

Paleo Solution - 203

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Robb Wolf: Howdy folks, Robb Wolf here. This is episode 203 of the Paleo Solution podcast. Today I have the handsome debonair and fleet of foot author of the Paleo Manifesto, John Durant. John, what's going on man?

John Durant: Great to be here Robb. I think you forgot hirsuit which is my favorite word for hairy.

Robb Wolf: I usually go with swarthy because it's just you hear it from me to say and it sounds slightly Yiddish so you know, I'm not Jewish at all. I pine for being Jewish so there you go so.

John Durant: In addition to looking like a caveman, I look like a very famous Jew, i.e. Jesus so.

Robb Wolf: Right. You do actually. That's ironic. Yeah, span many a genre in that so.

John Durant: Well and I have some religious material in my book and we can talk about that a little bit.

Robb Wolf: You do and I definitely wanted to delve into that. Let's talk about your bona fide. It's just a little bit more. I'm sure everybody knows you but you studied evolutionary psychology at Harvard prior to founding the paleo New York City and Barefoot Runners New York City. You've been featured in the New York Times and interviewed on the Cole Bear report. Really your first like you guys in New York City that first New York Times piece was really I would say like breaking the seal. If this was like a --

John Durant: Yeah.

Robb Wolf: -- progressive beer night or something like you guys really broke the seal on that. Talk to folks a little bit about that.

John Durant: Yeah. The floodgate sort of opened after that and a lot more people heard about paleo. You know, I started a meet up group in New York City and unbeknownst to me an acquaintance of mine attended the first meet up at that which was just a potluck. Afterwards he goes I didn't tell you this but I'm a freelance journalist, could easily pitch a one-page piece into GQ or something like that, would you want to do it? And I said sure and

Melissa McEwan who was part of it was up for it and pitched it around and the New York Times bid on it. So that was the Times piece and then that led to Cole Bear.

So here's the thing about Cole Bear. That was my favorite. That piece was one of my favorite portrayals of paleo in the press and I think I've figured out why it works better than other pieces. And I'm sure you've experienced this. With other reporters, if they want to grab eyeballs and get attention, they need you or me to be the spectacle right?

Robb Wolf: Uh-hum.

John Durant: So they have an incentive to make it look odd and weird and different. With Cole Bear, the dynamic was reversed. He's the crazy one. He's the one that's out there so I got to be the reasonable one and then people were like oh that's reasonable. That's sensible, you know, that's cool. So I think that's why the dynamic was a little bit different.

Robb Wolf: Well and it was a long dark tea time of the soul after that maybe a piece before we add anything decent after that so.

John Durant: Yeah, yeah.

Robb Wolf: You know, just I don't know if folks know the backstory but John actually played in my opinion a critical role in me making the New York Times best seller. Because he hosted an absolutely wingding of a party for the first week book release which is really critical for cracking into the Times list and you and my wife Nikki ended up... How many books was it? Was it 100 books, 200 books?

John Durant: I think we made individual purchases on about 135 books.

Robb Wolf: 135 books so you know, the New York Times they're really crafty about trying to stop people from you know, they're well capitalized just buying like 10,000 books on Amazon or something and make it into the Times list. So you've got to find the bookstore that reports to New York Times and then it's each individual book purchase that counts and so John and Nikki really stood an hour, stood in line for like three hours and you know, it's like ding, ding, ding, ding.

John Durant: Yeah.

Robb Wolf: Ringing this stuff up and then John just pulls out like a huge wad of cash like complete mafia drug dealer--

John Durant: It's like 5000 I don't know I have like thousands of dollars in cash.

Robb Wolf: Yeah that was --

John Durant: But they all were for individual purchases the people that showed up to the party.

Robb Wolf: Right.

John Durant: Which was like last, which was huge.

Robb Wolf: Right. It was but I just wanted to give a shout-out like in my opinion a huge chunk of the book's success was you really getting in and putting your shoulder behind the thing and getting it along.

