

Lunar timekeeping in Upper Paleolithic cave art (Seminar)

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Anthropological and ethnographical surveys of hunter-gatherers and pastoral peoples from Siberia and North America during the early 1900's recorded wide-spread use of lunar calendars for the observation and harvesting of terrestrial and aquatic animals as well as general timekeeping. Volumes of evidence in the fields of chronobiology and wildlife biology followed throughout the 20th century that record animals across the biological spectrum in both aquatic and terrestrial environments as being cued by the sun and dark/light phases of the moon. Bernie Taylor explores the possibility that patterns accompanying depicted animals in the Upper Paleolithic archaeological record could be correlated with the lunar calendars of more recent hunter-gatherers and pastoral peoples as well as lunar-cued biological behaviour of them.

<https://www.youtube.com/watch?v=I00NnKi8igU>

Good evening everybody. This is, going to be our last rag, talk in the current seminar series for this, the, this summer and it follows up very well for last week with John Cox's. Wonderful, demonstration of the great year, the, the Luna standstill alignments on the Maltese temples, which of course were neolithic today.

We are switching back to the Paleolithic with Luna timekeeping in upper poly lithic, K VT with Bernie Taylor. Bernie is a naturalist and an ArcHa astronomer, investigating the emergence of human creativity in relation to upper paralytic rock art, awareness of, of, the natural world in humans, human species and their, for their ancestors. So, please, Bernie.

Thank you, Camilla. Thank you and what I'm gonna do now is I'm gonna go to share screen.

I'm gonna go to entire screen, and then I'm gonna pick up my PowerPoint and I'm gonna go to current slide, and I'm gonna, I'm gonna hide the share screen thing, and can you now see my cover screen? Brilliant.

So this is, this is the first time I've actually got it correct out of the many presentations I've done. And Camille, thank you for the, the introduction and yes, I'm a naturalist. How, how I came into this, this space entirely by accident and we're gonna take a journey today, and this is really not just a journey I'll propel with man who we are, but rather my story going back to about 2000 and you're gonna see images, how, how I came to fall into this space, and ultimately these other areas that you've seen me in videos. So, thousands of sequential marks were painted and engraved on portable objects and cave walls during the upper prolific. What were the intentions of the artists? Could these marks have projected their perceptions of time and space? In this presentation? We'll explore these questions and possibly determine if any of the marks or a form of scientific notation. My name is Bernie Taylor, and my research explores a deep route to mankind's creative capacity by looking at how hunter-gatherers

and ancient peoples viewed their cosmo scape through the study of upper poetic cave.
R Oops. I'm sorry.

Sorry. oh.

Made a boo boo.

Ah, sorry about that. So I actually didn't, I, I had, I, I passed on my recording, not mine. So anyway, so this is my webpage, arch astronomy, many videos and so forth. and we're gonna travel.

Most of the images we're gonna talk about today are on the Lico Cave in the Dogon region of France. So Magdalene, about 17,000 years ago, and you have seen all these images before in different places.

We're also gonna drop into a, this image that came from the B B C about this possible, Orion and Taurus interpretation in on the panel of the bill bowls as well. So that's the hook. Now, most people in this area of apel, the cave art, or, or I should say time factoring in upper pill cave art, were influenced by Alexander Marshak.

Marshak was a science writer who became a pillar, the archeologist who was working on a book contract about how mankind came to find our way to the moon. And he stumbled upon these images, and Marshak said that there is a sus to how we found the lunar counts.

So he would look back and history of astronomy books or history of culture, and he, he'd say, well, all of a sudden we had the, we had the moons, all of a sudden we had astronomy and marshak argued that most of these images, or most of these objects with the, with the marks on them, should have come from earlier societies as opposed to all the suddenlies that we, that happened. And what, I'm just flipping through some images that marshak views.

Now Marshak remains a controversial read. Okay? He remains a controversial read because he never established how, what is the connection between the, the notches and the marks on these objects and the cave walls with the cal, with lunar calendars? He said they are, they, the numbers work out to sequences such as lunar calendars, and they appear to be sequenced with the, the sun. But what's, what is the meaning of it all? What, what's it all about? Alphie And Marsha never figured that out. Marsha was brilliant, but remember his space was looking at, the history of science.

It was not trying to figure out what were the life history strategies of now ex extinct animals. I entered the space, about 2000 in the concept that I call biological time. And I proposed, which was, is not original idea as I learned later that everything is, all animals are timed, including us, and we're less so timed than we were in the past because we're not directly influenced by the sun and the moon and perhaps, navigate by the stars.

But all animals in the, in the natural world have to know when and where they're gonna do things. in case the salmon needs to know when to spawn salmon, salmon can't also follow one smart salmon. It, it's not possible to happen and so I was working on this concept from the perspective of Sams, steelhead trout, and coho and chinook salmon in the Pacific.

We northwest, and I was actually doing field surveys. I was, being helped by the Oregon Fish and Wildlife Department, as well as Washington as well. And what we're looking at this graph, and only gonna have a few graphs, is the upstream migration of steel, a trout, which is a samad on a river in Washington state of Washington near to where I live. And we can see the, that the salmon, they migrate during the dark of the nights and they slow down during the full moon nights. Interesting observation. well, one could say that perhaps, Stonehenge, was marking this sort of concept. We back when, because the, the Hampshire Avon, of course, goes near to stone hench and there's been some question about what exactly it meant. Ok.

So we have another salmon. This is, adults, on their spawning beds on another river near to, I live in Oregon and we can see that the peak of the counts were all around the full moon. Now, this, they, the researchers going out all those years, they weren't going out by the moon, they were going out by the weeks. And so if, if they had one out on New moon, full moon, you'd have a line that went straight up at the full moon, or all the, I should say all these little stars would go up at the full moon. And so they, this was done going out every Monday or every Tuesday and I actually went on one of these, these, these counts and saw how they did it.

Cause it's really important when you collect data is how do people collect it? What is the methodology? And this is, salmon, juveniles going downstream out to the ocean. And again, we can see that the, they travel during the, the darker the night, and they slow down down the, the full moon nights. And what's happening is that the, the salmon, they're, they wake up when it's dark and they go to sleep in a way, when the light is on. So it's a predator avoidance strategy, whereas we are just the opposite.

If you take a plane up to Norway this time of year, you gonna get off the, the plane and it's gonna be light out in the evening, and you're gonna be up partying the first night. and you may be up partying the second night, and then you're just gonna conk down, conk out.

But we're we're tied through our biological clocks in similar ways to the salmon, except we fall asleep at night or in the darkness and they wake up, okay? And the question can be, well, is this just a salmon? or is it a salmon thing? Is these salmon came outta the ocean, this case the Pacific Ocean. Well, there's a, there was research done at Oregon State University, which is also near to me, just so happens to be by the, recently deceased Norm Anderson, who was aquatic entomologist. And years ago he had a paper published in Nature, and he looked at the downstream migration of invertebrates and rivers and of course, it, it's a significant difference between the dark nights and the full moon nights, as we saw with the salmon. So the salmon are not being trained by the, the tides in the ocean, but rather it's biological clocks by the light in the darkness that help them to avoid predators and, capture their prey, which would be, in this case, aquatic invertebrates. norm, I, I met Norm Anderson, interviewed him back in 2002 or so. He was a really nice, he's a really nice guy. And, we, we hooked, we became friends.

My daughter is graduating from Oregon State this, in this Friday. So there's a, a lot happens in Oregon.

This is, an image of giant honeybees. And this, I believe the, this work was done in India. And we can see that during the, there's a, there's a relationship between the, the light and the darkness of the moon and the forging behavior of giant honeybees. And we can see that during the, when, let's say the waning gibbous or this, this sort of, past the full moon, five or six days past the full moon, there's a lot more forging behavior and this is, this is not possible anywhere in all the time because honeybees are highly dependent on temperature and so honeybees today, it's where I live, we have honeybees in on, on our, on our place. And the honeybees, they're in by 9 30, 10 o'clock because it's, it's just too, it gets too cold even in this time of year, June.

But what happens when you have honeybees is that you have the potential for pollination to influence crops, and you potentially could have a lunar strategy of crops and these are some of my honeybees, or our honeybees I should say and there's about, we have about 3000 honeybees in our hive, and we'll produce 50 to 60 pounds of, honey and back when, when I was working in field on the, with the Oregon Fish Wildlife Wa wa, organ Fish Wildlife Department, I went out and the field surveys, and this is a field survey of the, the juvenile salmon in the, in the springtime are being swimming down the stream.

They get caught up in this, this contraption or this sort of like a, it's like a mechanical net. And in the morning, they would take out the, the salmon juveniles and count them in a bucket. and this became part of the work for the graphs that you saw earlier for the downstream salmon. So I go way back on this, on this stuff, this was about 2000 and my question became, well, who else knew this? I mean, this is kind of a basic life skill that definitely wasn't known in the salmon biology community when I was working on this. And when, when I gave presentations, they said, the moon, are you crazy? All that sort of stuff. And you've all heard the story before. Well, the Indians of British Columbia, which is about maybe 400 miles north of me, just over the Washington border in the Pacific Northwest, had a calendar, as documented by James Teat, who is an ethnographer at the turn of the last century and we can see at the bottom of the calendar in red, the moon of the first sockeye run and the moon of the silvers silver salmon.

