlation between where you are in your menstrual cycle and what phase the moon is in.

What we can say scientifically is that the length of the human menstrual cycle is exactly the length you would predict if in the evolutionary past it had been adaptive for evolving women to synchronize their menstrual cycles using the moon as a clock.

Why am I saying that? is because the length of the cycle is 29.5 days.

Of course, it speeds up a bit for women after their period of maximum fertility in the 20s.

Teenage girls tend to have a slightly longer period.

In the period of women's like most fertile period of life in the 20s, late teens and 20s, it's the closest to the periodicity of the moon.

And the statistics now are absolutely, you know, and convincing, compelling because we now have apps that women can wear and we just got tens of thousands of examples.

And what happens is that the average kind of 29.3 days, except for women who are the body mass index is like rather lean, like hunter gatherers are.

But if you take the kind of body mass index, the kind of fatness, if you like, or leanness of the body of hunter gatherers, it comes out, guess what? 29.5 days.

I'm a scientist here in UCL Anthropology Department.

We regard ourselves as, you know, we're doing science, we're doing human origins, doing human evolution.

And of course, I believe in science.

I can't, how can I not believe in science? But I have to say that in some issues, science sort of gets pushed around a bit.

And rather, as I was saying about the origin of the ancestor being like men invented it, I just can't.

That doesn't work for me at all.

I don't know if it works for you, but it just seems so unlikely that men would do it.

The same with the menstrual cycle.

Overwhelmingly, the consensus is among scientists that despite what indigenous people say, despite what our languages say right across the world, the consensus is the menstrual cycle has got no real connection with the moon.

And I kind of agree with that, but I don't agree with it in terms of evolution, it never did have a connection.

To me, it's much more likely it did have a connection.

And in fact, the reason why it's likely is actually because we evolved in Africa in an environment where we were threatened by predators.

And the main predators were lions.

Okay, so the very fact that we are a species that is very highly sociable, the fact that we like you know, living together, despite all the costs of living together, because you've got far more competition and social conflicts and so to deal with in a large group than in a small group.

What's the benefit of living together? Safety in numbers.

That's agreed.

The main benefit of group living for humans as we evolve is, you know, safety in numbers.

Safety against who? Big cats.

Lions today, for example, have got superb night vision.

And they are perhaps misleading to say lions are lunar animals, but it is true to say that lions are lazy predators.

They don't like running very much, and they much prefer to creep up on their prey when they can't be seen.

So every dark moon during the night, the lions are out in full moon.

The lions know they can be seen and they kind of, you know, they kind of hold back.

And so in our case, it would have made a lot of sense to come together.

traveling over distances to meet up around full moon and around dark moon to huddle together with reliable kin, seeking safety in numbers.

And it would make sense therefore for the menstrual cycle to harmonize with that, that dispersal and aggregation, dispersal, aggregation, dispersal, aggregation on a lunar basis because of the lions, but not just the lions, the whole nature in a way follows rhythms and pulses, the sun and the moon.

We are an earth, sun, moon system after all.

And to ignore the moon, dimension of all this would be just not scientific.

Okay, so I'm arguing that the menstrual cycle must have been very lightly linked with the moon in the past for that reason.

And then the question is, okay, what has that got to do with what I'm arguing about the incest to be? Why would the menstrual cycle be relevant to needing to and succeeded in resisting sex? So, I mean, I'm going to pass over to in a minute to do some of the science and show you some diagrams.

But it's kind of quite simple, really.

It's that the biological primate male, if you like, the Darwinian male, the male who hasn't got any morality, that just needs to get his genes into the future, is wanting fertile sex.

The males will fight for fertile sex.

And with chimpanzees and other primates, the males get very excited during the period of ovulation, which the females are signaling through a big sexual swelling.

They're just not interested in menstruation.

And if you were going to take a stand and start resisting sex, the easiest point to make that move would be around at the time of menstruation.

It would be just easier to make it at that point because the males would be less likely to fight tooth and nail for sex because they're interested in fertile sex, not the kind of sex which won't get anyone pregnant.

So there's already something there, but it's a great deal more.

And I'll stop by saying in the story I read out, those women metamorphose, it's like body language, into stars.

In reality, the kind of thing which women had to do, not necessarily stars, certainly making themselves scarce, getting into the other world, moving away, but the thing to do is to be everything like the reverse of what the Darwinian male wants.

The Darwinian male, think about it, is looking for a partner of his own species, in this case it would be human, Of the opposite sex, I'm talking about the Darwinian male, therefore a female, and therefore in her fertile period.

Reverse all three.

So reverse right sex, right species, right time.

That's the way to say yes.

Okay, I'm the right sex, the right species at the right time.

I'm just perfect for you.

That's what a female chimpanzee does with her sexual swimming.

How do you reverse that in order to say no? Quite simple.

Wrong sex, wrong species, wrong time.

to turn into some non-human creature, preferably a very imposing one.

A lion would be good.

A big snake would be good.

But anyway, into a creature, not a human.

You've got to say no to all that.

To add to that, make yourself a male.

So not just a snake, but a male snake or a female snake that's turning into a male one.

not just a jaguar in South America, but, you know, or an eland or something, but a bull or, you know, you've got to change your gender as well as your species.

And of course, bleed.

So be wounded.

And it's just that that does sound strange, doesn't it? All that just it's, but it's, I want you to see that it's simple.

At least it's simple.

It's parsimonious.

It's just one thing, like negation, make it everything.

And you come up with a theoretical answer.

Now, of course, if you're looking a bit skeptical and thinking, well, give us some evidence.

The evidence is everywhere.

And it's not just in fairy tales and myths.

It's in rock art.

It's in all the world's religions.

Often the early religion is called totemism.

Everyone turns into.

or is born from a kangaroo or, you know, a jaguar or some other animals, something that's called animism, where the animals speak and you speak.

But all those things, this model tells you in detail what you should find, but perhaps more important, what you'll never find in a fairy tale or myth.

And so the theory is falsifiable.

You can just check it out, are the predictions it makes.

that you'll find the world's earliest forms of art, for example, will be like representations of blood, but in a creature that's not human, but animal, but maybe it morphing from a human into an animal and morphing from a female into a male and bleeding.