John Durant: It's very nice of you to say so but a hundred copies only gets you so far but thank you for --

Robb Wolf: I think you kicked it over man. I am convinced that it's the thing that kicked it over. But John, you know, also I'm not 100% sure if people know but I wrote a bit of an endorsement for your book and that endorsement was that I felt that the Paleo Manifesto was likely the most important contribution to the ancestral health story since actually Boyd Eaton's original paleolithic prescription. I am 100% sincere in that like when I read your book, it just fully pulled me in and but one because it's a great -- you tell a very good story because of your background and because of your access to Harvard and people like Dan Lieberman. Like you really bring some academic and real world chops to thing.

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But you know the tale that you weave and the kind of I guess intellectual rigor that you have here, like it's not simply a chapter by chapter account. Like if we run through it, you know, you talk a little bit about like what we are as homo sapiens, what is our species and then what --

John Durant: Right.

Robb Wolf: -- the paleolithic era was transition into the agricultural revolution and exposure to pathogens and changes in dietary features. But there's really some deep thinking here like and we were talking about this a little bit before we started recording. Can you talk to folks a little bit about like you know, it's a long process for you to write this book and I attribute it --

John Durant: Yeah.

Robb Wolf: -- to one part jail sentence and on part giving birth and men are really not well equipped for giving birth so it's passing a large kidney stone like can you talk to people about some of the thought process and there's some really, really deep thinking here. Like for the neophyte person first getting exposed to paleo I feel like this book is really accessible because you know, you cover the nutrition and gut health and all that stuff and you do a fantastic job doing that but you tell a really compelling story. So there's something there for you know, the beginning person who's like what is this paleo thing, like I don't really get it you know.

John Durant: Right.

Robb Wolf: But then for people who've been in this literally for like 15 years like this was a legitimately exciting read for me. Like I really enjoyed the whole book and I find that really, really difficult to do and you did a great job of both providing something that was very substantive for the new reader but also something that I don't care how long in the tooth you are with this material, you're going to really enjoy this. How did you do that?

John Durant: I first of all thank you very much for your comment. When you emailed that to me, I did not know how to respond and I'm very grateful for it. I spent a lot of time three years ago thinking about where the conversation would be today because I knew that if I came out with a reread of your book or Mark's book or Loren's book or anything like that, it was not going to get a great reception and rightly so. So there I really tried to step back from it and say okay we're focused on the paleolithic, which was an extremely important time in the formation of human beings and it's appropriate to start there. But I also wanted to take into account what came before the paleolithic and what came after.

So part one of the book is the short history of humanity in five chapters, the animal age, the paleolithic age, the agricultural age, the industrial age and the information age. So in a sense I downplay the paleolithic a little bit. It's still the starting point but I elevate what we can learn from some of these other eras. So the first thing that I do in the animal age and this was I think this is going to help a lot is I go to the Cleveland zoo and learn how to keep gorillas healthy in captivity. I wanted to start with a story not about human beings because everybody has opinions on how to keep a human healthy. As soon as you start asking people what their dietary beliefs are, it's like religion and politics and people's identity, label, groups go up and it's really hard to have an honest conversation. I count myself among the people you know, we all have a certain amount invested in our perspective and so I wanted to start in an area where

there's not a lot of controversy and you go to the top zoos in the world, they take the same basic approach. They don't call it paleo it's just what you do and they combine modern medical technology where it works with mimicking the natural habitat and lifestyle of the species.

It is completely uncontroversial and mimicking the natural habitat is how you deal with these chronic health conditions like type 2 diabetes which it is depressing to learn is fairly common in zoos today.

Robb Wolf: Right.

John Durant: I mean isn't that shocking? They don't like to put it on their marketing materials or tour guides don't like to mention it when you go to a zoo but a lot of these animals get fed essentially fiber bars from hell made out of wheat, corn, and soy.

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Robb Wolf: And there's an assumption that that's going to be okay and then when you know, it's interesting because you really you know, when you start that story off you don't know that the story –you know, it's this guy at the Cleveland zoo and did you give, was his name Michael? Was that it or--

John Durant: Right, right, right.

Robb Wolf: Yeah.

John Durant: So Michael and I described all these health conditions that he has and it's like oops this isn't you know, a 40-year-old guy on the verge of a heart attack. It's a western lowland gorilla at the Cleveland zoo. When you take humans out of it, suddenly it becomes so much more clear what to do and so much less controversial. There was a revolution in the zoo world really starting in the 1960s and '70s.

