

Paleo Solution - 178

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Robb Wolf:

Hey folks, Robb Wolf here. I'm actually flying solo today. This is episode 178 of the Paleo Solution podcast. So I know a number of people have written in, email, Facebook, Twitter about the Debunking the Paleo Diet TED Talk that Prof. Christina Warinner did a couple of weeks ago or at least it was posted a couple of weeks ago. I did a blog post kind of doing some analysis on that. I've always assumed that people both read the blog and listen to the podcast and I'm clearly wrong on that given the ubiquity of questions that I'm still getting on this stuff. So I'm going to tackle that today and I'm doing it solo because it's basically me rehashing what I did in a blog post so I didn't want to cause Gregg to commit suicide by listening to me ramble through that stuff.

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Okay. So on to this Debunking the Paleo Diet by Dr. Christina Warinner. You know, first with this and again this is going to largely be a rehashing of what was in the blog post. So if you read the blog post and you are totally dialed on that, press delete on this if you're done, you're pretty cool. I doubt that I will end up covering anything new or novel on this. Again, this is just an attempt to make sure that we get some saturation on this topic. Because I had literally hundreds of emails, Twitters, Facebook pings and even after I posted the blog post I continued to get a bunch of inquiries about what my thoughts were on this. So again, this is an attempt to try to get full saturation, get a response out there about the good, the bad, the ugly on this piece.

As I kind of opened up in my blog post, I really implore people that whether it's a scientific paper, a video, you know, whatever the topic is, before you ping someone like me, my opinion on something, please consume as much of that material yourself as you can and put some skull sweat into the topic. I had so many people just look at the title maybe listen to the first five minutes which, are actually pretty, I don't want to say, incendiary but it's definitely where people could be very off-putted by Prof. Warinner's commentary and stance on the whole paleo diet scene. But then ironically the last 10, 15 minutes of her talk are very pro paleo and very, very interesting. It's actually some great material.

So there were a lot of hysterical people who were having super emotional reactions to this thing and clearly there are some things that are taken out of context and Prof. Warinner clearly went into this as a hatchet job really when you get right down to it or if not a hatchet job then this was a bid for bandwidth and attention because paleo is so popular right now.

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I guess right up front, I mentioned this stuff at the end of my blog post but I'll mention it upfront in the podcast. It's my observation that the anthropology community, people like Leslie Aiello Aiello who interestingly, she did some of the really seminal early paleo diet work having aboriginals eat a traditional diet relative to the westernized diet and reverse type 2 diabetes. Yet she at the recent CARTA conference was really hammering on the paleo diet.

My sense with all this is that the orthodox or the professional anthropologists are kind of miffed that biochemists and doctors and exercise physiologists, everybody except anthropologists are talking about anthropology and talking about paleo diet much, much more and much more effectively than what the folks in the actual discipline are doing. I think these folks are kind of feeling like they're losing control of their own discipline and maybe it's been taken out of context or something like that.

Clearly, we've made some I don't even say mistakes. You know there was an assumption that the genetics of modern humans is virtually identical to that of hunter/gatherers. We only need to look back to 1998, 2001, 2002 and we have both popular science publications but also you know, peer-reviewed literature that was making that point. It's only been very recently that we've had the dexterity of genetic analysis to be able to look and see all the polymorphisms and the different changes that have occurred and make a different analysis and say no we're actually by and large in this transitional state between hunter/gatherer and agriculturalist. It's kind of a mish mash. Stefan Guyenet did a fantastic three-part series on this looking at Otsi the iceman.

So science evolves and advances and so an original assumption has been proven wrong in its content but then in the effective application like does an ancestral diet still generally benefit most people? Yeah and then it does however raise really interesting questions of to what degree do we either have innate genetic variation that allows people to either tolerate or do well on grains, legumes and dairy or to what degree have there been legitimate genetic adaptations. That's all legit, solid stuff. There's no problem with that. Like the paleo diet name is somewhat laborious or inaccurate. It should be evolutionary diet or evolutionary nutrition but people get their fucking panties bunched over evolution so that's a whole other kettle of fish and all that. But that's really what the terminology should be.

That said, it's interesting that a lot of people who have not actually done any work in promoting any of this stuff or building bandwidth or building community, they just well we need to abandon paleo and it's like okay cool. So if you go to Google Trends, crack open Google Trends, put in paleo diet and you look at the massive amount of bandwidth that we have on that term, it's kind of stupid to just completely throw the baby out with the bathwater.