I'm gonna hand over to Camilla because I've spoken a bit about it all.

Hopefully I've tried to make you aware of a simple thing.

Perhaps one more thing to say is that, yeah, one more thing, is that sex strike isn't just a theory.

It's actually what happens with hunter-gatherers, because with hunter-gatherers, I'm talking about egalitarian hunter-gatherers.

Hunter-gatherers don't do storage.

They don't have marriage.

That might sound a bit strange.

They certainly have rule-governed sexual relationships, and you can call that marriage if you want, but they don't have weddings.

Egalitarian hunter-gatherers don't have weddings.

So the point here there is that a man among egalitarian hunter-gatherers never gains conjugal rights.

He never has, there's never a ceremony where he says, okay, from now on, you're not just any old woman, you're my wife.

I've got sexual rights in you.

That never happens.

You haven't said something called bride service.

Bride service means that a woman stays with her mum, opposite to what happens with chimps and other great apes.

She stays with her mum as she becomes of age.

She's still got her mum.

and her relatives behind her to support her, including her brothers actually, might be on hand to give her support if she needs some support against some troublesome mail.

And the relationship develops.

At first, the young man who fancies her, he will have to bring us some meat, he'll have to behave, he'll have to be nice to his in-laws, have to be very respectful.

As soon as he shows himself lazy, disrespectful, whatever, he's out.

He's just sent right back to his own mum and sisters because the woman's got solidarity.

So that is sex strike.

What I'm saying is this right to say no, this freedom of sexual choice, this thing called bride service, where you don't have wedlock, you don't have wedlocked women, women married and then sort of owned by a man.

This, what I'm calling sex strike.

Another word for sex strike is bride service, because that means sexual relationships are conditional.

And it's the standard form of sex and economics characteristic of hunter-gatherers who are not yet storage hunter-gatherers.

In other words, the kind of hunter-gatherers we were as our species emerged as fully symbolic Homo sapiens.

I'm now going to pass over to Camilla if Camilla's ready.

Camilla's Talk

Camilla Power: Thank you, Chris.

So can we put this crazy sounding theory into into something that's actually scientific. I mean, it might have sounded a bit crazy there to anybody who hasn't heard this before? Moon and menstruation, it's a little bit hippie dippy.

Can we make it really material in terms of human evolution?

Great ape mothers

We're going to go back to great ape mothers as thinking about last common ancestor of ourselves with other great apes.

So we've got orangutans, we've got bonobos here.

It would be chimps and gorillas as well.

And these mothers do everything by themselves.

Males are no help at all.

In fact, they're worse than no help.

They can be a hindrance and a danger to mother's offspring in certain contexts.

They may do something like protection, but basically mother does all the work by a themselves.

So if we think about a last common ancestor, that would be the situation for our last common ancestor.

The mum is basically a single mum doing all the work herself.

So yeah, to raise an offspring.

So our story, the most materialist aspect of the story of human evolution, as we change from a creature like an australopithecine with a basic ape body size to anatomical modern human, modern human and recent **** large bodied recent **** with this extraordinary, throughout the last 3 million years, these extraordinary big increases, one there and then a second very large increase of brain size.

Those increases of brain size represent an enormous amount of energy required by the mother to nurture in her offspring.

If those are the brain sizes that the offspring must reach for adult brain size, most of that comes from the mother's work, breastfeeding and nourishing that offspring.

So if she's doing that all by herself, or she has a huge task, and it's quite clear that something changed in the course of human evolution.

So what we've got here, so this is really a science bit, and we're looking at, these are samples, specimens of fossils going through the last 3 million years.

And this is a measure of brain volume, cubic centimetres.

And I'm putting it, I'm just putting these lines of, chimpanzee standard brain volumes across those charts.

So what we've got when we look at the Australopithecine specimens is that they're basically hovering in the same range as a chimpanzee standard brain volume.

So a chimpanzee male would be a bit larger than a chimpanzee female in terms of body size and brain size, but basically they're all the same.

right down to about 2 million years ago.

What that's telling us is that the situation of being a single mum, a mum who's raising the offspring all by herself, basically with not much help from anybody, was happening with those osteophystings as well.

They are basically just doing things the great ape way, with a sort of great ape life history.

And then something happens in 2 million years, And it's like what happens is smashing through.

What this is called is the grey ceiling.

This level of brain size is a ceiling on what is possible for a mum who's doing it all by herself to raise the adult brain size of an offspring, that an offspring is going to become this adult brain size.

So this is what a mum by herself can do that.

That's the grey ceiling.

Our ancestors, the early **** two millennia, smashed through that grey ceiling.

How did they do that? The idea is that almost for sure there was something completely different about the breeding and mating systems that mothers began to have help from others.

We'll think about who those others will be.

And then they smashed through to like twice chimpanzee brain body with the onset of larger bodied Homo erectus, drifting up there to quite a long time without much change.

And then there's this huge, really quite extraordinary increase of brain size at the end of the process in the last six, 700,000 years to the process of becoming modern humans.

Also, of course, with Neanderthals, also with Denisovans, as far as we know.

So we've got these jumps.

First jump, twice chimp, second jump, later in the day, three times chimpanzee volume.

So how did this happen? If we can go forward.

So the arguments to be made about this, for that first jump particularly, we're not sure about relying on males.

Males may have started to become a bit helpful, but we'll talk about males later.

This is wonderful book on human evolution.

Sarah Hurdy's Mothers and Others, really the greatest book on human evolution of this century.

She's arguing that what is special about humans, how we really started to become human with onset of Homo erectus.

We are the great apes who did cooperative breeding so that mothers and others were involved in childcare.

and that children were being raised by a whole group, basically not, not just the mum alone.

Most especially that a mother was able to hand over her offspring to somebody else to take over care.

This can't happen with other great apes, or it's very rare that it happens with other great apes.

And the major reason Chris was talking about the reason that females move out of the group because they're worried about the fact that they could have sexual coercion from their own relatives.

Females are moving out of the group.

That means that they end up in a group where they have no relatives.

So who do they hand over the baby to? Somebody who's trustworthy enough to be looking after their precious baby.

It's not easy to do because there's not enough trust.

The other major hypothesis, which is, of course, part of Mothers and Others, is the grandmother hypothesis that the very first person who would be reliable for a mother to hand over her offspring would be her own mother.