So the Thompson Indians had this in their calendars and calendars that we can still retrieve till today. Okay, we can go to the, France 17,000 years ago, and we can look at the, redu posan, I probably haven't pronounced that correctly. And above the, the redu posan we have above the, on this panel we have a, a kite salmon. The kite is that hook in, in its mouth. And, we see above it is fat salmon above it. We have 13 marks in these, these, standing rectangular, engravings. And if 13, if we count it from the full moon or the first, actually the first visible moon, I'm sorry, first visible moon or the first crescent moon, you counted 13 days, you would be at the full moon.

At the same time that we have the cohost salmon on the rivers spawning and I would suggest that this was actually, the, this image was, is outside of a pool where the salmon, congregated and spawned salmon. Can't think the spawn at a certain time.

They have to be queue by other signals and I would suggest that it's both the sun and the moon. Okay, well, going back to the Thompson India lunar Indian lunar calendar, there's more elements to it. And one of the issues that I had, or I was actually trying to figure out was how do which new moon or which full moon this biological activity would happen with the salmon? Because it could be, I don't, I didn't know if the the, the spawning was in December the first dec first full moon after December 1st, or the first full moon after December 3rd. Cause it makes a difference. Well, the Thompson had a way of doing this, and what they did was they reset the calendar by the deer rut.

So the deer rut would ha would started their lunar calendar for the following year, cuz they deer ru rut happened in the autumn or the late autumn and they then they, they sequenced to when the, the buck shed their antlers and the doses became lean and then when the buck shed, their antlers was also measurable.

When I did my book biological time back in 2004, I borrowed data of antler sheds. And in fact, you can predict the antler sheds based on the cycle of the moon and of course they have the, the moon when the deer dropped their young later down the road later in their year. And this, this fills out the year for the Thompson Indian Indians.

Now the Thompson Indian Indians, harvested and captured many other plants and animals, but these were the key ones that they had in their calendars that set them in motion to go to different places at different times where they had those other ones. And we can see a picture of the Thompson Indian I view was far left.

This is from Wikipedia. And we can see what a blacktail deer looks like. And, and this would be a blacktail deer. We see his, we see his antlers in fall condition, and he's, he's fairly heavy.

So this is not one that's about to drop his antlers in the late fall, or actually early spring. Now there's, I looked at many, raw down sources, and I worked out graphs just as you saw previously. But since then, there's actually been a lot of work done by, many organizations and the US Geological Survey, released report nocturnal movements of desert bighorn sheep in the muddy mountains of Nevada. And the, the movement distance were greatest when the, when the sheep were, the moon was brightest.

Ok, well, there's a problem with all this. It's, and this is the problem, I believe has plagued people throughout time. And that Thompson, sort of figured out, there's 365 plus days in the solar year, and 29 and a half days in a lunar cycle of light and darkness.

12 times 29 and a half is 11 days short of 365 and so the moon, the full moon, could be in January 1st, January 11th, one year be January 1st, the following year, or is January 12th one year, January 1st, the next year. And so the, the, the moon is outta sync with the sun, which everybody in this presentation in in this group today

knows this is, this is, this is basic lunar cycle. but people outside of the circle have no recognition of that concept.

It is a, it's a thing and what I was trying to figure out was if the animal moves back and forth in time or at critical events such as the dropping of the young, which would you have a delayed mortality, that you'll see it later in life, that you'll see a few smaller population. And if in ca in most cases, if an animal drop drops too early, in the case of a deer, they'll be in harsher winters and they drop too late. They'll, they'll won't be able to have time to get up and go. So, so there's like a magic spot between that from one year to the next and so one should be up by this, this biological time lunar slower shift.

One should be able to predict the, populations of, of animals. I mean, it makes complete sense. and I worked on that for years, and I was never able to either, number one, find a data set that I could prove it out or it's not possible.

Maybe it just isn't possible and if it was possible and I had figured out I'd be, I would've been visiting Stockholm because it would've to, it would've been a universal pattern or formula to deter population groups of all animals in the natural world. well, we can go to back to Lico Cave and kind of see what, they, they knew and we can see in, we see the scene of Red Deer crossing a stream.

The, the bottom one down to the viewer's left is falling to a pool and we kind of count 1, 2, 3, 4, 5, 6, 7, 8, that's eight and maybe these are, these are eight lu nations, seven or eight lu nations traveling from a, a specific point in time where, where these, these red deer are crossing a stream, by the Lisko cave. And the Visier River runs right by it, just as you saw with the, the sa at the, at the Berdu Passant.

So maybe there's, a connection in the same way that the Thompson Indians did. Ok and we're gonna go to another animal called the Black Stag. And it has blacks stag is probably a good word because it, the, the antler looks something like a red deer and something like a, an nowick mega loss. And we can see the, the black stag has his, his neck arched and he's blowing out something in front of him and we can count the, we count the dots below him and everybody has seen this image, 4 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, leading to a box. And again, it, it's reminiscent of the berdu croissant salmon where you have that 13 mark.

Okay, well, this roaring this, this black sta also looks like this roaring deer.

and we can see the antlers are be the, the neck is up and that, that irregularity to the viewers' left, the viewers' left in front of the, the scope box Stag looks an awful like, bellowing in the morning and, into the cool air.

So what we're looking at is not just a, red deer, the stags in autumn condition, but they are mating autumn stacks.

They're calling out to the cows, the females, to bring em in to rut and if I was a, an uphill with the cave artist, and went into these caves, I would've not just looked at the images.

Perhaps I would've even roared I would've got a good bellow and to call to this animal and that might have been the bellow itself might have been the word for the

red deer in this condition. Okay? And there's, there's counting to thir to the full moon. 13 to the full moon is not a, is not unique. The top image used to the top right.

Over here we see an image from the Columbia basin course, again near to where I live. It's a lot ha seems to happen around here and in the backyard, 13 marks on the back of it, of the, of this deer, or elk that are raised. And we have a hunter hunting it during the, this, this full moon period. It's very easy to hunt a, a deer or an elk when they're running, because you can call them in, challenge them with a, with a bellow, or you can use a female sound as, to say come over here, check me out. this one at the bottom here is called the, the major stag. And again, 13 marks on the back. And we, that leads to the sort of box here. And this is at Little Skull Cave.

We're talking again about 13 years ago, I'm sorry, 13, 13, 13 days of illumination and I probably had this one published back in 2007 in the Griffith Observer, which is a kinda astronomy type of journal. Okay, again, we have, we can count, we can count on this 1, 2, 3, 4, 5, 6, 7, 9 to 11, 12, 13 or so, and leads to a box. And, it continues on. And, we're looking at a, a very pregnant mayor, a very pregnant mayor. So she is telling us something happened later after the, after this perhaps full moon period, okay? We can go to the running willoughby's in Africa. and this is, it's really cool because the, a lot of data on it, and the, the blue wild bes, the starter ma mating, is at the full moon. And this was done over multiple years and this was published in nature by Anthony Sinclair of the University of Bruce Columbia, who I've never, connected with and what they did was they went out in the field and they checked the, they looked at the, the juveniles that had dropped, and they back calculated to when the rut would start.

So they all didn't start at the, they, they, the rut or the mating started at the full moon and they continued on after that.

If you want to take a tour in, Africa to see the blue Wilded bees migration, you see going across the river, falling in the river by crocodiles, all that sort of stuff. And you say, I wanna go on November, whatever, they're gonna look at their lunar calendar, the, the travel agents in South Africa or in Africa. And they're gonna say, it's better that you go, seven lunar days later because then you'll get more action to what you're looking for. And of course, I think Chris Knight had referred to this just before we started when, when humans are hunted, that was a National Geographic and this particular work was showed that there's a relationship between when humans are hunted, and when the animals or the, the big, the big cats are on the prowl. And what is it that the big cats, the lion, are doing what they do naturally and it just so happens that we are in the way of that. And so the, the big cats know when to hunt, would it be most successful? And they, and we are, we've more recently learned, or as western people more recently learned that indigenous people in Africa already knew this, is that you stay out during certain periods of light and darkness of both the sun and the moon and someone who I had worked with years ago who wrote a book about African lions, George Schaller, he said that, it just wasn't the moon, but, if a, the, the big cats would sort of wake up when you got some really dark clouds coming over as well.

Cause so the big cats couldn't tell whether it was the moon or some dark storm clouds to, to change, to shift their clock and we can even see a blue would be two weeks after this and that the wild beese, the juvenile is protecting from the lions hys, another carnivores.

But even a few weeks later, under the full moon, obviously, cause this is a full moon shot, the, the animals, cause they, they fell under the dark moon and they, started dark moon.

So it's two weeks later they were, still vulnerable. And, they're obviously between the legs of the other blue wilder bees.

But this is an animal that isn't gonna run very far or very fast.

If lions attack, we're now gonna go to Siberia and look at the Chuckchi and chuckchi means rich in the chuckchi language.

It means rich in reindeer and that's just about most of what people know about the Chuckchi. and, the entire calendar of the chuckchi is lunar and it's about the reindeer. So we have the old buck moon, the cold arter moon, the genuine Arter moon, the calving moon, important calving moon. The, the Chuckchi don't live by a lunar calendar.

The reindeer lived by a lunar calendar. The chuckchi lived by the reindeer.