So I think what we need to do is just become a bit more dexterous on how we explain this stuff. You know, that paleo diet is a logical

framework. It's not a historical reenactment. We use this as a starting point. Clearly evolution, you know, we made some assumptions originally that evolutionary pressures had kind of ground to a halt after agriculture. Clearly, that's not the case. What are all the implications for health and wellness and all that sort of stuff. Like I think that that's all pretty honest and transparent and shouldn't hopefully get too many people's breeches bunched but you know, people being people, I'm sure that that will happen. So maybe I actually do have a something a little bit different to say on this whole thing versus the podcast.

But anyway getting into this thing, so what I did in the blog post, I kind of followed time point by time point through Prof. Warinner's talk and kind of pulled out some of the I guess more salient points and again both good, bad or indifferent.

25 seconds into the piece, Prof. Warinner said the paleo diet is one of America's fastest growing diet fads, which I found a little bit problematic just, you know, again the fad diet deals like Jesus Christ okay, so you know, can we call it a trend, can we give it a little bit of scientific credibility or acknowledgment. So right out of the gate, Prof. Warinner is kind of painting this thing in a bit of a straw man deal, bit of a straw man deal just say it like that, which again is ironic given the content later in the talk. It's really rather odd.

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So then at time point 55 seconds when I was about three points or four points in this and about 15 paragraphs and I had not even cracked two minutes into the talk, I was like oh my god, I'm going to kill myself. But luckily later in the talk, things really streamlined and there were some really good content that covered a lot of ground. So this thing didn't end up being 50 pages.

But anyway at 55 seconds in, Prof. Warinner says this idea was originally started in 1970s. That is absolutely false and part of the frustration around this is that the people who cared to comment on this and whether it's Alan Aragon of a variety of people they don't do any goddamn homework on what the topic is. They come in portray this fairly airtight analysis of the topic and I need to actually circle back around on Alan's stuff. Yeah, just as an aside putting a mental note on that.

I'm not a huge expert on the history of this stuff but we can pull things out like I mentioned a blog post that I did linked to it talking about Dr. Roman Shatin who was an Australian physician who had just really connected the dots on the whole Celiac autoimmunity, grain intolerance story. That was back in the early 1960s. He published a couple of papers

and I believe the Australian Journal of Gastroenterology had a thriving clinic, was doing great treating people's autoimmune diseases and then he died and the whole concept died. And then it took us 50 years to rediscover what he had largely known. Another point that I made in this is a book called Primitive Man and his Food that was published in 1952 and there other books. So the things that Prof. Warinner pulled out are very contemporary. It's kind of interesting the cross section of things that she did pull out. It was almost like not even a Wikipedia depth of analysis, just kind of like a Google Images and here you go kind of gig.

One minute 22 seconds, the paleo diet seems primarily targeted at men. So to support her case, Prof. Warinner had a bunch of pictures of dudes and that fucking joke Vlad who early in the whole paleo thing, he's the raw meat, the raw paleo guy and so there's always a picture of him with his F-ed up dentition chewing on red meat. He's made it into every stinking quasi-negative media piece for like almost ten years now. So thanks Vlad. That's awesome. Doing good work for us, thanks.

So there's all these pictures of dudes and steaks and all that sort of jive. I pulled up again just put in paleo diet, pulled up images and of the images, it was almost all females. It was kind of interesting. Like the initial thing had a list of gals and then there were pictures of food preparation and some food pyramids, you know, kind of paleo style food pyramids.

If I ogled in a little deeper, one of the suggestions by Google was paleo diet before and after. Before and after photos are huge from a marketing standpoint. I use them in the testimonials that I have and in anybody that does any type of like nutrition talking, selling whatever, they're going to use before and after photos and testimonials to try to sell what they're up to. So if you click on the suggestion paleo diet before and after photos, on the screen, you can see 12 different people and only two of those people out of the 12 are males. As you scroll down, it's a disproportionately large number of females relative to males or I wouldn't say disproportionately large. But for Prof. Warinner to say that this thing is oriented towards men and then when you look at the actual marketing that's out there, when you look at the imagery that actually sells this movement, it's in fact predominantly females, which I mean you know, women kind of sell both men and women, you know, guys like looking at gals, gals like looking at gals. So it's kind of a good sell there. That's just kind of an interesting thing.