I have this lovely Hadza grandmother who I knew when I was working with Hadza people in Sikonga, and she's showing off her daughter's children there.

Now, it wouldn't only be the mum's mother, but also an older daughter who would start to help with the young children.

So you could start to get a little sort of matrilineally related cluster of the family.

Now, what humans do differently from great apes is we have stacked families.

We narrow the time between one baby and another.

A chimpanzee have babies five years apart or so.

Orangutans seven, eight years apart because the mom's doing everything.

She's got to do it so slowly to be able to raise that child to be independent.

But here, Lonely's daughter, Raheli, has two, three, four little kids, one after another, and they're kind of looking after each other.

This is called a stacked family.

So this is a different way of doing, this is cooperative breeding.

It's a different way of doing things.

Let's see.

That's, we'll skip this picture maybe, but it's just another way of showing these big increases of brain size.

So those are the Australopithecines.

Brain size doesn't change very much.

Suddenly with Homo erectus, early **** there's this big jacket with Homo erectus is coming up here.

Then it doesn't change very much.

And then in the late stage of the Middle Pleistocene, the last 500,000 years, we've got this big jump again.

Each time there is that huge change of brain size that is putting demands on mothers.

Mothers have to find the energy requirements.

They've got to get extra subsidized nutrition, very good quality nutrition for building those brains of those children.

So this is really the materialist story, the story of the energy requirements in human evolution.

So how did they do it? Well, we've talked about, whoops, Can we go? Yeah, I'll skip that for now.

We've talked about females getting help from their mothers, female coalitions with mothers and their children helping each other.

How to make males work?

What about getting the males in on the act? Because we know that Great Ape males, like chimpanzees, they're perfectly capable of hunting.

But when they hunt and get these little monkeys and pull those little monkeys to pieces as they're kind of grabbing their bits, there isn't all that much meat anyway.

And it's very, very difficult for females, if they're burdened with offspring, to chase after the males who are maybe up the trees and to try and get their part of the meat.

They're going to they're going to not have very much success in chasing after.

The very females who need the energy are the ones who will be the most burdened.

Quite completely different from the situation of Great Ape Male hunting by chimpanzees is this situation with hunter-gatherers.

These are quo hunter-gatherers in central Kalahari.

They are coming back across miles and miles of scorching desert, carrying a large, incredibly nutritious package of a great game animal, Hemspark, all the way back to the camp where everybody, women, children, will be getting part of that food.

That really represents the kind of the revolution, the human revolution.

That represents these guys are doing what Chris was just describing in terms of bride service and that collective work.

Modern human female sexual signals

So how did females, through their strategies, get males to work? Okay, well, one of the most likely ways of organizing or influencing males in terms of evolutionary assets, if you like, or evolutionary change of our physiology would be through sexual signals.

And this is very well known in the evolution of primates, this variation of sexual signals.

So we have the evidence in women's bodies today, which is telling us something about how they influenced male behaviour in the past.

Okay, so these aspects of modern human females, concealment of ovulation and continuous sexual receptivity, That means that doesn't mean you have to have sex all the time.

It means you can choose whether or not to have sex.

We have a very wide range compared to any other primate of the number of days of the cycle, basically any time of the cycle when we can have sex.

For a chimpanzee who has a very big oestrus swelling, it's only a certain portion of her cycle that she will have sex or wants to have sex or is even really kind of sexually available.

So concealment of ovulation, unpredictable ovulation and having, you know, being receptive to sex at any time actually has an effect of confusing.

It doesn't give the males anything to go on about when a female's really fertile.

So they're confusing the situation for the males.

They're keeping them guessing and making them wait around because they're keeping them guessing.

Chris has talked about lunar periodic function in women's reproductive cycle.

It is the case that average menstrual cycle lengths converge on lunar synodic cycle lengths in a range 29.3, 29.7 basically.

And also gestation, pregnancy seems to be a multiple of that.

So there is a lunar periodic function there.

As Chris says, for instance, the Hadza, Hadza women will say that I know when I'm going to menstruate, I look at the moon.

They use the moon as a clock to tell them it's their information.

But there is something else going on and I'm going to show you that this thing about synchrony, people often have talked about menstrual synchrony.

Science does think menstrual synchrony is a myth, but synchrony itself, whether it's menstrual synchrony or reproductive synchrony by season, has a very significant effect on male behaviour.

It basically prevents harems, and I'm going to show you that in a minute.

And then menstruation is left kind of alone as the main signal.

So all of this is saying women seem well designed for wasting time of the male.

And that is not good news for a male who wants to be a dominant great ape who wants to go from one female to another to another.

So we'll show you why that that is the so.

So it is in favour of a male who's going to spend time with a female and invest and ultimately do this bright sense.

So let's have a look at how that works.

I'm sorry.

It's not going down very well.

I got.

Oh, no, I can use that.

Okay, so we've got, we're just showing cartoon females with their like moments of fertility and a bunch of males here.

This could be just any old primate species, baboons or whatever.

And if all these females have different timing of fertility, then if one of these males is just a bit dominant, he can, yeah, he can guard this one, get her pregnant.

Wait for the next one is up there, get her pregnant, fight off the others, wait for her, get her pregnant.

You can just pick them up one by one by one.

So suppose those females don't want just one male picking them off like that.

That's what they do.

That's what primates do as well.

It's not just our ancestors.

There are a number of primate species, seasonal primate species, where that is the effect.

If fertile moments get overlapped or tired periods of sexual receptivity get overlapped, more males come into the system.

If males are useful, if it's worth having a male hanging around, that's debatable.

But if they are, then everybody should have one.

And that's the way to do it.

Okay.

And the Bayaka, hunter-gatherers of Central Africa, who Jerome Lewis, our colleague, has worked with, they have this song, One Woman, One Penis, which really expresses exactly that.

It's undermining the idea that a dominant male can guard a harem.

So that's how that works.

But you see, if they were showing that moment of fertility, so that the males knew the moment of fertility, The problem would be that after they've done the business, they might all decide to just go.

You know, that wouldn't be much good either.

So the best solution is the one that is what we have.

You do try and synchronise as much as possible, overlap periods of sexual receptivity to keep this kind of one-on-one scenario, but you don't show when you're actually fertile.