So my get, I would say that long, long time ago before we actually herded animals, cause I'm not, I'm not convinced that the trucks are really herding animals.

I believe that they're literally following the animals. And so long, long time ago before we were pastoral hurdles, we probably followed the animals, we followed them across the plains, we followed up and down mountains. And, and some days eventually some of them became sort of more inclined to hang out with us for longer periods of time. Then we said, well, now they're domesticated, but they probably, we probably followed the animals, or lived in the rhythms of the animals just as the chuckchi did, many, today to the president. And this calendar goes back to 1904 by Baras, who was at Denr, who was a very famous, ethnologist. Okay? So we go to the, the, the human menstrual cycle, and what's so-called the Clint talk effect. and there was, there's been studies that, or I should say before there were studies, there was common knowledge among women in dormitories, prisons, convents, and such places where there were only women, women lived and worked close together, that there's their menstrual cycles would synchronize and this was called the McClintock Effect. And this was published, um back in many journals over longer periods of time. And, this and what they, what McClintock found in the study that if, if she shared the pheromones from one, one woman to other woman, they would move towards her. They would synchronize towards her and this is the thing, this is, based on the, based on the presentations such as by Ian and, and Camilla mean, this is what you're talking about. This is the, this is that, that concept.

Well, animals with min menstrual cycles is fairly rare on planet Earth. In fact, it's primates, it's a few bats, and the elephant's true. So I mean, if you throw these all together, you're probably talking about 30 to 40 animals.

Okay? maybe 50. That's not a very big number. Ok? It's very rare to have a menstrual cycle. Ok? And there, there's a case with, with, with owl monkeys, that's been documented, but there's not a lot of studies on this concept of, primates with the moon and how the, um how it works. Okay, well, there's an interesting, this is very interesting effect. So there's very few, there's very few animals on planet earth that have this concept. What, and this concept of is tied around the, the, the relationship between the sun and the moon. And most primates, I should say, most primates, don't have a 29 a half day lunar cycle, whereas we're very close to it has homosapiens. ch chimpanzees are about 36 days.

The gorillas and orangutan are very close to us.

So what would happen if we did not have a way to consciously through the moon, be able to time ourselves with the animals? Well, we would be like the chuckchi, we'd be following around the herds of animals.

But what we couldn't do is we couldn't have a lunar counter, such as the Thompson Indians, where they went from one donation to another to be in the right places at the right times to intercept and be most properly harvest their, their food sources. Okay? But what would happen, and, and this this time in 29 and a half days, is respect of the current relationship between this our son and, our moon, or is an earth and our moon.

What would happen if it was tw our moon was further away, such as we'd have a 40 day or 50 day lunar cycle? Well, then we would have to have a different, different time period and we have to adjust to that if it was even possible and I would say that if this is, if this is how we consciously came to tell time through the moon and then through the sun and the stars, in other galaxies and other solar systems, this might not be possible because the consciously tell time, you'd have to have the same relationship and it's almost an accident for us because primates, and us and this, we haven't been around for that long in the history of, of this planet. And so it's almost as if it's, it's an accidental circumstance that created this, this, this, this concept. And so we look at our moon in the far off distance, what's further? It's moving further away and I'm convinced that if we live on this planet for as many millions of years, it would make any difference. We will evolve to that. but but we had to first fall within the window to be able for all this to happen.

So now we're gonna go to the ko, the KO cave, and we're gonna look at how, what we've learned so far. And, my suggestion is that the, the pregnant, the mayor or the horse is the dominant admiral with this p the magdolin in, in France and what we have in this image is we have a very pregnant man, she's about to drop and we find this grid pairing over her head. And she's, she's about to drop, which would be just about, a, a few days after the vernal equinox on, out on, as we see the world right now. So we're talking, if we go along with the, the Serengeti wildebeest, it would be the first new moon after the, after the vernal equinox that she'd be dropping. And that, and I would say that's indicated by this, this box here and then we have two lu. So this would be, the feral equinox would be here.

Then we have the first lation, and we have the second ation.

We have the third lu nation. And I would suggest that that is the, the calendar that depicts this, this pregnant ma, okay? And to to, to val to kind of get into the life history strategy of horses.

They have a 336 day or 11 and 0.4, lu nation gestation period, whereby if a mayor becomes pregnant in May, we'll drop her full in approximately mid-April of the next year. Okay? and mayors are come to heat, they'll come to heat a week after folding.

So they start the cycle over again. And if anybody here has horses, they know that horses will drop, in June and they'll drop in July.

But we're talking about the start of the calendar in the same way that these indigenous calendars talk about the first dropping of the young, the first arrival of the salmon. And so I would say that the, the calendar is primarily, primarily based on the, the, the ma the, the mayor. I have a friend here in Oregon.

Lots of things happen in Oregon as you, you're learning. And my friend has, more than 300 llamas. The last I heard he had like 360. and he, he originally bought llamas so he could go backpacking with his kids.

So he bought one, and then he realized they, you need two or three to actually pack some serious gear into the woods and ultimately they started breeding and he had lots and lots of llamas, more llamas than he ever could have imagined. And there was one day, or actually actually, one night that, the, one of his ranch hands left the light on in the barn cuz they put the, the llamas that were about to drop in the barn for safety. And, she didn't drop. And whereas what always happened, what they knew was that if you, that at nighttime, the llamas dropped there young in the same way as we're fighting with the, the seren, the wild beast. And so they created the dark of the moon, but someone made a mistake, they left the light on. And this was, they thought about this a little while and said this is actually a pretty good thing because they were waking up every night between 11 and two in the morning when a, when a IC halff dropped to, to, to tend to her her needs.

So they did going forward. So they kept the light on, oops, hang on a second, I'm sorry. They kept the light on.

They kept the light on all of the time and so they'd have an equal number of calves dropping during the day as during the night, which became more, um better living for human beings. And of course, there was no predation.

I issue with the, with the llamas. Okay? And so we'll go back to this, go back to this panel again. And this, this concept, and I'm saying that one y is the dropping of the young and then the second and third lu nation, okay? Very similar to the concept of the, of the other animals that we're seeing so that they, they continued on.

Okay? So the yakut who live in what we call Siberia today have a re remnants of lunar calendars they had in 1933 and, and Kelson recorded and what they, they retained was the fish spawning, which started the calendar, the month of pine and the Foley catches. And so the, ya could, they're known by being horsemanship horse

people just as the, the, the, to your reindeer people. It's like their thing, the yeah could and they, they mark this all on their, on their calendar.

We can go from go from June, July, August, September, all although around the year to their, their month when in the spring, April, roughly April. But it's really the, it's gonna be the dark moon after the, the Vern Lakes.

So we're gonna go back to lets go cave again, and we're gonna look at two iacs.

So the one to the viewers right over here is pregnant, and this one is a male, and she's very pregnant. She's about to draw. And on this image here, you can see the little mark. You can see the little mark over here again. And, earlier I presented the mountain goats, the mountain goats, the mi the lunar migration for the U S G S that they migrate during the, the light of the night. So they are lunar times, okay? with, with 160 day or 160 day or 5.6, lunar gestation period, a female that becomes pregnant in the month of December will drop her kids an hour month of May, and then next year, so it, it'll become the lu nation after the dropping of the young, the first dropping in the, the young for the deer. and that's the, so that's, that's what alpine iex actually look like. Okay? So if we go to the, back to our calendar, and I was saying, I was saying that the first lineation here is when the, the horses were drop, the mayors dropped the young, well, I'm gonna say the second line nation is when the IEX dropped their young, okay? And, which would be their kids. And, some people don't like the word call IEX kids because it's like making them like our kids, human kids, but they are in fact called kids.

So two y would become this, the second ation, when they dropped their young, the second lu nation after the vernal equinox, or the Lu nation after the pregnant mares first dropped their, their young. Okay, we go back to look at another image in the same chamber of Lico.

It's called the, and, we see a, an orx and orx is with an s at the end, even if it's just one orx. And what we see is the ORs connected to this box. We see her legs split splayed forward.

We see her kind of legs underneath. We can see the rumen.

Inside the rumen is where they, sort of digest the food. And if you've ever taken down a, a big animal, you will a big cow or something like that, or clean it, you'll find that it's full of grass and stuff. this whole area here, and perhaps this could be some of the internal channels she's dropping at her young. And as we see with this one that this, this animal, this is a very difficult image to find of an, of a, of a cow or, dropping her young, because most of these are happening at nighttime.

This pro, they probably induced either induced this cow or they left the light on at night in the, where the, where the animal was and so dropped during the day or dropped her at night.

But I could, I, I actually pulled this from a YouTube video.

I couldn't find this as an image anywhere else and now it suggests that this is the same relationship.

She's got her legs behind. so actually she's about to drop. And this one, she course she is dropping her young, her calf, okay? And so the 285 where 9.6 day lunar gestation period, a female works that becomes pregnant September, October.

October will drop her calf in June and July of the next year and so I would say that this is, we're gonna say the first lu nation after the, after the ox, the second lu nation, this is the ma this is the iex and this would be the, the orx as the third and the fourth and so this chamber in the, in the Ville Gallery of Lico is, is a chamber of the female biological life of the animals.