In 1978, Seattle's Woodland Park Zoo released its new gorilla exhibition. It was the first exhibition to fully immerse both the viewer and the gorillas in a naturalistic setting. Now one of the cool things that happened was some health problems went away for the gorillas and the designers of the habitat don't even know why they went away. Before they had chronic diarrhea, after they moved you know, from their concrete and steel enclosure into a wooded naturalistic setting, the diarrhea goes away. It could have been a reduction in stress, it could have been that they were eating more fiber, it could have been any number of things.

But it did and these pioneering zoo personnel, they were entrepreneurs and they were biohackers and they weren't waiting, they weren't hung up by having to wait for some study to come out 12 years from now that perfectly controlled for anything. They said look let's innovate, let's see if something works, let's try it and if it does we'll keep doing it.

So your readers are smart. They're going to read this chapter and they're going to see that I've embedded a lot of meaning in the story at the zoo that they're going to immediately apply to human health but a lot of people who are new to these concepts aren't going to see all the ways in which I apply these topics. They switched these gorilla diets from these processed pet food bars called gorilla biscuits to and then initially increase their fiber and they loaded it with fiber from wheat and the gorillas got terrible diarrhea.

Robb Wolf: Shocker.

John Durant: I'm like you're kidding me, you're kidding me and the zoo personnel is like yeah we think they have a gluten sensitivity. I'm like shut the front door.

Robb Wolf: [Laughs] Totally.

John Durant: And you know, not other gorillas eat wheat and bread without apparent problems but these guys had problems. So there's all sorts of additional meaning in there. The entire evolutionary approach is embedded in that framework in a noncontroversial framework and then from there we go to the paleolithic age and being fortunate enough to have formed a real with Dan Lieberman at Harvard through some of the barefoot running things, he gets to – you know, I lot more than the average person about the paleolithic and the agricultural revolution. But you know, he's been studying it and another academics have been studying it for their entire careers and so he tells about the agricultural revolution and how health initially deteriorated and things like that. It comes off as a lot more credible than me telling people.

Robb Wolf: I don't know professor at Harvard, I don't know that's --

John Durant: Chair of...

Robb Wolf: -credibility yeah, yeah.

John Durant: Chair of Human Evolutionary Biology at Harvard. So one of the things I get to do is they've got this fossil archive. Harvard has amazing collections. This fossil archive they're super rare fossils. They're not on display to the public so it takes me back there and I get to hold this 80,000-year-old hunter-gatherer skull that was found in modern day Israel. It's called school-five and you know, miracles of miracles the guy has a strong jaw. All his teeth came in including his wisdom teeth. They came in straight and no cavities. So I'm getting to hold this in my hand. This by the way this is something that you do not want to drop.

Robb Wolf: Right, right. I remember the caveat in there it's like the one rule use two hands.

John Durant: Yeah. Yeah, he was very stern about that.

Robb Wolf: Yeah.

John Durant: Of course, he didn't perfect teeth this hunter/gatherer. He actually had an abscess and was missing one tooth but you know, relative to what came after he had a beautiful set of teeth.

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And so I'd learn about the paleolithic era that chapter will be very familiar to all your listeners because it's what we talk about most in the paleo sphere.

Robb Wolf: So you know, you have a nice treatment of the just-so stories and you know I think that when – I almost cringe whenever we get a big media piece. Or you know, like when my book came out Tim Ferris was kind enough to host one chapter of my book on his site and all of the arm chair anthropology experts kind come out you know, and it's usually they lived short brutal lives and stuff like that. You know, the response there when you're kind of couching this stuff from this kind of evolutionary biology just as a framework. Like we can't use this as 100% air tight case but you know, just asking a question well you know, if we had this relative good stature, relative good height, good teeth, relatively low infant mortality rates and the things change, people start living in close proximity to other people to animals, their nutrition changed, they got much shorter, they got very bad teeth. They're you know, --

John Durant: Right.