You keep the males guessing.

And basically, if you are in a heterosexual relationship with a guy, the guy won't really know.

You think he might think he does, but he won't, because we're designed to confuse what it is.

So let's come back to our sexual signals.

Keeping the guys guessing, confusing the situation, it is in favour of a male who's hanging around, spending time with a female, and it is messing with the heads and messing with the strategies of any male who wants to dominate a number of females.

Yes, that's the whole system.

That's what the system's doing here.

So if males are useful and could bring flowers, chocolates, or nice fatty meat or something, do something useful, then it's good to have them hanging about.

But what about menstruation? Menstruation is really going to cause a problem here.

Why is it going to cause a problem? Because here we've got a bunch of females and some of them are pregnant, some of them are breastfeeding, because the synchrony is not perfect.

We have three or four year intervals for hunter-gatherers in human evolution, some of them will be pregnant one year, some of them will have been given birth, be breastfeeding, some of them will start back cycling again, some of them will be menopause, some of them will be, you know, grandmothers.

So you get one of the females in a bunch maybe actually menstruating, maybe a couple in a group actually menstruating.

Now what's going to happen there is those females who are menstruating, But these males who are interested to find a fertile, potentially fertile female, she is clearly the best bet because she isn't fertile right then.

It's kind of wrong time.

But in a week or two, you know, guard that female, stick with her, bond with her, bring her the flowers and the chocolates.

She's the one.

And then if you can stay with her, you might get lucky.

Yep.

So this is going to cause problems.

It's going to cause conflict amongst those females because it's the pregnant and breastfeeding ones who need the support for males.

And it's going to cause conflict amongst the males because they're kind of potentially in competition to try and get access to, to try and get in the good books of this menstruating person.

So and that person, the one who's menstruating, she's probably a friend or a relative.

She's probably a relative in the female coalition of the other guys.

So what do they want to do? This is a female problem and it's a female problem.

The more the brain size is increasing, the more that the mothers, the breastfeeding females, need energy supplies, need good nutritious food supplies, then it's a problem.

It's a female problem.

So females are the ones who need to find the solution.

So first of all, they've got to protect their friend or relative.

They've got to protect her.

They do not want any of these guys acting as a dominant great ape, try to grab her and take her off on safari and monopolize her.

It's the last thing they want to happen.

They've got two choices.

They could try to hide her and pretend it's not happening.

They could try, it's like concealing ovulation.

Don't let the males know about fertility.

But actually that isn't the most productive thing to do.

The most productive thing to do is, wow, that, is to amplify the signal and join it to everybody.

Say the whole of us, we're all of us menstruating, we're all of us fertile, we're all of us sexy and desirable.

And you guys, you're not going to be able to pick and choose.

They've created a picket line.

They've created a taboo on menstruation.

They've created– they're demanding respect from these males.

I've got them as question marks there.

In the first place, they might be quite puzzled about this.

But what's really happening is this is the big no.

This is females saying no.

But who they're really saying no to is the dominant male, any dominant male who wants to just take sex without doing the work, without doing the bride service.

For males who are willing, investors, ready to do bride service, this is, okay, it's a no, but actually it's a big yes because the no is against the dominant males.

And the males who are willing to work, are very favoured by this system.

It eliminates the old dominant great eight strategy, this system.

So I'm going to show the model of what that might look like in real life.

Thanks to Himba people of Namibia, the Himba women here doing a premarital ceremony in this.

It's not a fantastic picture.

I hope you can see very well on the screen in the Zumba.

Maybe it's not so great.

They're signalling with this fantastic ochre cosmetics that is very well known amongst the Himba.

Himba are livestock keepers.

They're not hunter-gatherers as such, but they share traditions that are well known also amongst some of the bushman groups.

They're giving us the real– they're modeling the impression of what such a picket line would look like.

This is really the first moral and first symbolic type of strategy where what one woman does matters to all the other women.

It's a moral strategy.

And where there is a sort of symbolic, a collective imagining that we all share this blood or fertility.

So it's a coalition going into a collective imagination of something that actually doesn't exist.

So we are really here entering a symbolic with a taboo and understanding.

And it's quite clear from seeing that as men seeing something like that had to respect that.

The idea that a dominant male charge in there and say, oh, no, she's the menstrual one.

It's just not going to happen.

So the females are, what are those women signalling is they are signalling their solidarity.

They're signalling the complete impossibility of being separated.

And that should be something that the males who want to join the system of doing the work, the bride service, should welcome.

These are like moral, symbolic, cosmetic females.

I'm not going to say very much about archaeology of human origins because we want to wrap up in a short while.

We've got Ian Watts here who can say some more about it in the question period, maybe.

Female cosmetic coalitions or sex strike hypothesis

As Chris said, this is a testable model, the very first evidence of symbolic behaviour should be a cosmetics industry that's focused on red pigments.

Now, those pigments aren't necessarily going to be mineral pigments, but the ones that will last in the archaeological record definitely will be, so that we expect to see evidence like red ochre.

And we expect it to have a relationship with the increase of brain size.

When does that Those traditions, when do they emerge? 600 to 150,000 is one of the windows that we've talked about in the past.

At the point of time, the last phase of the big brain size increase, we expect this to be the time period when the institution of bride service, the sexual division of labour, becomes most important for females.

And just to say a little bit, as Chris has mentioned, the cosmology, the religion that starts to get built on this system will emerge as something connected to the moon and connected to menstruation as the powerful with the red, the colour red as the colour of power.

The archaeology of human origins

Let me just show you again before, and Ian can say much more in questions, the prediction that The traditions of ochre, the mineral pigments in the record in Africa in the Middle Stone Age towards, it comes from Ian's work of Wunderwerk is even before 300,000.

These are sites in Kenya, Zambia, down on the South African coast, right the way through to, this is covering the same period as the emergence of Homo sapiens, the first stage with the Moroccan fossil there, Jebel Uhud.

and the Ethiopian fossils Omo and Herto.

These are parallel processes, the speciation of modern humans with that tradition, that building tradition of ochre pigments found in sites, ancestral sites, and subsequently also the beads found in North and South Africa.

What we come out to is this sex strike model of human origins, which Chris, first of all, was discussing in his book, Blood Relations, many years ago.