So one could say that it's sort of matriarchal. In fact, you could say all this is matriarchal because the calendar is being driven by the females of the species just as it is with the Thompson and other calendars.

so yes, they had the, the Thompson had the, the dropping of the, of the antlers, but it's predominantly driven by the dropping of the young.

So we are, we were always matriarchal in a way. Okay? Now we're gonna go to this image here, which is in the, the Hall of the Bulls at le Go. And this came from the B, B C and this is also is often categorized as the first constellation shown in K Bart. It's not, and I'm gonna show you a few things cuz they tie into what we've just done.

First of all, the so-called belt to Orion has four stars, not three, which they put here. and the pleads are, they have, they have six here, but there's actually seven visible, easily visible at this time. So that's not that. But we also have four, we probably have a five here and we have a six. So we, what we do have is we have a moving along of Ations and just to show the, again, the three belt Orion, there's four. It doesn't really work, but it's all very interesting. And what, what, you gotta be very careful when you look at images from people who study upper pill, KR is, they crop the images, it's a thing and if they don't crop it, the newspaper's gonna crop it and so the first one we saw that was allegedly this belt of Rhine is actually in the, on the back of another ORs, another ORs that have her legs played forwards.

And, she doesn't look real. She, she doesn't look real happy.

I would say this, that this orx is actually dropping her young in the fourth flu nation after the vernal equinox. And then we have a very clever si clever scene. This is a male, this one here is a male. And and I would say that, four, so five, so it was fives, it was a 5, 6, 7, 8, 9, 10. So actually we have six here.

So this would be six ath lu nation at the vernal equinox would be the, the the, mating of the male to the female and so this is two different periods of time, but the artist sort of gives the impression that he's the, the male is moving towards the female female. So this is a, he's overlap image to make them two different points of time, but have, have the second one here as the, in the sixth lo nation to be the, the second act of sorts and of course there's another orgs down here that doesn't appear to have anything to do with these two. And so we, we look at this of course as astro this stellar interpretation of all this.

you gotta be careful what you look at and what people say. Okay? And so again, we have this, this displayed legs forwards with the female. this one is probably actually

dropping her young, which this one is about to drop her young. Ok? Ok. And this, this stellar work here, came from a friend of mine, Chantel and Chantel had a mo movie or documentary that was in multiple languages.

You can find it. And these are kind of the images and, that she had in the movie. Well, sh Chantel left this after reading my book, biological Time back in, she read it in about 2006 or 2007 and she migrated into the lunar work and with animals and she does a much better job at lunar work than I do cuz she's a much better astronomer. Okay? So we've got, we have these, these three animals, these three females in the same chamber, the Lico cave, and with a mare, pregnant mayor, the pregnant IEX and the birth orx. Okay, well, I would suggest there as another step to this and that the, these, these are actually part of a sign sign language and there's a peculiarity in the lico cave is that there are absolutely no hand prints, which people interpret as signs, whereas in other caves there's hundreds of hand prints or stenciled hands in different ways. And I would suggest that the, the, the dropping of the young is marked with, is marked there, that one marked one there and drops it. We, we, we, with these two here becomes the, the symbol of the dropping of the Y and that the, they, they don't use the fingers. So this, this, this finger's down cause they don't use it, this finger's down cause they don't use it and they use all the fingers.

So they used use just as many fingers in the hand to be able to move them across to characterize the, the shape of the, of the, of the ho of the, of the animal.

In this case it would be the upward ears or horns of the animal. Okay? and this is kind of what it would look like. Now, the San Bushman back to Africa, were on this worldwide journey. Their, their hand signs or hand gestures are based on the head, the ears, the horns, that sort of thing. So this is not a new idea. In fact, Andre Lero Gorum, absolutely brilliant French anthropologists study this question and what he did, he took it little, he studied differently from mine, is he said that, there's, if, if lets go, doesn't have, he counted like let's say all the animals in lets go cave and said there's, most of them are females than the most pop than the most common hands, or assortment of fingers or, or stencil hands and other caves would most likely represent a, a male or or horse and the problem with that idea was the most popular one is gonna be five.

You know, this is gonna be a full hand, which could represent a lot of things, including just, hi, I'm here, this is my hand.

So that was the problem with that. But what he did find is that, his ibex was the same in his ibex is the, is the same as mine. And his, so this would be the IEX and his, bison cuz he didn't do ORs.

His bison were like this, which is the same as my ORs. And, so we, there's some parallel, but I can't go with his stuff because I, I'm not convinced that every one of these is a horse. Okay? So there's a, a chimpanzee in the United States that came from Africa and the chimpanzees name was Washoe and the chimps, she was recruited in sort of like the, I was raised to space and Washoe, learned hundreds of gestures of American sign language.

Washoe also taught her her young, her juvenile, the sign language, and then the other chimpanzees in the, in the, in the group they learn from her.

But they also learn unique combinations of putting, je these gestures together in the wild, if there is such thing as the wild, there's chimpanzees have, and Bonobos have 30 or 40 gestures to communicate.

So hand gestures and sign language are not a big trick, to the, to the imagination. And I studied the, during trying to figure out how this all works. I studied, American Indian sign language and we can see that there's differences between them. This is just for the horse.

There's a four different ways to look at the horse. The, the, the two of the viewers left are one handed of course, and the other two handed and so I don't believe that all, all these proposed hand gestures and all these caves are actually the same.

You may came, come to the same lu nation counts by lowering an upper fingers and using one or two hands, but I don't believe they're all the same because sign languages change just naturally as languages change. So I don't think they're all the same.

Well, why would you have a lunar sign language? Well, as everybody in this group knows, or recognizes, is that the lu the months as we know it came from the word moon and the months, months came from in the ancient world, from the the, the Romans. before that everybody used moons and so if they, to designate time and space, one could, this gesture would suggest, when the, let's meet in the moon, when the ivex, kids drop. So it's a gesture of, of time and space. In fact, maybe meet in this cave in that moon, when the Ivex kids drop, and you would do it in the exact same way Asan Bushman did it as Asan Bushman were using these for hunting. But maybe the San Bushman also had abbreviate two hands or suggestion to say that it's, um the lion is doing something specific.

So my suggestion is that these, these, these hand gesture, these, these marks are just not lunar time factor indicators, but they're also designate hand gestures in the absence of actual hand gesture stencils in the cave. And we can see what these, you kind of look at this, the El Castillo cave, going back to this panel goes back to about 27,000 years ago and you can kinda look and see that these fingers are bent, bent.

Some of these have bent forwards.

It's not just a big out flat hand as Gore would've interpreted it. and so, and there's different shapes, and ways that they're, they're oriented. Okay, so going back to Alexander Marshak, who is one of my he life heroes.

He died in passed on probably about four years before I came out with biological time. actually it was actually the year before I came out with it, but he wouldn't have seen it. And I, I, would've liked to have chatted with him and learned what he, his by large time was in 2004. but of course it was ready for, there's a period of getting to to that.

But I would like to have chatted with him and learned what he did and what his impressions of, cuz this was far beyond what he imagined.

He was looking for the suddenlys of how he came to have lunar counts.

Now there's another concept of this that ties into really all my work going forwards from this point and that work going forwards was in about 2016.

What we see in this image is we've got this, these, these deer crossing a stream, presumably with the reir, they're dropping into a pool. we see the, the actual river, we see the lunar count. And what we do have here is a, an inner cave that is a reflection of the outer cave.

so this is the underworld. And the outer cave has two elements.

One is the truster plane where we all live, and in the sky world.

So this is a, when the artist created this image, the artists spiritually bridged three realms of the sky world, the terrestrial plane and the underworld. And I believe this is a, this became this long before this, this was a dominant theme in art representation and what this artist also did was they found the paraia of this, this, this image began by fighting this paraia of this sort of streamline dropping into a pool here. Then the artist cleaned off the back, and then drew in the heads of these deers and the lu nation.

So it began with pep.

They found something outside of the cave that the river and this dropping into a pool saw a representation of it in the paraia of the cave. and then, created the spiritual connection out of the light to bridge them all and we, on this, I think I've heard on this, in this series theoretical anthro series that people have talk about the world tree. And the world tree is a, is a, it's truly a worldwide concept where we have the sky world, we have the trusts, your plane, we have the underworld and the roots. this is, this is part of the human imagination. It's part of who we are.

It's not just in inherited from people before our time, from deep before our time, this concept, but also, repeated in our, in our works. So this, this part, I'd say that, much of this presentation is in my 2021 paper prayer story. prayer story is a Hungarian European journal, and it was published in, in 2021.

But, really 90% of it, actually I should say all of it was really published, was done before this time because the praise story paper was, there was nothing new original. It was all the work that I had previously done.

I sort of copied and pasted to put into the, this paper to meet the deadline and that was okay with the older people involved. So the, I go back to 2004 on this and, in additional work, in the journals and 2017 book before Ryan. But really this was, this was kind of a rehashing of the, of the same stuff. And when he, the editor asked me, I was very polite, I said, I don't do this anymore.

I I did this a long time ago and I've moved on to other stuff. And he, and he says he really likes my work. And I said, okay, we're gonna do this. and we did a really good job on it. We upgraded some of the images. Now, Daniel Borstein, I believe it was an American story story and it wrote a book called Discovers and he said that despite, or because of its easy use as a measure of time, the moon proved to be a trap for a naive mankind for a while.