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Prof. Hamilton Stapell of SUNY New paltz, he recently did a paleo diet survey and pretty extensive, pretty cool. That's part of his three-part series that he's doing for the ancestral health symposium talks. He did

one last year talking about the history of the ancestral health movement. This year he's looking at the current state of the ancestral health movement. Then his next piece in Atlanta is going to be kind of looking at the projected future of the ancestral health movement. But anyway, in his you know, not a scientific survey per se but probably one of the best surveys that we have out there thus far, 56% of the responders were women.

So again this was just kind of frustrating. Out of the gate, you get this really strong straw man kind of sense of what Prof. Warinner is up to. You know, it's oriented towards men, it's red meat, it's bad and masculine and all the stuff. When you actually get in and look at the reality, that's just not true. Now are there website that cater to that? Yeah, clearly. Nobody is arguing that. You know, she did – I think it's very disingenuous to just grab a select swathe of pictures off the internet and then tried to make that somewhat representative. So the real time images that you pull down paints a completely different picture. So whatever that's all done.

A minute and 40 seconds, four concepts of the paleo diet. She mentions agricultural diet today make us chronically ill. This is where Prof. Warinner takes a moment to kind of make theoretically our case as paleo diet practitioners or ancestral health followers or whatever, this is theoretically the case that we make and largely, I would agree with these things. One, agricultural diets of today make us chronically ill. Two, we need to eat more like our ancestors 10,000 years ago. We know what those diets were and they had a lot of meat. She really likes to emphasize meat, meat, meat, which clearly there's caveats within all this stuff and we'll get to some of that later. Then point four, if we emulate this ancient diet we will improve our health and it will make us live longer.

So it's interesting you know, Prof. Warinner, one thing that I will say she never actually looks at any information related to people actually implementing the diet. There was no attempt at all ever anywhere in the talk to talk to either Loren Cordain, myself anybody or even just do a big picture analysis of well if people are eating this way, is there a change in their health. She didn't cite stuff on Lindeberg's piece, you know, paleo diet versus Mediterranean diet in type 2 diabetic heart patients. She didn't look at anything that has been done out of UCSF. You know, that actually just occurred to me and so it's interesting. She mentions this fourth point as a claim that we're kind of making and then never addresses it at all. So just as an aside.

So 3 minutes 18 seconds, humans have no known anatomical, physiological or genetic adaptations to meat. I went through and talked about this and the main point that I made is that you know she was citing the fact that most carnivore, omnivore, herbivore that you have different dentition, different digestive anatomy and whatnot. Prof. Warinner just completely ignores the fact that we co-evolve with technology. The kind of homo habilis, handyman, that is technically where our gene kind of takes off. There are some argument about whether or not the australopithecines were using some tools and probably they were and that maybe led into some of the evolution. But you know we started opening up the long bones of animals, we started using these things to process plant material. But fundamentally and also very, very early in this process, we started using fire, not necessarily making fire but trapping it and utilizing it to cook food.

What the whole story here is we were predigesting our food outside of the body and so we didn't need canine carnivorous teeth to be able to make this transition. We were cooking and cutting up meat outside of the body. So this is straight out of Richard Wrangham's material in the book *Catching Fire* and Wrangham is a top of the food chain Harvard anthropologist, evolutionary biologist.

So it's really interesting that Prof. Warinner just ignores all of this stuff, all of the information related to our co-evolution with technology. Like we have no specific anatomical adaptations to cold other than the Inuit are a little bit shorter and more barrel chested and shorter limbed, which is consistent with humans who live in cold environments. So Neanderthals tended to develop this anthropometry. So we see that a little bit. So that's with a little bit of a caveat. There is a little bit of an adaptation to cold environments but not to the degree that we could just run around without clothing, without fire and without shelter.

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So it's again very disingenuous, poor background, straw man, you know, whatever you want to make of the whole story because much of what human beings do has not so much to do with our genetics and our anatomy but has to do with our culture and our technology. To ignore that in this talk I think is just powerfully –well again it's the straw man attempt to kind of taking down something for really unknown reasons and again when we look at later where she's kind of singing the praises of what actually goes into a paleo diet, it's very, very interesting about all that.