So that Dark Moon should be the time when women set up this ritual menstrual, symbolically menstrual sex strike.

There won't be any hunting at the time of dark moon.

Dark moon is not a good time for hunting.

The lions will eat you because lions can see in the darkness, whereas you can't.

Women will hold ritual with using ochre, blood or other cosmetics.

Blood relations symbolize kin solidarity.

So the relations are with kin, including sons and brothers.

Sex strike model of human origins

And this is really where the incest taboo that Chris, you know, the sex strike applied to sons and brothers, that's the incest taboo.

It's quite straightforward.

But as the moon waxes bright in the sky, that will be the time for large game hunts.

The hunting of those men were bringing that hemsbot back over the desert should be taking place at a time when there's some light in the sky up to the point of the full moon.

And the hunting, the game should be brought back by the full moon.

After full moon, there starts to be darkness in the sky once the sun has set.

At the full moon, the game is brought back, the cooking fires are lit, and the blood is taken out of the meat.

So we've got a phase of blood with menstruation from full moon, a phase of fire, the cooking, rather than the raw blood, the cooking fire.

After everyone's been hungry, now you can feast and have the pleasures of the flesh, eating the flesh, eating and consuming the meat, having sex.

So this is the time period of marital sex.

Until the next dark moon and women call again, the sex strike, the menstrual sex strike, send the men to prepare the hunt and then to hunt.

Okay, so if we take that, what Chris has called time resistance syntax, we have all these associations with the on, the ritual, the phase of wetness, bleeding, hunger, taboo on flesh, kinship relations, seclusion and menstruation, gender inversion, this wrong sex, wrong species idea.

And when the hunt is brought back, when the cooking fires are lit, then people become maritally sexually available.

We're back in this world.

The cooking is done, the feasting, the flesh is available for consumption.

And these are relations of affinity, relations of marriage and so forth.

So that is a structure.

which Chris has argued is in all magico-religious myths and fairy tales.

It's a structure that's there in rituals the world over.

Just think about all the world religions that are organized by lunar calendars and will actually reflect these structures.

You could go on for a long time.

I don't know how much to carry on with this.

Wrong sex, wrong species.

Some examples with hunter-gatherers of human females actually acting out.

They don't call it sex strike.

What they call it is first menstruation rituals.

Here with the qua in central Kalahari again.

That is a menstrual heart behind these women who are dancing.

Machine impossible to describe.

Well, this is a version of machine impossible to describe.

They're dancing with horns as if they are e-lands performing a mating dance using their buttocks to perform the postures of the e-land.

The girl in the heart may be described as herself, the e-land bull, and they are like mating with That Ylan bull, that supernatural power of the bull.

And of course, no mortal male can actually come anywhere near.

If a man came anywhere near there, one of these women will use their horns to poke him away.

But also, his hunting weapons, his arrow poison, would be destroyed.

So it's not worth his while to come anywhere close to that.

Or if he saw the Mansfield girl, he'd be turned into a stone or a tree.

And these are Hadza hunter-gatherer young women in a female initiation called Maitoko.

And I'm not gonna say much about it, but they are following in the tracks of a mythical matriarchal woman with a zebra's penis who used to hunt zebra shooting, caking the penis, tying it on herself.

So these, the mythology and the cosmology around these initiation ceremonies for these groups of young women or young women with their close kin group.

They concern wrong species, wrong sex, and it's wrong time because it's menstruation, but it's powerful time.

It's a time when her menstrual potency, it's not pollution, it's potency, takes the whole community into another world where they're engaging.

It's a kind of dreaming, It's a kind of ancestral time, a first creation time when they're engaging with a world of ancestors.

And at a guess, the Elan bull dance that's being still danced there by qua people, late 20th century, and even still danced within this century, is perhaps the oldest ritual religious tradition on Earth that's still within living memory, at least if it's not.

Some more examples of the lambour dance.

And that leaves us with snakes, Chris is an expert on rainbow snakes.

Rainbow Snakes

Chris Knight: Okay, the story I read out about the Seven Sisters, the women turned into stars.

They didn't turn into a snake and into animals.

But of course, the Seven Sisters are a constellation.

And most of the constellations are, you know, they're a bear, they're a scorpion, they're all sorts of different creatures.

And in real life, women needing to be emphatic with the body language, turn into wrong species, therefore animals.

And the animals which they choose, what's so interesting is they are, they will be the animals which are either predator or prey that because when, when a woman's menstruating as she's, okay, just, just think of it.

You've got a bunch of women and they're actively in solidarity, signaling over the body, turning into an animal in kind of pantomime, metamorphosing while bleeding.

Can you see that the, the woman, the women there are kind of hunted and hunting because the woman who's bleeding is causing the animal to bleed, but the animal is her.

And I just remember I was giving something like this talk a long, long time ago.

It was in 1993 and James Woodburn, the great authority on the on the handset, he was sitting in the audience in the very front row and he just said, Aha, Chris, you've got it.

He said, when when a girl has a first menstrual period among the handset, they have this they they everyone's like joyfully announcing the fact she has shot her first zebra um so can you see what's happening Camilla's got the hats I think okay what was it Liz okay that means she has shot a zebra can I I hope we can just see it's so it's so complex and yet when you think about it it's just so simple because if you're a woman who is a zebra because you're pantomiming a zebra and you're bleeding, you cause that blood.

So can you see that you're both the hunted and the hunting, you're both a predator and the prey.

And as a result of that, you know, all the stories we have, what for humans, a predator or a prey in a kind of, in a kind of linked opposition, kind of joined by their opposition to each other.

The most, probably the most logical animal to turn into.

If you're a line of women all connected with each other without any hierarchy, without a head up here, neck here, belly there, feet down there, you're just a line of women.

And I like using the metaphor of a picket line.

Sometimes I get told, Chris, don't call it a picket line.

You don't have pickets there.

We don't have industrial strike.

We don't have trade units.

Have you ever heard of a sex strike? It's all kinds of sex strikes in history.

So as soon as you have a sex strike, you've got to sort of maintain the strike, maintain the solidarity, stop people from crossing that line, make sure that if everyone What if a few of you on strike? Everyone's on strike.

It's one out, all out.

The same sort of dynamic does apply.