The phases of the moon were convenient worldwide cycles, which anybody could see. They were an attractive dead end. Now of course, this is counter to what everybody

who is on this, this, program today was listened to any radical anthropologist programs in the past is thinking that what we lost the moon. and the moon got caught up with all kinds of other words like lunacy and whatever, and werewolves and all this, this crazy sort of stuff.

But it is what we, we, we lost the moon and when we lost the moon, we lost our ability to connect with the animals in the world around us, such that the native indigenous peoples around the world retained in their calendars and still haven't many of their hunting and gathering traditions to this day. and more of my work can find, be found on my webpage and all these sort of places where everybody goes to. I'm out everywhere as before Ryan or Bernie Taylor.

but I'm easily found. And by the way, just this is she who watches behind my head. This is the club here Gorge and I actually did some solo work on this. So Sundial work and they, the, this marks, solar Times of the year. And, so what I'm gonna do is I'm gonna pull out of it, I'm gonna get outta this, I'm gonna close it and then I'm gonna stop my, I'm gonna stop sharing.

And, when I first encountered, this group, I, it was really through the work of Camilla and Ian and what struck me so deeply about their work was we came from three different directions. Mine was really the animals. and Camilla's was the, the, the women's space.

and Ian's was the hunter and we came and we came presumably originally not known about each other's work.

Cause I didn't know about your works. we came to the same place.

This come through three different directions, which is absolutely fascinating. and so that is a, a thumbs up for Ian and Camille, of course Chris Knight, who's, who also does this mythology of the, the moon and what your work is so fascinating to me is that you, I'm starting off that the concept, this is, this is about animals and we're just another animal, but we are the animal that has a menstrual cycle that's on time, in time with the moon. Therefore, we had the ability early on to have conscious, recognition of, of time, whereas all the other animals have unconscious recognition of time by reacting to the light, dark signals of the sun and the moon and the weather perhaps too.

So we, this we're just another animal that just happened to be in sync. So then the other question is, well, why don't orangutans and mountains, how come they don't have, well how, how do we know they don't have it? So we, there was a guest on a few weeks ago who was absolutely brilliant.

I have complete respect for him. And and I asked, I asked the question and it's, it was not something he, they, based on his answer, it was not something they were thinking about.

So it appears that, monkey people, I'm not sure the right word, is they're not anthropologists, they're not primatologists, primatologists, primatologists, primatologists, okay, they're primatologists.

This can be the whole new direction of primatologists to look at the, the rhythms of the animals and to see first if the women are in sink, the females in sink. And second are the sinking around any phase of the moon.

and then is does there appear to be any conscious behavior moving through time and space related to the moon? Because, it may be that they don't do it.

It may be that we never actually looked if they were doing it, and that's possibly, so that's one of the, the, the considerations I've, but yeah, we, I would also say that we are as conscious timekeepers, which we are differently from other animals. we could absolutely be alone in, in the cosmos, be based on the way that we, as I suggest that we learn to tell time, consciously tell time, because you'd have to, if you, if you project our experience out of the cosmos.

You'd have to have some sort of relationship between the two. that is consciously measurable.

If the plan's got two moons or three moons or four moons, as many do, it's gonna be a pretty crazy night.

Thank you.

Great. Thank you Bernie. That, very thought provoking, jumping from the animals to the rock and incredible juxtapositions there. Really fascinating. that must have been voca summer you were talking to about, yes, Yes, Yes. Yeah. Well, VO Voca and us, we did a big paper on reproductive synchrony because reproductive synchrony is quite a big thing for primate scholars. there's been quite a lot of literature and, and we were also considering the possibilities, comparative possibilities with Neals as well and the thing that strikes me about this, I mean, I'm very convinced about your decode on, on those lu nations with the burn equinox and the MAs and the ibes and the, and the ox. but why is it homo sapiens, the or nation homo sapiens are doing it. But then Neander tells, they must have known this stuff too, but we don't see neander tolls putting it on cave walls. and that's a fascinating part of it, for, for me. Yeah, Absolutely. So what are, this takes us back to that, three realms and we have, we have the, the deer, the red deer dropping down to the street, into the river. There's river. We have the same in the retrial plane.

We have the same in the sky world. So what we rec, we came to this, I don't, it's not an actual recognition, but arag rather an imagination.

We reached an imagination where we could say that you can have three realms of the cosmos or this, this sort of spirituality between the three.

If you don't come to that imagination, cause it's not a truth, it's not a reality. It, it's purely imagination.

If you don't come to that point of imagination, you, you, why would you put anything in a cave? Because they already knew what was going on.

They looked at the animals around them. They, they looked at the, the biological condition, physical condition. They looked at the moon. They, they knew the vernal equinox, they, so before we, we didn't need to put it in the cave.

We created a spiritual condition of putting it in the cave.

So I would say the home that Neals and other, other, homos before Anals may even lighting, I'll put it out there.

They already had this recognition about the, the lunar phases, the, and that they ma they were able to manage to themselves in time and space and the same way the Chuck Chi are doing it, that they lived in the rhythms of the animals. They, they were, they were pastoral before we, the concept of pastors was because they were following the animals up in, in and outta the planes up and down the mountains. based on the rhythms of the, of the sun and the moon and, navigating perhaps by the stars. So it, it doesn't make neo anals any more or less make homosapiens any more intelligent by able to do this. We just have a different imagination.

and how the anals homosapien stayed into, obviously into bread.

Cuz 4% of people in Europe are home sa in the Anthros and so the menstrual cycles must have been about the same, very close and so Chris Knight has his hand up.

Yep. Chris, well, before I, I sort of say anything, I've got quite a bit to say. can I just ask a quite simple question? earlier, actually it was last year, wasn't it? It was a really big lot of publicity around the furniture con conservator Ben Bacon, who worked out why you had these, dots, four dots or five dots on some of the, animals and it was taken up by Paul Petit and others. And it became a huge story as if, the meaning of these dots and markings have been sort of discovered by Ben Bacon. But it seems to be that, I mean obviously your approach is a bit different in, in so many ways. Bernie, you kind of got there first. So my question is, what is your relationship with said furniture conservator? Interesting. Answer your question. So, absolutely zero.

I have no relationship to them, but the, about a year before they went to print back in January, they were in touch with a American, public documentary producer equivalent to the B B C and the document, they, the documentary producer looked at their stuff and said, this is just like Bernie Taylor's stuff going back to 2004, cuz I have his both copies of his books. And, so, and I received this as an, an email post like two days after the Ben Bacon release. Okay and I had no previous connection with this basically executive with B B C and he said a few things. He said that first is Bernie already did this.

He did 2004, wrote a book about this. And he also, he said that you're just, you're just throwing out statistics out there.

What Bernie has is he has the biological knowledge of the connections to, to these panels. And he has continuous indigenouse use.

He has all these calendars that they, the cars, just as I showed you today, like I have at this point, I have probably like 40 or 50 calendars I could have thrown out today, thrown in this presentation. And he says he has the calendar. He says he, he says, we're not gonna do anything with you guys unless you pull in the concepts that Bernie did back in 2004. Mm-hmm. So I had no con, I didn't even know I had no connection with this producer equivalent of like bbc. And, he said, so he said, we're not gonna do a documentary with you guys.

So a year before they went to print, they knew, they knew about at least the one year before they went print.

They knew about my work. And they did. And so the question is, did they, did they not go with this producer because they didn't wanna acknowledge my stuff? Or did they not wanna acknowledge or the indigenous, the current indigenous use and recent calendars weird.

They're both wrong. They're both wrong. And what I've done, you saw this presentation today, is I've credited everything to indigenous calendars and, and current indigenous use, including Native Americans near to where I live in both Iraq art and their traditions and calendars. And it was about, back in 2004, I was on, US s which is like B P C, and I was, this, this concept was out in thou hundreds of newspapers in the US and interviewed and all this sort of stuff. And I went to, I still, what I still didn't know, I still didn't know how to reset the calendar.

I couldn't tell you if the, if the salmon were gonna spawn in the first Lu Nation after the word solstice or, five days the first Lu Nation after five days after winter Socialist.

I didn't know how to do that. Which was the whole point of my whole, this exercise was never to work on, not prepare. The Kmart never figured it out.

So I went to the tribes and I went to all the tribal councilors of the Columbia River Basin. So these are, these are mostly, at that time they were mostly old men and old women. Okay and I gave presentation, this presentation and, they cried.

They just cried because they realized that they had it all along and they had it, they had it in their traditions. And there's this whole salmon, their traditions in their calendars and their mythology and their art. They, they had it all along and it was taken away from them by European or originated schools, tribal schools, residential schools. And so the, and I gave presentations to all the official wildlife agencies, the power companies, and, and everybody just said that the Indians had it all along. and so one of the, one of the tribal members said to me at council, or shared with me at council, he said, we know there's other things we know, but if we tell you these things, we you, you're gonna go become famous and make a lot of money on them and not give us any credit. And I stood there and I realized that, and they gave, by the way, they, and they just listed off a whole bunch of, of that happened to them that basically their, their knowledge was stolen and used for medicines and things like that, that they had no not compensated for. And so I realized, I said, it doesn't matter what I learned from them from Indians, what I learned from Indian calendars or what I learned on my own, whatever the order is, it doesn't matter, is that the Indians had this all along. And, and so that going forwards, whenever I give a presentation, I'm not gonna push myself out as having discovered anything cuz I didn't, cuz if someone had, it was in print before me, just as like I had these books in print before the Bacon story.