So there are some anatomical adaptations within the expensive tissue hypothesis in which our gut has shrunk, our brain has grown and that all

was catalyzed by more nutrient dense food, which is meat and probably starchy tubers of some kind that combined with cooking because... You know, Chris Masterjohn did a great piece at Ancestral Health Symposium last year talking about the remarkable number of amylase gene repeats that we've accumulated in our genome and it's very, very different than that of other primates. Even the least kind of carb-adapted hunter/gatherers have four or five times more amylase activity than chimpanzees for example. So you know, it would imply that we're really kind of looking for and kind of wired up for carbohydrate consumption.

It's interesting even within that that the people with the greater duplicity of these amylase genes, amylase being the enzyme that breaks down starch and allows us to digest it. It's interesting that those folks with the greatest duplicity of these genes or multiplicity of these genes they break down starch better and they also have better insulin sensitivity and better insulin management. So it's fascinating to me that you had all of that rewiring happen on a lot of different levels. The increasing number of these genes is actually due to a retrovirus that somewhere along the line took single copies and made it multiple copies and somehow that got feedback looped into our genetics that govern our insulin sensitivity and insulin management and here we are today.

So Chris Masterjohn made that point about the humans being wired up to digest starch but within that context, the starch digestion is much, much better if the starch is cooked. We only get about 30% of the starch digestion that we would – of uncooked starch relative to cooked starch like if you eat raw potato relative to a cooked potato. So again even the plant food that we're consuming we have a pretty good argument about the use of technology and whatnot. So that's that.

As to gastrointestinal morphology, humans are clearly opportunistic omnivores. Our GI physiology is intermediate to that of herbivores and carnivores. We have some bacterial fermentation that produces the volatile fats that plays a part in our health and wellness. We have some conditional taurine, you know, essentiality that looks a whole lot like that of a carnivore. So we have some intermediate stuff and then other people have made the point that we do in fact get vitamin C from meat. You don't just have to get it from plants. Brains have no vitamin C, meat actually does. You know, so there's a lot to that. Like there's a lot more to this whole story and let's see here.

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Yeah I mean she just really misses the point that one of the key features of the development of our species and the species immediately preceding ours is the shift away from large capacious fermentive gut

more towards a more processed food kind of guy. Process being like cooked meat, cooked tubers, more fruit, that sort of thing versus like cellulosic fermentation. So you know, that was just kind of frustrating. What else did I cover in here?

You know, at the end of that section, Prof. Warinner concedes that early humans did eat meat. They ate a lot of it at high latitudes. They ate less of it near the equator. This is nothing new. This is nothing that hasn't been said hasn't been said again and again and again from me, from Loren Cordain, from Boyd Eaton, Stefan Lindeberg, Maelán Fontes, Pedro Bastos, loads of people. Loads and loads of people and all the primary literature that's been written on this stuff. So it's really, really annoying that this was portrayed like Prof. Warinner the way that she portrayed this actually was that we were ignorant of this topic but she as the anthropologist de jure or top of the food chain anthropologist that she was setting us straight on this which is horse shit.

This has been part of the story all the way along. It's kind of frustrating, you know, but it's ironic that at the end of her thing kind of describing our non-adaptation of meat then she says clearly humans have eaten meat for a very, very long time and in certain places lots of it, in other places less of it. If anything, just as an aside, the vegan, vegetarian nut swingers had really jumped on this thing and have been like pimping and promoting it. Ironically what they're doing because they're morons is that they're pimping and promoting something that is completely debasing the idea that we evolved as vegetarians but's okay. These people are morons and can't connect the dots. So we're okay with that. So what else here?

Yeah, the bottom line on this is that Prof. Warinner seems reticent to acknowledge the primary literature on the topic, kind of presents herself as some sort of a subject matter expert and portrays everything very, very out of context and ignores the primary literature. I don't know where she's getting her information from. She did within maybe a one-minute, two-minute time period, she said red meat like 15 times so clearly she's got some issues with red meat. Within the paleo context, we recommend a variety of protein sources. Interestingly like from Alan Savory's also a TED Talk looking at sustainability and reversing of desertification using red meat, evil, evil red meat that's kind of an interesting thing. We're going to do a lot of exploration on that stuff here in the future.

But again this thing just kind of felt like a bit of a hatchet job followed up by describing exactly what we talk about all the time. But you know,

again the sense that Prof. Warinner and the anthropology community is going to take back what is theirs, which is interesting. What is theirs is a deep understanding of human history and human health and what they've done is completely shit the bed on being able to articulate this stuff to the masses. Our answer to our problems is actually not so much in our future. It's more in our past and looking at evolutionary heritage that we have had.