Robb Wolf: -- all kinds of infectious rates went up. Where is the interplay or where do you find the inflection point between that being a credible place to talk

about this stuff and educate people, which I feel like it's a very credible place but you know, clearly I'm biased by this stuff. But where is that inflection point between that being a credible talking point versus a just so story?

John Durant: You know, that is a very tough question because there are a number of prominent evolutionary biologists who have written about this for decades. I mean Jared Diamond's agriculture being the worst mistake in the history of humanity. It's a well-known fact in paleo anthropology and anthropology that things got worse before they got better. So you know, I'm not quite sure what the answer is because then as soon as you say things used to be better then people accuse you of wanting to live in the garden of Eden and everything was happy go lucky.

I mean it was a mixed bag and I think that that's the best way to talk about it. Things were not perfect in the wild. They aren't perfect for western lowland gorillas but we were fairly well suited to the lives we lead and the lives we led so.

Robb Wolf: And then if we can maybe take some information from that about circadian rhythms, some basic ideas about what foods were inclusive in the scene.

John Durant: We can make

Robb Wolf: -- microbiota.

John Durant: Yeah, we can make very smart guesses that get us 80% of the way there.

Robb Wolf: Right.

John Durant: Super smart ones that get you – I mean you don't – pretty much most of the things you need to know about sleep and circadian rhythm, it's like oh right we're adapted to fairly regular changes, cyclical patterns of light and dark and temperature and things like that and you know, miracle of miracles you move to the poles and all sorts of things go wrong. So I guess you're pretty close.

Robb Wolf: Right, right. You know, I guess sometimes the frustration that I experience and I know that other people experience this when they've had some sort of beneficial health change or performance change or whatnot or they're – if the topic of discussion comes up about this paleo diet thing and you know, trying to provide some framework for folks. So you know, it's hard to even get it on somebody's radar that our circadian

rhythms, that are wake-sleep patterns that the amount of photo period that we're exposed to that that might actually have some effects on health. And so I guess there's just these kind of wacky assumptions that are involved with providing some sort of education or an argumentation base. You know, I don't know what you're going to call it but it gets challenging. But it's only if you are really I guess allergic to this idea of using this evolutionary biology framework is just a place to couch some questions and start you know, let's --

John Durant: And I am so sick of some of the criticisms of straw men in the media. You know, when the thing in Scientific American is like "don't those paleo dieters know that most of the food in the grocery store is domesticated. Those idiots." It's like come on people. Like this is trivial.

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I mean I was at a six years ago at my company's Christmas party a drunk co-worker made that point when we were in the bathroom. I mean like this is not a sophisticated criticism. And the people at the zoo, I mean I have a section in my zoo chapter when they started to feed a more naturalistic diet to these gorillas, they didn't fly in plants from Africa. They went to the local Cleveland grocery store and bought romaine lettuce and you know what it wasn't a big deal because they knew it was moving in the right direction. It was cost effective and they were making reasonable tradeoffs in their life. I mean it's so yeah, I feel your frustration with some of this stuff.

Robb Wolf: Oh mean, yeah, you know, but again I think that that opening chapter talking about the gorilla like if people are willing to see the analogy that's being written there and again you do it at such a great job of not I think I am such a simpleton in many ways that I would have been like okay folks this was an analogy and you know, --

John Durant: Right.

Robb Wolf: -- I would have fleshed it all out. Whereas for you like you very definitely you know, you made this fantastic analogy without actually stating it. I guess the --

John Durant: People are very sensitive. People are sometimes very sensitive to being compared to animals.

Robb Wolf: Right.

John Durant: You know, we like to think that we're not animals so I didn't want to and then if so I didn't want to sort of directly hit people over the head with

that. The other thing I didn't want to do was you know, get into a long drawn out discussion of prehuman hominins and all that. I mean you start talking about Australopithecus and first of all I'm out of my league talking about those subjects and second it's boring as hell.

Robb Wolf: Right.

John Durant: And people don't care. So this was a way to get the conversation going.

Robb Wolf: You know, so I got to catch 80% of your talk at age. Was the title of the talk the same as the chapter in the book the Moses the microbiologist?

John Durant: Moses. Correct.