It doesn't matter if they had it in their oral history.

It doesn't matter if the Ethnologist Graphers had it turned the last century.

They had it before. And it doesn't matter if it's on a tpe ORs in rock art in South Africa, it existed before. You can't, there's no such thing as rediscovering things.

The Indians were here before the Europeans in North America.

No one rediscovers anything. And we need, and when we learned that someone did this, we have to give the credit to where the credit was due. And the case of the, the qui the equivalent of the BBC producer, he basically drew a line in the sand. He says, I'm not gonna, I know what the right thing to do here is. and when he came out with his, his news article, their paper, they included me in it. and so which was could kudos to him. now the, you asked about the journal, the journal's a different question. So the journal, the editor journal had no concept of any of this work that ever existed before and apparently his reviewers didn't know anything about it and I believe that because this is not archeology, this is ethnography, this is arche astronomy. These is, these are areas that are outside of traditional, it's it's parts of anthropology. He had no idea. and so he's, he's his issue then became, they put it out to the world that they, the Doran people put out to the world, they made this huge discovery and he's got in intellectual property issues cuz they basically, they, they've stolen other people's work.

They've stolen my work that was previously print in a journal. and going, you can go back further back in time.

All the people that stole the work that didn't credit. So the journal, they saw the journal editor looked at the IP issue cuz that's what they were concerned about. And they cited, well, we're not gonna change anything. So I have made a petition, a complaint to the, the European Archeological Association, the aa, and said that, the, there's, there's two courses, that the journal itself, is not having truth in their publication, which you have to have truth in publication as part of the EA to be a member and that the, the editor either gets, thrown outta the EA or, we, he acknowledges prior to publication and he can pick any of my works going back to 2004. and let's see what they de the, the EA decides to of all these small, smaller European countries.

Can I just read out, can I, can I just read out from the, this, this, this, piece in, as it happens, it just says here that, exactly what you say, it all began when Ben Bacon was pouring through images of C bar and noticed that several different drawings of fish were accompanied by either three bars or three dots. Quote. I thought it must be a communication system of some sort.

Quotes. He said quote again.

Then I looked to see if anyone had actually figured out what these marks meant and apparently they hadn't, which was a bit of a revelation.

So no one ever figured anything out until they came along. I mean, one of absolute, He actually, actually, he saw my papers. He actually, he later acknowledged to have read my papers, read my work, how, How, how shameful. But of course, What are these archeologists like? But, but he's not even an archeologist.

He's being led astray by archeologists.

They wanna be famous seven deadly sins. Yes. Anyway, I just wanted to say one, one more thing, if I could.

It is just that, because you are a naturalist by background, it just does seem to me that you've missed out on a very, very important concept important to social an-

thropology in general to all social anthropology, including hunter ethnography, hunter gather ethnography, but also particularly important to Ian Watts and Camilla, which is that whereas you kind of directly get from the moon and menstruation and the number 29 and a half to sort of consciousness, Ian, Camilla and all the rest of us, we, we have this concept called ritual and so there's a ritual collective response to the moon, a behavioral response, which then in turn generates what we call collective representations of the head. So the, so the, the sky sort of earth underworld structures and all those other structures are accurate maps to experiences you undergo through communal ritual. And so there's a, there's a mediation between the moon and people, which is this ritual mediation. And I just feel that it's not a criticism, it's just we all do different things clearly. But I just think we all, we all we all, all of us, and I'm sure you, you'll agree with me, we need to kind of, you need to engage a bit more closely with each other's work and appreciate where we've all got to and sort of tried to keep up to the mark with it.

I find it quite hard, of course, I find it hard enough to keep up with Camilla's work and Ian's work, let alone let of other people cuz it's all a bit complex. But, but I, I just wanted to say there's this fundamental concept developed by Emil Durkheim in the, in the early, in the, in the last century or the late 19th century actually, which is a shared representation, shared co cosmologies, which what what we call symbolic culture doesn't, doesn't that kind of consciousness as you called it doesn't just get into the head from looking at things. It, you, you need first of all to have rituals and we call, and the, the most fundamental of all rituals are initiation rituals, which are all to do with sex, with girls and boys coming of age and being initiated into the domain. And I, I just feel your, all of your work, everything you've said, including what you've just said this evening, would be, well, I dunno be backed up really by introducing that concept, which is so important to indigenous people, of course, is the, the rituals which keep the traditions alive. And, and actually the, the traditions are, they're not just myth, they're not just mythical the myths wouldn't, wouldn't make much sense without the rituals and, and the experiences would come through the rituals which, which make those myths accurate to experiences.

It's the ritual experiences which are primary.

Correct. Correct. And I started this doing statistics.

I was collecting data, and biological time was one third of cold texts, one third of appendices and one third of statistics.

I had all the math so nobody can argue what the math and C C C O could be done and then I, after I wrote that, I said, I'm never gonna write.

I wrote this book about statistics, I'm never gonna do that again. And so I went on to write biologic, before, before Ryan, 2017 it released. And I, I started off saying that I will, I'm not gonna do any more statistics. I'm just gonna quote reference what I did in the past and I'm also not gonna do anything that was like spiritual cause I'm, I was, I'm not a spiritual person, one could say.

And, then I started seeing images that, well this is like what the Greeks interpret as a centaur is a man and a horse connected. I said, well that can't be real. That's a naturalist.

Can't say there's a centaur cuz it, there isn't such thing. So I said, okay, I'm gonna do spiritual stuff. I'm gonna add this to the mix. But, so I kept adding to the mix and, and then I brought in the mythology and astronomy and many other areas and I had seen the, I had seen the ritual stuff in the literature.

So I had read, and I mean all these anthropologists, I mean they included it in their works, but it became complex, a very sort of complex like ade shamanism that you have so-called shamanism all around the world and you have all these different rituals all around the world.

So how do you, it became, it would've been its own monster. and so I, and even I pick and chose the mythology, because it was, it would've been volumes and young collected works if, but, but, but you're absolutely right in that it's, it was there. I saw it to some degree, but I, I didn't integrate it because I was trying to, I was so far astray.

Can I just, I'm talking about cent, Can I, can I just, sort of forgive me for interrupting. It's just that, what, what we came, what we concluded was that the, the, the first ritual was extraordinarily simple, is just women saying we're bleeding. That's it. Keep away we're sacred. And we, they do it at the time when they were congregating together to keep safe safety in numbers from the, from the lion. So every dark moon women just come together. Anyone, anyone menstruating would be kind of risky. Partly, partly cuz, the, the males are the species before we became morally human would've been keen on riding off with her. But also cuz of the, of course cuz the blood, um the, the, the carnivals can smell it. So, I mean, I don't wanna, obviously I don't wanna go into detail. We've written so much about it.

It's just that I, I think you'd love the way we've put it because it does it all those complexities you've talked about we can get beyond them with a very parsimonious, very neat, theoretical concept, which is just that at Dark Moon we all bleed.

If we're not or act really bleeding, we at least share one another or re that means we're sacred.

Some things are sacred, and we move between that world, the world of the sacred, and then come out at Full Moon into the other world as the tricks in between and everything else comes outta that. But, but you need, first of all to sort of grasp the simplicity of it. And Bernie, honestly, I think you really like it if you read, read into it all, I think you suddenly find it's far more simple and elegant and beautiful and it's been presented by other anthropologists who've been all over the place with these things. But You're, you're a hundred percent correct. Yeah, I've read also read Camilla's papers and, star it is, it is the area that is my area too, I need to absorb, as I keep going out all these hom and it's, Oh, let, let's, let's work out hermo sapiens first.

That's, that's right, exactly. There was About the NTI stuff, but manchego, but just to add, well just one minute to add for what you were saying, and then we've

asked Manhego, because the, the great point about, about the, our model on the sex strike is women's blood is animals blood.

Mm-hmm. And it's that metaphor, combining the women's blood and the animal's blood, which when the images are on the walls in those ways, is implying that really the images are not just about animals, they're about women as well. Oh, it's, it's matri. It's matriarchal. It's, yeah, it's, it, it's all about the women and yeah, It, it's, it's the women, It's the women dancing, it's the women metamorphos into animals in the course of their dancing. Yes.

The women turn into animals.

Yeah. We think of SME or somewhere. Yeah. Mm, Yes. Che Yes. Yeah. Anga.

Yeah. that's a great talk by the way. you, mentioned just now you, come across Centar.

The earliest centar I know of, are Cass site, border. They're just marked borders because that's what centar is, something that's half in and half out. how far back are you finding them? 36,000 years. And if I'm in multiple cases. And so they're not, they're not centres per se. In fact, what they are is they're mayors, they're mares. And, and so I've, what I've been looking at is, for example, the gallery of discs has about about 25 animals and the animals could be either the, the, the female and her juvenile, and there's only one male, which is a lion, which the, the hero battles with the others are all females and as the hero goes on his journey, he, he goes across the panel, he integrates with each of these animals. So he takes on the, the fe the female, the, the, the female essence of the animals who are both protective and teach 'em how to run away or fly faster or whatever, whatever it is.