It would be nice if we can get some of these people on board with this. I'm possibly a bit more cranky on my podcast analysis on this than I was in writing but, you know, from here on seven minutes to eight minutes-ish, Prof. Warinner mentioned some limitation of stable isotopic analysis, which was really interesting. Like this is something I have largely hung my hat on looking at nitrogen 14 versus nitrogen 15 accumulation in animals and then also you can look at the carbon accumulation in critters and make some theoretically some educated guesses about whether or not the protein sources were a high or low trophic source. Whether or not, you know, what the critter was eating was from an herbivore like they were eating herbivores or if this was a top of the food chain carnivore and whatnot. There are apparently some confounders in that story, you know, different things like lichen and bark that can make up the diets of different critters. You know, that can confound some of these findings.

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So that's just an interesting aside that I think is worth investigating. I don't know that it completely debunks everything that has been found out of say like the Max Planck institute of Evolutionary Biology, Evolutionary Genetics and their work looking at stable isotopic studies related to early humans. But clearly it's something to talk about and to consider.

Prof. Warinner just made the point that within a specific area, you may find things like the Maya for example they look like they were very high trophic, very high animal protein intake folks based on the nitrogen 14, nitrogen 15 ratio but they consumed a lot of corn. But the way that they fertilized the corn was actually with fish and some other interesting fertilization techniques and so it makes them look more carnivorous than what they actually were. So I think that those are important caveats to have, but does it fundamentally change your understanding of what humans ate in particular areas? You know, she never really addressed that and I don't know that it just completely blows holes in that idea. Just would make us be more careful in the assumptions or the extrapolations that we make.

So 8:36, paleolithic people did not eat grains or legumes. You know, she cites some interesting developments in dental plaque analysis indicating the consumption of tubers, grains and legumes much earlier than was previously thought. You know, in this whole topic of like when did people start consuming what this or do a particular thing, when was fire first contained, when did we first use bow and arrows. This number on all this stuff keeps getting pushed back later and later and later. I think all of this stuff is older, the consumption of grains is older. So it's not surprising that for a Neanderthal or a homo erectus to have consumed some barley at some point is not incredibly surprising. It completely ignores all of this optimum foraging strategy. Like to what degree did these grains play as far as part of the diet, like how significant a part did it play in the diet relative to everything else. There's no discussion of that. So it's not surprising that some of these things were utilized to some degree but you know, how much of it was utilized that's one layer of this.

The other layer is that the techniques that are Prof. Warinner is describing this are relatively new and relatively untested. Interestingly also, it's a tiny sample size. Now I feel actually a little bit like the wankers on the other side of the paleo kind of – the folks that are usually in opposition to the whole concept like if we cite stuff on Lindeberg's study kind of the evidence-based medicine point that I made in my evidence-based medicine post is they'll start breaking stuff apart. Well this thing isn't well validated. There aren't a lot of samples sizes, blah, blah, blah. But that is true of this thing that Prof. Warinner is citing and this information was really hotly held up at the recent CARTA symposium which I will do a blog post on that one as well. It's the big anthropology wingding.

But it's interesting that these folks are to me so – so if this is important information, if it changes the way that we see things, that's great. But it's almost like these folks are just looking for, excited for some other type of explanation besides a relatively carnivorous homo sapien or homo erectus or Neanderthal or something. So just whatever on that.

From 9:54 to 14 minutes, the food portrayed as being paleo are all a product of farming and agriculture. It's totally true. Like everything that you know rare exceptions the people go out and actually forage their own food. A few people do some hunting, a few people go out and get like some miner's lettuce and dig up some luten tubers that have not been agriculturally modified but by and large everything that we eat has been Luther Burbanked. It's been bred to be large and tasty and devoid of spines and thorns and toxins which that whole point I don't know really what the point is.

I mean basically what's she's saying is you guys can't eat a real paleo diet because all the food available isn't the same as what we had in the paleolithic, okay, point taken, point taken. And that point has been made a thousand times. Loren Cordain has made it, Boyd Eaton has made it, I have made it, loads of people have made it. So it's as if this topic has never been discussed before. That we've never made the point hey listen fruits and vegetables are different today that what they used to be. Maybe that's an argument for not going completely wild on these bananas and apples and everything else that we have. Like maybe there's an argument that evolutionary adaptation to these modified fruits and vegetables may not be that great. They could still be problematic in some ways like from glycemic load or something, you know, who knows.