Robb Wolf: Yeah. Talk to folks about it because this is such a fascinating angle on this where you started pulling in some of the... You know, some people have mentioned this like some of the laws of Kosher and different ways of eating and food preparation like when we look back it's kind of like okay some of these things were possibly goofy from a biological standpoint but then there are some things that seemed really legit like the potential of avoiding pathogens in pork and whatnot, the trichinosis. Like how did you --

John Durant: Right, right.

Robb Wolf: -- what was the thought process about tackling all that?

John Durant: So --

Robb Wolf: Because I've never seen anybody go as in depth as you did.

John Durant: This is probably the most unique chapter in the entire book. I think it's fair to say and something that nobody really expects to be in there. It's about the bible. It's about the first five books the Torah and the way really the subject of the chapter is culture and the importance of culture and I'm really talking about two types of culture. I'm talking about culture in terms of ideas and traditions and practices and then I'm also talking about culture in terms of bacterial culture like when a doctor takes a throat swab.

Robb Wolf: Uh-hum.

John Durant: And when people start settling down after the agricultural revolution and living in cities, both types of culture explode. Ideas explode because

you have more people living in cities and writing and things like that and infectious disease explodes. The reason why they both explode is that both network phenomenon. They both ideas you can think of ideas as a little virus and brains as hosts --

Robb Wolf: Sure, sure.

John Durant: -- and memes and all that sort of stuff right. And you know, they're small they spread in interesting mysterious ways. They seem to have a life of their own and microbes do the same thing. They mutate rapidly. So both of these things take off and really a lot of ancient cultural practices were adaptations against infectious disease so spices, adding spices to food. Most spices have antimicrobial properties and you find in traditional cookbooks and recipes you find the highest concentration of spices in equatorial cuisines and meat dishes. Meat spoils faster than plants and in the hot equator everything spoils super fast. So you want the most spices, you could get a meat dish from India and so nobody planned these or necessarily invented these traditions. They just emerged. The people who put spices in their food and liked it for whatever reason, they died of food poisoning less often.

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So I use this as a starting point to explore a lot of religious and biblical hygiene rules. Now one of the oldest themes in scholarship this is in no way original to me. In fact it's one of the most unoriginal things I can say is the importance of hygiene in Judaism. Things like hand washing, bathing Kosher laws, food inspection laws a concern with bodily fluids and not coming in contact with them, quarantine all these things are in the Bible. There is just this incredible intuitive understanding of the germ theory of the disease embedded primarily in Exodus, Leviticus, Deuteronomy and Numbers. If people have -- most people whether you're religious or not have not actually read the bible cover to cover much less or even just the first five chapters.

I encourage people to do it one day because it's really incredible how grossed out they are by things that actually do transmit disease, insects and vermin, bodily fluids and sex. I mean think about you know, we look back at -- we look back at a lot of the sexual codes from thousands of years ago and may view them as regressive or retrograde in some instances. But you have to keep in mind that people back then were also dealing with incurable STDs and you know, if you were to catch something nasty women could easily become infertile and that's the end, that's the end of your line.

So a lot of these traditional practices I show were adaptations against pathogens, one form of culture combatting another form of culture. And I found these amazing studies mostly from the late 19th century in the early 20th century on Jewish populations around the world and they tended to live about five to ten years longer than neighboring gentile populations primarily due to a lower infectious disease burden.

Robb Wolf:

Hmm.

John Durant:

And there's tons of papers on this and everything from tuberculosis to cervical cancer in women. There's Jewish women basically cervical cancer which is caused by the human papilloma virus was basically nonexistent among Jewish women for during the late 19th century or early 20th century and what probably allowed them to evade this was some combination of sexual codes, circumcision among men and maybe some hygienic practices.

So there's all this research showing that basically the Jewish, all populations as they've developed and gotten wealthier they go through this demographic transition where when you can start getting infectious disease, get a handle on infectious disease so that it's not wiping out all your infants and wiping out all your old people and everything like that. You go through a transition where you start to have – you live longer, you have fewer children but you invest more in them. It looks like the Jewish people went through that transition first because they had cultural rules like hand washing that allowed them to evade disease.