So they're almost al all the animals that he integrates with are female. And he battles with the lion, which becomes the nain lions during Hercules mythology. So, the scent, so he's, he's not exactly ascent. He takes on the spiritual, the essence of the horse, which is the mayor to, so he could run faster, maybe he could smell things he otherwise couldn't smell. but he does this with a dolphin.

He does this with many other animals to achieve on his journey.

So in the Greek myth, the Greek mythology, they took away, they made, they saw these images and they made the man, they made a center, they integrated it. Two, but the, they dispo coated what upper appellate images were.

what the Greeks did do is on the hero's journey, he is assisted by female goddesses. And so the, the Greeks substituted the, the, the female animals in Pilate ca bart with the, for the, the female goddesses. But yes, they're all except for the line.

He battles with the hero integrates with these, with them and we know, we know they're females cuz you actually, the body forms, or in the case of like raptors, they're associated with the juveniles, e and they're females who are part just a mother draft who protects her young.

we and what in mother draft, which protects her young as a hero on his journey, his head overlaps with the juvenile who's being protected by the mother.

so she's protecting him and teaches him obviously camouflage based on the image.

But yes, so the con the Greeks had a different mentality and they, they, they looked at the images and they took away what they wanted to see, which became the Warrior cent. But in fact, it was the protective mother.

Right? There's a, there's a chat from Viv Vivian, saying on the ch on the chat that she didn't get, the, the, how you explained the parallel between the boxes on the, on some of those, can tape paintings, the boxes and the hand signs.

I, I'm, I sure I also needed more. I wasn't, I'm not saying I wasn't convinced, it's just I don't think I quite, I can't got what you're arguing and, and Absolutely. Okay. So the, so the boxes, I'm arguing that they're, they're ations and they start with, you can see my hand up, the, they, the nations start with the, with the feral equinox or the dropping of the, be the, the dropping of the young for the mayor. Okay? And so you have three fingers. Okay? So this becomes the, this becomes the first, the, the nation that's down. So then we have, we have the mayor, the next, the nation is the next animal becomes the ORs who drops her ma who drops her young, not, I'm sorry, the Idexx who drops her kid and then explanation and so then it becomes like this, okay? The fo the we go up again.

Then the foul new nation is when Orax drop there young, which is the, the, the third and the fourth lu nation. Okay? And so the, the, the th actually, it becomes dropping the, it it becomes like actually dropping on the third, third and fourth one nation.

So the ears are up like this. And the orx, so Ibex X is the horns are up and sh she drops her, she drops her young in the second one nation. And, after vernal equinox, and then the in, in the case of the, the, what does it have? It, it's, it's this, it's this way dropping this way for the, for the, for the mayors dropping.

So what I do is I count across from the viewer's right to the left, and which is the, as the moon moon, moon travels across the sky and I, and I'm counting each lu nation going in that direction for the biological event of the animal, as the ca a r s marked it on those grids and those, what's unique is that those three grids are next to each other and so they're telling, it's a ca it's literally a calendar like we use today.

it's going across time across three of the nations. And so my, I propose that there, there, the grids are cha are characteristic or descriptive of hand signals or hand lines for those animals in say what the sun did it and the same way people in the planes in News North America, that the descriptive of the heads and the antlers, the upward heads and the antlers. And I proposed that, well, listen, I don't, lawyer corrum propose that in caves where there's no hand gestures or hand signs, the animals are descriptive of those hand signs and so, and the Lus go cave has no known stencils and so that they, they actually do have 'em, but they, they have 'em in the grit as opposed to hand stencils.

Then, then you wonder why are they overt stencils in some caves? And in lascoe it's kind of coded is kind of interesting why that would be.

Yeah, the more, they're more complicated than the skull cave cuz they have these marks, marks in between. And some are longer than others, and I didn't go into it,

but how the, the length, the length of the, the lower and upper box is de designate, the fingers up the length of the fingers up and down. So this is, if you have a long one, it's like this. And if it's a short one, it's like this.

Yeah, it feels like this. And, and by the way, astronomers do that today. This is how astronomers measure time and space.

So this is not a, this is not a new idea. I can't, I'm not gonna say invented that one either For more questions. It's fa we've got some rock hard expert.

We've got Ian here with the animals and Luna, cycles and hunting. And Alicia, any you, you've done work with, Ojibwe, people with rock, rock art, any sugg suggest any thoughts, any suggestions, ideas to relate to it or anybody else who'd like to Put something in? Might be good for Ian, if you can briefly to just sort of put into this discussion the, nightstand luna hunting and see whether that rings bells with some of the rock art. I dunno if you feel like it, Ian, explain your concept, what you found, unless you're not there.

Okay. Can have a go. basically I I've always been focused on, on primarily focused on the record of red re use as the best way to follow the evolution of ritual, assuming that the Red re was primarily used in body painting in ritual performances and we've known for a while that it seemed as if that, that the sort of a shift from a very irregular pattern of use to a more habitual pattern of use seem to tie in with our speciation in Africa in the, at the end of the middle ply toine. And you give dates for that, Ian, because not everyone will know what that means.

So well the end of the middle ply Toine ends at about 130,000 years ago.

now timeframes have shifted over time and in terms of scientific developments and dating and so on. But, so anywhere from 300,000 until 130,000 is the late middle ply to scene and that sort of more or less overlaps with the span of, of speciation and the latest archeological research is saying that Oki use only became habitual right at the end of that period at around 160,000 years ago. Now, alongside this, we've also had an interest in Luna face locked hunting because this was something that Chris was arguing for originally before we knew any of this, back in the early nineties and he wasn't predicting that this would apply to any extent, hunter gathering society.

It was just part of his positive initial situation.

So we were really very pleasantly surprised when Kristen Hawkes was, presenting data from the Hader in eastern Africa in Tanzania, showing that their most productive form of hunting took place around the knights of Full Moon in the dry season.

This was because in the dry season, the animals are forced to aggregate around the few remaining water holes. And, and it's not only that humans needed to avoid lions, and lions are dark moon hunters, but also they needed light in order to be able to see what they were aiming at.

So that was the re those were the illumination constraints acting on hunters and of course the dry season is also a period of scarcity. So, being able to procure regular supplies of, of fatty meat or they're actually lean, so you actually need lots of animals to get a little bit of fat.

but like we, we didn't pursue it until sort of fairly recently and there's been some research done on spear technology, which was showing that early spears going back a half a million years were probably primarily thrusting weapons and so they'd been no good for nightstand hunting.

You don't want to be that close to the animal. and that the, the, the, they don't acquire the attributes of a, of a, the stone points don't acquire the attributes of a lance that you could throw at least five meters fairly accurately until within the last couple of hundred thousand years.

So it seems as if there seems to be some coincidence between, between the, the habitual ochre use and the ability of early modern humans to, to, to engage in this kind of hunting, this, this, Luna phase locked nightstand hunting. And of course, again, as Chris was saying earlier, as part of the model that, that the model was that women's rituals, ritual solidarity, their coalition solidarity around menstruation would be predicted at Dark Moon partly to enable men to exploit natural light in their hunting activities.

Originally Chris thought this was just in terms of, of going for several days and nights away from the home base.

But now it seems, yes, it's that, but it's also that full moon hunting itself, itself. So that it's on that kind of basis that then you can begin to sort of talk about African hunter-gatherer cosmologies as a, as a starting point for the, and of course the oka use as well as a starting point, as a template that was taken with migrants who moved out of Africa in the last a hundred thousand years.

Well done Ray. Well done. Essentially. I have a comment on that.

That was actually, so I, I explored part of that concept from another direction and there was a book written about instinct by, I believe it was uk I forgot his name, but he won a Nobel Prize. and he studied this color red, in as an instinctual response and he stumbled across it and he had three spine sticklebacks in a tank by the window. And every time a red delivery truck came by, the, the, the fish went into a defensive posture. And, and it is the, it's like the study of instinct, I think was the book. and he, and he's British. Cause you guys the red delivery truck, right? You know, that, we don't have that us. And so he, he, he reasoned that the, the stickleback, this was a brainstem dominated response because Sticklebacks can't think, okay and so if you look around the world, you could see McDonald's and all these stop signs, they're all red because they, they trigger instinctual response of a, of immediate danger awareness in the same way as it is the Sticklebacks with a red delivery chart. and so Madison Avenue around the world and going back before even there was a Madison Avenue, people had this concept in their, in their advertising. and, so there's blue red is on the other end of the spectrum from it's red, yellow, green, blue. and so, and we live in a bluegreen world and red jumps out as an instinctual response.

Now, red also does, if you, if you are a scuba diver or snorkel or things like that, you're gonna see a lot of fish that are red. And you think, well, why aren't these fish just saying, hello shark, I'm here.

It's because those fish hide in the coral at nighttime, and red is the first color to become black, the first color to disappear and so you might have the same sort of concept of using red as camouflage during the nighttime and the same way as the, as the coral reef fish do and in and in recognition of what the sticklebacks do, because it's just saying, hello, I'm here during the day. Whereas at nighttime, when presumably people were dropping, the young humans were dropping the young it als it became camouflage.

So that's a, it's called, the Power of instinct or the Study of instinct. But, I believe he was British and he won half the Nobel Prize.