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But it's still begs the question what the hell are we going to eat, a bagel? Like is a bagel better than apple? Is a bagel better than blueberries? Is a bagel better than a piece of salmon and some broccoli and blueberries? Because she makes the point that broccoli and blueberries are completely different than what they used to be. But kind of as aside concedes that like a representative paleo breakfast looks very healthy and tasty but then kind of deconstructs the whole thing. So that was honestly out of all this stuff one of the more perplexing pieces. You know, Mat Lalonde's work looking at nutrient density still lean meats, fruits, vegetables, roots, tubers, crush grains, legumes and dairy. They just do. If you want to eat some dairy, have some dairy, I don't fucking care, whatever. I'm over that one really as a topic. It's a gray area for me. Use it, don't use it, I don't care.

But from this thing of, you know, debunking the paleo diet, so our modern foods aren't identical to our previous foods. The previous fruits and vegetables were very small, loaded with toxins, it's interesting. So it really kind of paints a picture of we probably ate more meat, which is ironic. Because you know, again when we look the skeletons of these paleolithic ancestors, they were large and robust and you get large and robust from doing a lot of activity. You can extrapolate from their size and robust bones that they were probably putting out about 3500 to 4200 calories a day of that physical activity on most days and you've got to feed that in some way. You're not going to feed that by eating a little bit of barley grabbed out of hand or with saponin rich lettuce or excuse me latex rich lettuce.

So it's just interesting. You know, I don't know what more to say about that. But this is honestly now that I look back at it get a little perspective, this section is one of the more perplexing sections and it actually argues

strongly for a more meat-centric diet and it doesn't really address at all well what are the health benefits – like are there actual health benefits. As ignorant as we paleo practitioners are about what a real paleo diet is even though I'm being sarcastic clearly like we understand that the fruits and vegetables and our grain-fed meat is not the same thing. But what does it mean for health? Like are people healthier eating this way and there's no analysis of that at all.

14:09, there is no one paleo diet. Completely true. Nobody has ever said that and it's interesting the only people who do claim that seem to be folks in the anthropology world who seem to be claiming that people in the paleo diet world say that or ignorant people in the media. Like I just don't get where this comes from at all. You know, things change with seasonality and locality and all the rest of that stuff from a... You know, if we could rebrand all this stuff and call it evolutionary nutrition then I think starting generally with the paleo diet concept and then moving forward into some locality and regionality of whatever genetic ancestry you have, I don't think that's a bad idea. You know, there's maybe some argument to that. I'm largely Northern European which really makes I think a stronger argument that my genetics are probably more out of that hunter/gatherer category or yeah than the agriculturist category. So I don't think that there's a ton of controversy with that. But again it's super freaking annoying that theoretically we as the paleo diet practitioners are portraying this as there's only one paleo diet. We have never ever, ever said that not in the literature, not in the research never.

14:51 to 15:27 really good description of what hunter/gatherers in Central Mexico ate, the fact that they moved through the seasons the availability of food, a really interesting piece. Like I would have liked to have seen an hour-long piece on just that thing alone but again we've talked about this stuff. Like this isn't something that we've ignored. This isn't something new or novel and again Prof. Warinner really portrays the paleo diet scene as that.

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Are there people who maybe recommend paleo who are more ignorant of this stuff? Yes. But could we please maybe go to the experts in this field when we're drawing our conclusions? Could we go to the primary literature that's been published on this? Is that too much to ask of a Harvard trained PhD? I wouldn't think so. But it looks like it was.

15:30 to the end, a really great piece talking about food diversity, locality, understanding of the neuroregulation of appetite, the gut endobiome, how it's super easy to supersede the caloric level of the foods we're eating. She made a nice kind of visual asking people how many feet of

sugarcane they would need to eat to meet what occurs drinking one bottle of soda and it was like eight feet of sugarcane, which is just physiologically impossible. You're not going to do it in any type of short time scale.

To me this is the stuff that's really important where like the interface between anthropology and dietetics would be hugely beneficial because our dieticians will say well a soda in moderation is okay. The fuck does moderation mean from this evolutionary standpoint? I mean you know, so if we need to eat eight feet of sugarcane to get the same amount of sugar out of like 32 ounces of Coke, which is a normal of soda, that's a normal aliquot of soda for people these days. That's a normal serving. So let's even cut that in half. Let's make it 16 ounces. We'll be thrifty in what we're doing and you know cater to the registered dietician standard registered dieticians kind of ridiculous commentary about not limiting any one food group and just moderation and all the rest of that stuff.