You know, we think of when people talk about the discovery of hand washing, they mostly focus on this guy Ignaz Semmelweis the 19th century Austria. But there are three injunctions for either Jewish priests or Jewish people to wash their hands in the bible. We think of hand washing as this normal intuitive thing like oh of course you wash your hands. It is not intuitive at all. If germs are invisible and they can spread through all these different vectors through the air and through liquids and through the slightest physical contact, you can't see them and they're deadly and they just strike at odd moments, you know it's not at all clear that washing your hands is an effective way to combat them. So it's really remarkable when you stop and think about it that you had this group of people that started becoming obsessive handwashers right around the point in history when infectious disease was exploding.

Robb Wolf:

Dude did you have a chance to read the healing gut project their most recent post on the butchering of a gazelle and how the hadza --

John Durant: The hadza --

Robb Wolf: You read that?

John Durant: I just read part of it today, I just read part of it today.

Robb Wolf: So you know, --

John Durant: That's fascinating.

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Robb Wolf: It really is for a lot of people. It's kind of like holy cats because you know, like they gut the animal, they take out the stomach contents, the guys consume the partially digested stomach contents. They clean out the colon. They very, very lightly cook the colon like the guy who's heading up the research area. It's like no there's no way it inactivates any pathogens on this, the animal, of the colon and they cut the stuff up and eat it and then I forget which --

John Durant: And they rub it on their hands.

Robb Wolf: They rub it on their hands like they wash their hands --

John Durant: Right.

Robb Wolf: --with that and then they rub it in grass and then they haul all this--

John Durant: Right.

Robb Wolf: --this stuff back.

John Durant: It was the opposite of hand washing when --

Robb Wolf: Yeah they just like imbued themselves with them that the intestinal contents of this animal. He made the point that these folks were eating upwards of 70 different types of birds, tons of different land animals from zebra to lion and this was generally the practice that they had across the board. Somebody on my twitter feed asked me a really good question and they said well you know, what's the -- you know, and there's some assumption here that this hygiene hypothesis, this exposure of different pathogens may tune the immune system so that we don't get autoimmunity but then there's a clear you know, and this is just such an interesting biological evolutionary tradeoff. So there's some benefit there but then how does that balance out against the downside of actually

getting a parasite or getting some sort of infectious agent that could you know, make you very sick or potentially kill you.

John Durant: Right.

Robb Wolf: It's really interesting idea and it's just fascinating when you compare and contrast that with Semmelweis' work and then the early you know, Jewish traditions of handwashing and the intuition that these folks had with that which when they started living in a much more concentrated area --

John Durant: Dense --yeah.

Robb Wolf: --then clearly that had benefit but then when you're living out in a hunter/gatherer lifeway then there might have been benefit on almost like swimming in bacteria.

John Durant: Right.

Robb Wolf: What do you think of all that?

John Durant: Well it's so funny you brought that up. I was thinking about that just today. When you have a low network density, a few hosts, you don't see the evolution of virulence pathogens.

Robb Wolf: Uh-hum.

John Durant: Or it's much more rare. As soon as they crop up, they kind of disappear again. You're not going to get small pox until you get large number of domesticated animals hanging around. So the network density was so low for these foragers that the microbes that could hang around in the population had to be beneficial in some way or at least not strongly negative. It's only yeah, when you get this higher population densities that you can get virulent pathogens that can sustain themselves in a large host population. Well it's kind of like computer viruses too. If you don't have many computers in a network then you're not going to get crazy viruses in there but you get the internet and you get one giant network and suddenly you get all these you know, malicious viruses that can go attack thousands of computers a day and still have more host to pray upon.

Robb Wolf: Interesting. Interesting. I had never thought about -- you know, I've heard it in the context of just increasing population density but not really

thinking about it from a systems network base deal that that's really, really interesting.

John Durant: Well and that chapter I've been able to have it read by some top scholars in evolutionary biology and things like that and it's been very, very well received. So you know, the rise of culture of ideas and microbes is the huge takeaway from this era and I try to tie this thread of ideas and microbes culture and culture through other parts of the book. For example if you look at, I don't mention this in the book but if you look at like the Weston Price Foundation, they cultivate a lot of cultural, wise traditions that sort of emerged. Many of them have to do with fermentation so this tie between culture and culture even exists in these traditional practices of harnessing microbes for fermentation. We also see it in a lot of fasting traditions which emerged in many cultures around the world and as you know they help us fight chronic infections, again you have culture and microorganisms.