Over to you Ian. Yeah, Ian said anything in response.

Yeah, I mean, of course there, there, there are plenty of, propositions as to why there would be evolved psychological bias for redness, that that's not contentious.

The issue is how will any of those propositions engage with symbolic culture as we know it? Yeah.

Mm-hmm. And, and basically there are two arguments.

It's either aggression like sticklebacks, that's if you follow the sort of male warfare argument, or is to do with the, the, the, the, the salience related to menstruation as a, as originally a cue of imminent fertility, which males would be very interested and that those females who are already pregnant or breastfeeding stood to lose out to to, and, and therefore they, they needed to, to co-opt that signal to share it around that. In essence, is that the core of the sort of sex strike theory? So it's not enough to sort of just posit a, a psychological universal.

You've gotta engage with sim with things with symbolic culture Or, or another way of putting it or augmenting that. It is, it's just that Bernie, that that salience sort of psychological salience of red as danger has been there all along. All along all along and we need an explanation cause ok, why was it mm-hmm.

60,000 years ago that suddenly, hobo sapiens move from sporadic, irregular use of ocre suddenly to every single ritual requires this and you've just gotta have it, you've gotta have it, you've gotta have it Semester Yeah, sure and all that, so, .

Yeah, absolutely. It's brilliant.

Okay, great. I mean, obviously we want to convert you just as you want us to be converted to your No, you've already succeeded with your, your side of it. But we it'd be nice if we can, Came from the same place And we'd be stronger if we lived so originally.

Yeah. So my, what what it actually ties into the cave art as well, and that early cave art, you find a lot of red ochre. and you find, so my, I propose that we came from, I, I don't like the word civilization cuz it's how do you define it? But we come from very early imaginative origins.

So people who made this earth this three realms of earth, sky, earth, tru, underworld, terrestrial and sky world, cosmo scape and so we come from very early origins.

So everybody around the world doesn't invent this. You know, suddenly, as Marshak would've said, rather we go back to a very early time period where these were, and we

inherited them over time. We inherited them. And, and part of inheritance was, were supported by natural processes and psychological factors and so it's, I'm going to the concept of, I don't wanna say root civilization, but these go back very early in time. The oldest cave art, the oldest art in European caves is red.

So I'm gonna say it's very early in time. That's my, and reinforced or established by psychological, but yes. And that's why you'd see it coming up some a hundred thousand, a hundred thousand years ago is that was some common, some common people, diverged. They, they met with other people.

cuz cave art wasn't, is so different. Ni Angelo didn't do it.

Nana, those lived at the same time as homosapiens, but they didn't do this cuz they perhaps didn't have that three realms, interchange. And so there's maybe imagination, the imagination factor You, you need to read.

I'd say it's early.

You need to read Camilla and Ian's and V Summers wonderful piece in pal was 20 Fifteen's gonna send it to me.

I I have sent or we'll send it. Yeah. Yes. and there's lots of questions coming up in the zoom that people might, there's a suggestion about, specular right from Jacob about the shining at night and reflecting the fire, which wouldn't necessarily be camouflage. there's also from s there's ca VT as a kind of library of the next generation, passing on knowledge about the Luna calendar. Mm-hmm. Um mm-hmm.

Or kinds of stuff like that. and question Shakti asking these are seasonal, repeated, observable phenomena.

So what is the context for recording? Because people are making big efforts to put these imaging Yes, Yes.

I mean these incredible artistic productions on lascoe cave walls. Yes.

What is the motivation for, that's my big question.

What's the motivation for that? There's gotta be something important there. Yes. Cause the tells would've known about it. They just didn't do that.

The act of creating the cave art is the cosmic connection between the underworld, the terrestrial and the sky world.

But that's is the act of creative. What Why, Bernie, sorry to interrupt that. You may very well be right on that, but why are they doing it? What are the social motivations for it? Oh, the social motivations for it. well the priest stands at the Catholic priest stands at the altar and he does the same thing. He says the same things.

So it becomes the a, a spiritual leader status.

Wow. So that's the motivation for actually doing it.

But the reason why they do it is, is that it's that symbolic moment bringing the three realms and the place that we find is cable Give me hunting, gathering societies are a different cattle of fish from patriarchal Catholic societies.

Okay. Okay. I agree.

Patriarchal destroyed the calendars of the hunter-gatherers, if you don't mind. Yeah. I would say that the patriarchal Catholics draw from these much earlier traditions.

Mm.

Well that's true. So they, they cha they changed it in the, in the, in the power structure.

But everything goes back to these much earlier traditions. yeah, you can, you can see my work on constellation stellar astronomy.

The ancient Greeks literally lifted half of their con their, their consolation in the same animals in the same order, in the same direction into their record and others came from the other half came from two other places. but they're we're, we're not inventing very much besides iPads.

We're not discovering very much besides more distant stars where rehashing the, the same psychological, biological, Yeah, true Inputs. Inputs that we've had for millions of years. But what, what makes us different? I've know about millions. It's What makes, what makes us different, makes us with homosapiens different from chimpanzees but not different from the anthers, and maybe not ti and not homoerectus, is that we established, consciously established a place in time and space that we could think ahead by having these calendars.

We didn't need to record them in caves cuz we could just follow around the, we could do what the chuck she did, we can do what the, the, the Thompson needs.

We could have this knowledge within our culture and rituals and stories and mythology. We can have it in, in traditional practices without having the art or having the record in the books. One could say and didn't, I Think Yeah. Let's ju is Alicia. Alicia, go ahead. Alicia can Yeah, let's hear from you. Yeah, I'm just sort of, I was thinking and arguing.

So you arguing or as in you're saying that it's, that that paintings would've been painted at a certain time of the year and a certain type of the calendar. Is that sort of logic that you're going in? Well they either, they're, I would say that they are either painted at that time of year or they reflect that time of year. And this is the reason why this I explain this.

Why is that the, so, so some of these paintings represent places that are not near the caves.

Okay. And so if they, they couldn't do them at the, they couldn't be at that place at this mountain and looking at su su such and such paranoia and make them at the same time in the cave and so it could al it is that cosmic connection when they're at their original place on terrestrial world.

It's also the cosmic connection when they recreate it in the underworld of the caves. So they, they, they can have two things at the same, they can have two things, the same thing at two different times by having it in the cave and then what they did is, so the original, the original was to create this con, this three realm connection. And then they brought apprentices in and the apprentices, what I proposed is that they looked at them and they had to pass the test.

They had to figure out what's, what is this image really all about? And most of these images, there's, there's there's some sort of distractor and often red is a distractor.

Okay and that there's an image behind the red or there's sort of bold lines in blue and then there's an image behind the bold lines in blue. and most people will look at the, the blue and the red.

They'll get distracted by that, but missed the engravings in the, in the limestone behind them. And so that was the, the next stage of it was they, they were testing apprentices. Could they see the forest, the, the trees through the forest? Cuz if you couldn't see the trees through the forest, you couldn't keep the mythology. You couldn't keep the ritual, the traditions that guided your entire clan for the eternity of their being. So it, it, the first step was that that connection, the ritual, that connection the same way as we do today in religious practices. Okay and not just Muslims and Catholics and everybody does that cosmic connection. the Chinese of course the Tiana men cosmic connection, but then they created it, then they used it to teach, to teach instruct, and have a record for the apprentices. Cuz these are pretty small, these are small clans of people. You might have had 20 or 30 people and if, and they probably had one apprentice. If the, if the teacher and the apprentice die, what do you do? You have to have some, some kind of a record to carry these things on into the future. so are they books? We could say it that way. Books of knowledge, absolutely.

One of the questions, was it like, was it like a book of knowledge? So absolutely. But that wasn't the reason they made them, they made them to commemorate that cosmic moment, that time of the beginning.

whether the beginning be of the dropping of the, of, of the, the fo from the mayor be the cosmic egg, which is depicted these things. It's, they, they depict an original stories.

you're still not using the word original, but anyway, no.

Okay. I can use them. Ok. I can use the ok.

Alicia, do you wanna say any more or? Oh no, I was just sort of asking because I've been looking at, I've been finishing writing up a paper which I'm working on with, with, an elder from an northern, community in, and he's, given, given me two recipes for paint and the, and, and, one is from his community and there's one is from another one about 200 kilometers away. So it's, I didn't catch, I didn't catch which community.

Oh, laal one is from Laal and one is from Eagle Lake and they're quite close by like two, 300 kilometers. so we could drive it quickly.

The point is Canada, it's in Canada, Northern Canada. The, laal is the, on the 50th parallel.

So it's about seven hours drive straight north from Thunder Bay, which is on the north shore of Lake Superior. So, and they're saying that there are different ingredients in the recipe which will tie it into the ti You can argue they're tied into the time when the painting would've been made. So the re the ingredient, if you look at the ingredients they have things like eggs, that tells you something about the time of year, which was why I was asking you.

Okay. You are talking about certain events happening with different animals.

They only happen at certain times of the year.

So if you're going to make a leap and stretch it to the animal, to the paintings, I mean, are you thinking, are you coming out and saying, yes, these paintings are made at certain times of the year? Because I would have to say, based upon the evidence I've got from this elder is yes, the paintings are being made at a certain time of year based upon the availability of the ingredients.

Yes. And that ingredients then drives the ritual.

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