I don't mind calling it a metaphor, if you like, you know.

But anyway, what's that metaphor, if you like? What's it going to look like? Well, actually, a chain, a line snake.

That's brilliant.

The snake just makes so much sense.

And then we find in Aboriginal Australia, the divinity is the what's called the rainbow snake.

I mean, that's kind of wrong really for Westerners to sort of say, oh, this thing called the rainbow snake.

Because if you ask the Aborigines, they'll say, what is this power of yours which sort of stretches across the landscape, links the heavens and the earth, links to the rainy season and the dry season.

And they'll sort of say, well, it's sort of very big, if a how big.

Oh, it's just big as a rainbow, because, you know, because everything.

What does it feel like? Well, it's like our mother, like your mother, but it's like an all mother, like all of our mothers.

And so gradually you get a picture of this thing.

It's clearly it's a metaphor, and we call it the rainbow snake.

It's all over the world.

Have you ever heard of a dragon? You know, what does the dragon do? It likes maidens.

What do patriarchs have to do to make the world safe for marriage in the patriarchal family? You have to chop off all the different heads of the dragon.

I mean, I won't go on, but these are images from Africa of this supernatural snake.

And I just get, I kind of, I just feel sorry for people who are sort of saying, yes, it's probably this kind of snake.

They find a sort of zoological counterpart of it.

And it, you know, it's a particular kind of rock python.

And I'm just thinking, no, no, you're missing the point in traffic.

This snake is human beings.

It's a metaphor.

And it's a logic of cyclicity.

And it's always got people dancing around.

Look at this wonderful one from California.

It's a snake.

Okay, there's humans all around it.

I mean, it's made of humans.

Camilla Power: And they're opposite. They're black and red.

Chris Knight: So, I mean, anyway, I've written a whole book about it, if you're interested.

The point about the rainbow snake is you get inside it. It's made of people. It's a dance.

Women become the snake when they synchronize their menstrual piece, whether in mythology or to some extent in real life, you know, we can debate.

And so, okay, I mean, to me, you know, the solidarity of a picket line Some people think it was just a sort of, it began in, you know, with the Industrial Revolution in this country.

No, actually, it's a much, much more ancient logic.

And the one thing about a picket line, including a sexual picket line, is it's got an astonishing dynamic to it because most things, most institutions, most, I don't know, empire, states, organizations, as they get bigger, they get less and less stable, they start to fall apart.

Hang on a bit, a strike, the bigger the better.

the wider it stretches more.

And if you really want your sex strike to be very effective right across the landscape so that wherever you are, you can't find men.

Oh, let's find some women who want a strike.

Let's go.

Okay, synchronizing the moon because the moon is right across the landscape.

The moon doesn't care about borders.

The moon's a no borders thing.

And the rainbow snake, the dragon is a no borders thing.

And I just wanted to stress one other thing.

One or two people in the past have made them to reverse, obviously it's lovely to get criticism and we need criticism.

So one of the criticisms from some of the left-wing groups was, yeah, but you're assuming everyone's heterosexual.

And we're saying, hang on, don't you understand? Half the time we're on sex strike.

Half the time, the whole of waxing moon.

Do you think we weren't doing something else in that period other than having heterosexual sex? It's like there's a huge space open up for all the alternatives to heterosexual sex in that half of the month.

So everyone's kind of moving between the two phases.

So everyone's sort of heterosexual in one phrase of the moon, homosexual in the other, lesbian in the other, or everything in between.

But we're not rigidly stuck in one sort of category of sexual identity.

We're able to move between these things as the moon changes.

Um, and, um, I don't know what else to say.

Um, yeah, just one, one thing on the, on the incest.

Can you see that with this theory, you don't need an explanation for the incest.

It's already there.

You've got a bunch of women needing to be solid and, and strong in, in resisting harassment.

It's clear, isn't it, that those women will have a very valuable resource to hand.

Their own sons, their own younger brothers.

Join with them in the coalition.

Now, when you're in a coalition with your sons and brothers against men who might be harassing you, can see at once that you can't be on sex strike with sons and brothers.

while you're having sex with them.

Quite clearly, those people are going to be permanently not around for fertile sex.

Whatever else goes on is fine, of course.

Any kind of intimacy in the blood and all kinds of funny things, but certainly not fertile sex.

And so the very fact that you're saying no is already saying no to your sons and brothers on the level of no to fertile sex.

So you've already got the answer to it.

And more than that, You've got the incest taboo, not in the form what we might imagine it in the West, like a sort of nuclear family thing.

We've got it in precisely the form we find it in hunter-gatherer societies where these regulations and rules stretch right across the landscape.

Across Australia, you have this astonishing song lines and section and subsection systems where for a young man, he looks across to think what kind of woman of his generation he might be allowed to have sex with.

Okay, out of eight categories, only one is allowed.

It's his mother's mother's brother's daughter's daughter, which you might think is a bit restrictive.

No, no, no, no.

Right across the landscape, we've got an unlimited number of mothers, mothers, brothers, daughters, daughters.

And that's because the picket line itself, because it's connected with the moon, is going to be stretching right across the landscape.

So we have the paradox that it's whereas a lot of people think, oh, hunter gathering, aren't they a bit small scale, small scale societies? Hang on a bit.

They're bigger.

They think bigger than we do in the West.

You know, the no borders, you know, right across whole continents, you'll find your kin right across the landscape of Australia, but right across Africa as well as Jerome would.

But you have the songs, the song lines, the cultures, the rhythms, the beat.

And of course, the critical thing as well is that you're not fixed.

You're not stuck.

This is what Mona Finnegan, one of our team in radical anthropology, she calls communism in motion.

There's always a pulse to things.

And the pulse is, of course, the sun is important, the seasons are important, the night day pulse is important.

But fundamentally, it's a pulse between the waxing and waning moon, which is like a sign of life.

As soon as you start losing a pulse, a pulse as central as the moon, it's not very good news.

Audience questions

Camilla Power: Anybody who would like to come with questions, either the room or on Zoom, or Ian, if you're there, if you want to make any contribution.

Chris Knight: You're welcome to totally disagree with the theory.

Camilla Power: If you've never heard it before, it's probably very wacky indeed.