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Even evolution of light skin may have again microbes probably played a big role since it was in locations where you had high amounts of infectious disease and there were a lot of demands on the immune system and so you need more vitamin D that became so important to get more sunlight.

So I introduced this theme of culture and culture in this one chapter but then readers who are paying attention will notice that every time the agricultural age reappears throughout the book, it's usually in the context of these two notions of culture.

Robb Wolf: Interesting. Interesting so --

John Durant: That's sort of the crib sheet for....

Robb Wolf: So bring people forward as we pass out of the early agricultural age and then the significance of the industrial age and then the postindustrial information age. Like how did you weave that into this story and what were the kind of salient points out of that?

John Durant: So the industrial revolution takes a few hundred years ago and the first country to undergo the industrial revolution is Britain, the United Kingdom. So they suffered from a lot of health problems related to industrialization before everybody else in the world. So for example, rickets, rickets comes from a lack of vitamin D, severe vitamin D deficiency in childhood. It used to be known as the British disease.

Robb Wolf: Hmm.

John Durant: Because the British were wealthy enough to stay indoors. They lived in a notoriously cloudy climate. They were the first to eat a nutrient deficient industrial diet and so it was actually the children of rich British folks who were the first to get rickets because they didn't have to work in the fields and anybody who worked in the fields got plenty of vitamin D. So the British were the first to get rickets. The British were -- their reputation for having terrible teeth stretches back hundreds of years to when they were the first to have large amounts of refined sugar and refined flour in their diet. So the British suffered from certain diseases before everyone else. We see William Bantine and obesity cropping up in the UK before other places.

The other element that I talk about with the industrial age is these industrial technologies, fossil fuels and hot air balloons and compressed oxygen for going underwater or climbing mountains and things like that, they allowed people to explore new habitats on the earth, habitats the humans had never ventured into during eons of genetic and cultural evolution.

But you venture into a novel habitat say I start and all sorts of things can go wrong. So I start the chapter with this story about this incredible hot air balloon journey that was undertaken in I believe the 1860s and these two British gentleman and one is a founding member of the Royal Meteorological Society, the other is the preeminent hot air balloon pilot in the world. These guys knew more about the upper atmosphere than anybody else on the planet. They decide to do this record setting hot air balloon trip and they do not realize that the oxygen level is getting lower and lower and lower and they start to faint and lose control of their limbs and they have no idea what's going on. They have no idea that they are leaving a habitable part of the planet and starting to move into a place that humans are not adapted to survive.

So luckily one of the guys realizing something is going wrong and he uses his teeth to his hands are frostbitten at this point. He uses his teeth to undo a rope to allow the hot air balloon to descend and they almost killed themselves.

They didn't -- these are Victorian gentlemen. They didn't bring gloves. You know, they brought brandy but no gloves. --

Robb Wolf: Nice.

John Durant: Yes.

Robb Wolf: It's got to be a party and you have to look good so.

John Durant: Right, right. So I go through a lot of the different ways in which British explorers were oftentimes the first to enter these harsh novel habitats like climbing to the top of Everest or with Tenzing Norgay, Sir Edmond Hillary or the first to go underwater in a submarine or visiting the poles, all these places where humans kills ourselves. We accidentally kill ourselves and by realizing how the human body is dysfunctional in these habitats, it teaches us about what we are better adapted for.

[0:40:25]

In the industrial age, we basically started to kill ourselves and so we can look at all the different ways in which explorers and ordinary British citizens basically killed themselves without even realizing it and we can learn from that and try not to make the same mistakes they did.

Robb Wolf: Which is such a I think in some ways a counterintuitive idea until you start understanding some of the stuff like Nassim Taleb talked about with antifragility and hormesis.

John Durant: Right.