How do you really have moderation when you have something that you could shotgun down literally in a minute or less but otherwise it would require chewing through four feet of fibrous twiggy sugarcane? It would take you days. There is no comparison and this is part of the reason why these foods kill us and kills us in remarkable ways and it's absolutely ridiculous that our dietetics scene doesn't have an evolutionary biology underpinning and that that's not part of how we make our policy. It is ridiculous.

This is also something that is a failure on the part of people like Prof. Warinner because they should be educating these dieticians on this topic. They should be interfacing with these people. They should be the ones driving these policies because they understand these anthropological historical antecedents about like what types of foods did we in fact have available. Although they're trying like crazy to paint the picture that we had a grain based paleolithic, which is hilarious but whatever.

You know, that's just a piece of it. I guess in closing, you know, there are certain assumptions again that we've made about the paleo diet that have – or you know, our arguments for it that our genetics are identical, they're not identical. We seem to be under a period of intense stress because we seem to be experiencing very, very high rates of mutation and change, which maybe is good, maybe is bad. I mean interestingly when our species was almost became extinct about 100,000 years ago, 70,000 years ago, we were down to about 10,000 members of the species there was huge genetic reshuffling at that time because of the stresses put on the species. So maybe it's a good thing. Who knows? Maybe we'll

evolve into the ability to survive eating Twinkies and all the Monsanto genetically modified food and all the rest of that stuff.

But for this thing being a debunking of the paleo diet, when you debunk something, you need to start with the first principles of what the thing is talking about. Prof. Warinner absolutely did not do that. It's frustrating considering her background, her education, her station. It's kind of appalling and I tried not to be too big of a dick on the written piece that I did. Tried to be respectful but you know, as time has gone on, I've actually gotten more annoyed at the whole situation because the anthropology community should be spearheading the changes in our nutritional science scene that could literally turn the titanic around save our bacon and they're not.

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Instead, they're getting provincial and pissing on their territory, their perceived territory when they're in fact not even using their territory. This is part of the problem with academia at large is that it almost becomes like a religious sect in that certain things are banal. Like certainly you wouldn't want to monetize any of this stuff. You wouldn't want to apply it in some sort of way. We just go out and get information for the sake of getting information and bugger actually using it in some way.

I think that's ridiculous at this point. You know, particularly when we look at our current healthcare situation and unsustainability of the way we produce our food and all of this stuff and people like Prof. Warinner should be championing this whole thing. It shouldn't be me doing this. I should be running a gym. I should just be lifting weights and helping people to run you know, exist in a gym. I shouldn't be more of an expert on facets of anthropology and human origins than a PhD from Harvard. That's ridiculous.

It may be that it's not that I actually do know anything more but for some reason Prof. Warinner portrayed things in such a way so that she could make it look like we're a bunch of buffoons. But in fact when you do that it would – when you tell a lie that's easily exposed then it's relatively easy to go back and kind of show where the bullshit lies in that. So there's a lot of bullshit with this. There's a lot of good. Prof. Warinner is clearly a very brilliant woman. She seems like she is probably a really cool person so I don't want any of this stuff to be portrayed as personal towards her. But it is frustrating considering how important this topic but yet the pushback and the response that we're getting out of the anthropology department, anthropology scene and at large.

So I guess those are my thoughts. I would love to build some bridges with these people. I would love to not be the dude talking about the anthropology. I would like to sit back and listen to Prof. Warinner talk about the anthropology but I would like these people to realize that they've got the goods with what we need in medicine. We need evolutionary medicine. We need these people spearheading evolutionary medicine and if they continue to refuse to do it, if they're just going to be provincial then the rest of us are just going to have to carry the burden without them. At some point, that will change and whether it happens immediately or after the whole thing has been changed and then they realize hey we did play a part in this just we actually were a rock around the neck of a person trying to swim to shore versus like helping them.

So those are my thoughts on this. What is this? Episode 178. Gregg will be back the next time. We're going to have my wife on here talking about business and FrontDesk HQ. We're going to have Dr. Kirk Parsley on soon, Nate Miyaki. Trying to do more interviews, trying to break stuff up. I know the Q&A that Scotchy puts together is phenomenal but it's nice to get some fresh perspectives in here.

So hope you all are well. Thanks for listening. Take care. Bye-bye.

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