Audiance member #1: You mentioned the low energy cost for a male of sex and reproduction as opposed to in great ages. Given that, how do you get a true dominant Darwinian male to care about all of this at the moment? Is it not effective for him to?

Chris Knight: That's a very good question. Given that a dominant male can, with very little expenditure of energy, could use a bit of sperm and get somebody pregnant.

And given that that's a Darwinian imperative, how on earth do you get this dominant male figure to even care about any of this stuff? That's your question, isn't it? And it's a very good question.

It's just, of course, the answer is don't give him any choice.

It's like, you know, form a line, make it impossible for him even to tell the difference between somebody who can get pregnant and somebody can't by all painting up together.

It's what we call the female cosmetic coalition. Make the ochre spread across. You're a united front. Does he want sex? Well, he's going to have to behave.

Camilla Power: Yeah what I was trying to do there was to show that there are aspects of our evolution and anatomy in our bodies which are tipping the balance in favour of the males that do care against the tipping the odds away from the males that don't. So it's making great ape strategies, male strategies less successful.

But then the ultimate problem is this problem with menstruation, that the new great ape male strategy would be follow the menstrual female, do it with her, find the next one, but then the menstrual picket line brings the curtain down on that. And that favours the males who are willing to invest. And they are going to be, if you think in terms of sexual selection, those males are going to be choosing the females who do that strategy, because those females are favouring the hardworking men instead of the dominant men.

Chris Knight: I mean, another whole way of approaching it is to say, however Darwinian you are, and I'm A Darwinian, and so is Camilla, we're all Darwinians, very, very, actually quite consistently Darwinian, more than some Darwinians actually sort of make exceptions for humans sometimes, but we think Darwinism is it really. But however Darwinian you are, I think you have to acknowledge that humans do have rules.

I mean, we may not be very good at keeping to the rules, but you know, the fundamental rules of any kinship system, concern sex. And actually, at the bottom of all the world's religious rules, you'll always find sex down there somewhere. Mostly, of course, it's patriarchal religions these days with religions of the book. But you can't deny Levi's basic point that we have rules, you know, rules of respect for mother-in-law, rules of food sharing, all sorts of things, menstrual degrees, but particularly the rule against incest, the prohibition against incest.

So however Darwinian you are, you've still got to cope with this fact that humans do this Non-Darwinian thing. It's not Darwinian to have rules. Trees don't have rules. They don't all agree how much sunlight they're going to have. They compete for the sunlight. And same with all the other animals. They don't exactly have rules in the way that humans do, like moral rules.

But we still got to explain them. And we're saying you have to explain them on, yes, a Darwinian basis. Have we found any other theory that can explain rules on a Darwinian basis? We haven't found one yet.

And then the other thing about the mythology and stuff, I mean, all this does sound strange, but then don't forget that, you know, human myths and fairy tales, let's face it, they are strange. Human religions, they are strange. We've got to explain strange things.

There was once an idea that myths are charters for social action. All the myths are just telling you what to do. Don't do this, don't do that. The myths are far more interesting and creative and ingenious and magical than that. And it's all that magic and difference and spectacular complexity that we need some simple answer for.

When I say simple, it's like if your answer isn't simpler than the evidence, it's not science. You've got to somehow you have to reduce the complex to something more simple that you can get your head around. And instead of having a headache, this theory works.

And we can't quite understand why it hasn't got off the ground a bit more widely than it in the than it has. And there seems to be something about menstruation of the moon, which, I don't know, does it upset people? I have a feeling that, you know, patriarchy...

Camilla Power: Questions maybe, before speculating about that.

On Zoom, Elena, you made a very good point there about older brothers and fathers may be problematic.

So Elena's saying in this theory, younger brothers and sons would be important to the women's coalitions. Fathers and older brothers could be problematic, at least initially when the coalition's coming into existence. I agree that there could be all kinds of issues with that situation.

But let's think about it in terms of kinship. As kinship starts to emerge and crystallize, fathers will be coming from outside. They're affinal. They won't be part of the kin coalition.

We are envisaging with this theory that there would be tending to be matrifocal, matrilineal links as kind of fundamental.

And that would have been probably part of our evolutionary history, quite different from most other great apes.

But I agree that the issue with brothers could be something quite tricky.

And there may be a lot of mythology that actually discusses that because, as Chris was talking about last week, in fact, a lot of the most fundamental stories are about brother-sister incest in connection with the moon. It's a very, very ancient stories.

Mary: I was wondering, as Ominina moving out of Africa, going into more northern lands where the moon is not so easily seen, what would be the most obvious way for women to keep track of time?

Ian: For the early hominins who moved out of Africa, which we presume to be Homo erectus, what Camilla's been talking about In terms of the sex strike strategy, that wouldn't, we're presuming that wouldn't be applying then.

So this is early hominins who are reaching as far as China up to 2 million years ago.

Later hominins, like Neanderthals and Denisovans, What we know is that from the archaeology is that they, and from the fossil record in terms of their brain sizes, is that they're facing the same kinds of problems as our ancestors were in Africa.

And they also started using pigments very early, maybe 400,000 in Europe, at least 300,000 in India.

But they, for whatever reasons, they didn't quite get there or not as early as our immediate African ancestors.

Uh, maybe late Neanderthals had got there.

They certainly were doing some very interesting ritual things.

Um, as for the moon, um, I mean, it's still highly relevant to northern hunter gatherers.

I mean, they talk about a hunter's moon and particularly in during with the deer, the rut and sort of October and November.

So I don't think you can sort of, I don't think the moon becomes irrelevant in more temperate latitudes.

Camilla Power: But there may be a shift in balance between seasonality and the moon in terms of relative importance for northern latitude hunting peoples.

So we did a paper regarding Neanderthals focusing on the aspect of seasonality, creating reproductive synchrony actually with the Neanderthals so that during ice ages especially, there would have been very significant tendency for reproductive synchrony.

And that may have meant that Neanderthals had less need to perform the rituals that our ancestors in Africa did.

So they may have sort of left off the pigments during those periods of deep Ice Age and only picked up the pigments again kind of later, which might account for the sporadic nature of the pigment record with Neanderthals comparative to Africa.

So there's a lot to talk about.

There would also be stuff to talk about, tally sticks of lunar calendars and things of that nature.

But yeah, there might be a lot of things to discuss that.

Audiance member #2: Regarding the increase in brain size, like you said, like basically there was also carrying of the baby, different females and also the men bringing in more food.

Was there a big impact on the type of?

Camilla Power: Food they ate during that whole phases of human addiction, like fruits, vegetables, snacks? Absolutely.

I mean, that's really important to discuss.

There are two aspects to that.

For those incredibly energy hungry brains of these larger and larger brained hominin species, packages of really dense, nutritious food.

There is this trade-off for Homo erectus, particularly that as brains got larger, probably guts, the tissue of the intestines got smaller, and this is known as an expensive tissue trade-off.

So we have comparative to great apes, we have very small guts, which means we need very high quality, nutritionally dense, fairly small packages of food to digest.

If you think of little children who have these very large brains, and they're growing at four years old, tiny tummies, You can't make them eat their greens because they

don't want to eat vegetable food that's not got many calories that's going to fill up their tummies.

They want to eat biscuits and Mars bars and things that are going to give them a lot of fat and sugar.

But obviously, animal fats, but also fruit if they can get it.

Importantly, the grandmothers in the evolutionary environments of the Rift Valley Those hardworking Hadza grandmothers are the models with their digging sticks of getting roots, underground storage organs.

So there'd be things like tubers, like potatoes, that like day in, day out would give a significant number of calories.

They're not that nutritious, but they'd give a steady calories.

Whereas the hunters, the Hadza, even as big game hunters, a man might have one good kill, that's even with modern day bows and arrows, one good kill in a month.

So the children can't rely, because a child with a growing brain needs to have nutrition regular day by day, got to have the glucose coming to nourish that brain all the time, can't afford to have a loss of nutrition.

So it's grandma who's keeping the staple food coming, whereas The hunters maybe get lucky one day, another day, another day, and then you get the nutritious, the meat with all its micronutrients, a fatty meat especially, it's what's wanted.

That's really important.

The other aspect of that question is the history of cooking.

And some people are looking at initial stages of cooking fires a way back, Richard Wrangham would be one, a way back into even the first brain size increase with Homo erectus.

That may have been very sporadic with very little control, reliable control of fire.

But we know from the sites in Israel, the early middle Pleistocene, Geshe and Yaakov, where they were cooking carp, they were cooking fish already in those 800,000 odd years ago.

Cooking fire probably, well, Ian can tell me more exactly, but cooking fire or fires that could be controlled for cooking becoming a regular feature after about 400,000 years, 500, 400,000 years.

Cooking is like an extra digestion system.

It makes available so much nutrition.

So cooking fire would help with that second phase.

of brain increase very significantly.

Chris Knight: There's a whole literature on shoreline foraging as well.

Camilla Power: Well, yes.

Chris Knight: A lot of lakeside food doesn't need to be cooked.

Camilla Power: There would be a whole lot of foraging which women would be particularly adept at and which may have to do with influences like the tide and the moon and there would be so much to talk about in terms of that as well.

So it's a very big subject.

Yeah.

anything any more.

We're gonna wind up.

So with who's yeah, yeah, sorry.

Oh, yeah, yeah, yeah.

He was putting in this, right, you know, he model, I suppose, what I thought was very ingredient was it feels like, I mean, he's basically unwitting, unknowing, as well as a party, was it not? Yeah, he's a good guy.

Because then, even his wife kicks herself out of, I suppose, his reach with becoming the star, the body star, was the end of the story.

And so I don't know if this is...

Chris Knight: We just have a question about the story of the Seven Sisters, and actually the story's a bit sad because there is a good guy and because the rest are bad guys, he seems to lose out because the women can't make an exception.

You see, the women come to there, oh, well, this one can have sex with the other scans.

We're either on strike or not.

So I'm afraid the story's a bit unfair.

The nice husband who does bring rabbits back and says, I do think about my wife.

Yeah, you know, he should have done something with the other guys.

He should have been a bit more adamant that they should behave.

Camilla Power: Yeah, it's a nice question, that.

Because it makes it look as though the dominant males win, but of course they don't.

So in the real evolution, we think those hardworking males would have been the ones that would have been, you know, winning the race.

Manchego: Yeah, did Chris just reintroduce the aquatic stage theory?

Camilla Power: That's a whole new can of worms. I'm not sure we want to start down that avenue.

Chris Knight: Yes. Well, okay. I don't believe in the aquatic theory of human origins, but I do definitely believe that we, as we evolved in Africa, we were not on hot, dry savanna.

My own view is rather like somebody I'm not all that keen on very often, Richard Wrangham.

He's a very famous primatologist, chimp disease specialist.

he has very convincingly come over to like a a version of the aquatic ape hypothesis which is simply that yes when we came down from the trees we were we were often on trees overhanging lakes and rivers and foraging and needing sometimes to wade across water and therefore the water would have boiled us up, helped us to walk on two legs.

It's well known that the bonobos, who are closely related to, are just as close as common chimpanzees.

They are a form of chimpanzees who came south of the Congo into an area of wetlands and marshes and swamps and small streams.

They do often forage in the water up to their waist.

They are a little bit more bipedal.

That's they walk on their two legs more than common chimpanzees.

So Manchego is a massively controversial topic.

You're not even allowed to even mention the cratergate.

Everyone's screaming at you.

But I was simply saying, including Camilla, yes, she shouts at me sometimes.

But certain aspects of the idea that we were not on the hot, dry savanna, we were in mixed waterside ecologies, is definitely gaining ground.

And I'm one of those.

Camilla Power: But that's like talking about 6 million years ago, whereas our sex strike.

Anyway, I'm going to do, I hope, with Ian's help in about three or four weeks, talk on this question of human revolution because there are lots of articles about the revolution that wasn't and the revolution that still isn't.

So what do we mean by a human revolution and when was it and where was it? So we'll come back to that.

But our dating at the moment with Ian may have changed his mind, but it's about 160,000.

So it's a totally different timeframe from kind of aquatic ape scenarios.

But yeah, swimming in waterside environments and foraging by waterside environments would have been massively important potentially.

Chris Knight and Camilla Power
The sex-strike theory of human origins
Sept 26 2023

<www.youtube.com/watch?v=2e5YrawHcXw>