Robb Wolf: That on one hand we have some kind of U-shaped dose response curves where things like vitamin D and a host of nutrients that if you have too little then you have disease, if you have too much then you have disease. You know, we need that kind of goldilocks area. But then on the other side of this, you know, there's a thought that well if I'm not twiddling in the fields then maybe that's a good thing because I can relax and develop my mind and what not. But then there's a reality of becoming frail, sarcopenia, osteoporosis, you know, and just not getting that hormetic stress response that antifragility that you know, it may not – if you're in a very controlled environment, then it may not affect your longevity but if you're ever placed in a situation where you have to scramble for your life then you literally have no capacity to do that. But it's very counterintuitive I think particularly coming out of that Victorian age of really looking down upon any type of physical labor.

John Durant: Exactly and people would like to mimic the aristocrats and so queen Elizabeth for example had very pale, was notoriously pale so all the up and coming merchants would try not to get any sun and of course that wreaked havoc on their health.

Robb Wolf: Right.

John Durant: But yes, we do silly things for status. But at the end of that chapter, I raised this question okay eventually our technology gets so good in the industrial age that we go into space and long term space flight presents this really interesting question which is how do you create a human habitat from scratch. Right? Space is just a vacuum so what principles do you use to make a habitat that is livable for humans to function at a high level because the mission is really important, to function at a high level over a long period of time.

When you actually go and look at a lot of these NASA researchers, they take a very similar evolutionary “paleo approach” to arrive very quickly at some of the parameters for what makes for a good human habitat. Okay. We’re probably going to have problems if we have zero gravity for too long. We need this regular cycle somewhat of night or day or sleep becomes a problem. You know, food actually isn’t a very big deal when they talk about astronauts and space flight. Like okay, we can get them by for you know, for months or maybe even years with these fortified foods. Sleep is actually the biggest challenge for them because they don’t have regular changes of night and day in the same way we do.

But when you step back from it all and I try to extract three principles from this design, hypothetical design exercise for long term space flight, and the first is and these are not hard and fast rules, they’re rules of thumb. The first is if a species evolved for much of its evolutionary history, if there was some habitat feature that was constant it is probably well adapt to or dependent on that feature remaining constant.

So take gravity right. We’ve never known it any other way.

Robb Wolf: Right.

John Durant: Gravity exists, it’s at a certain level and if you change the level of gravity or if it’s not there at all, you can survive but you start to face some pretty serious health problems with circulation and bone density and things like that. So if you have a habitat feature that is cyclical like night and day, you can probably tinker with it a little bit because it cycles after all so we are adapted to it changing. But if it gets completely out of cycle or out of sync or is monotonous on one side or the other you’re probably going to see a lot of problems too.

Robb Wolf: Kay.

John Durant: When you see that --

Robb Wolf: Yeah, they see that with submarines and all kinds of variety of shift work to say nothing of space flight.

[0:45:05]

John Durant: Yeah. Exactly, exactly or any species that's adapted to the season so deer being adapted to winter and spring and things like that. And then the third principle and this is the really counterintuitive one that you brought up with Nassim Taleb and antifragile is if a species evolved for much of its evolutionary history with a variable habitat feature, variable perhaps within some bounds, it's probably adapted to that feature remaining varied. So if you have something like temperature that sort of has this dynamic fluctuation through the seasons or through the days or maybe it's the surfaces that you move on and things become too monotonous then you have a real problem there too. That's the one that most people sort of have the most struggle with is this notion that variation can be healthy. But I mean you get that and Taleb gets that with antifragile and the notion of hormesis and all that. So are the principles that I sort of... The industrial age frequently teaches us what not to do.

Robb Wolf: And then we launch in the information age, which I think in many ways it really accelerates that stuff in so many ways. Like what do you think of that?

John Durant: So the information chapter is called biohackers and it's about the idea of starting to realize that the body is the sophisticated information processor. The core of all life is this digital code. I mean how cool is that that there's a digital code in people's and for mosquitoes to mammoths at the core lives of the digital coded DNA. And so I start to look at this ethos of hacking and how we can start to learn about human health by treating the body as an information system kind of like a computer, not exactly like a computer but kind of like it.

You know, this chapter plays a very important role in the book and for a few reasons. One is it elevates the importance of amateurs and trial and error and self-experimentation. And it you know, a lot of great discoveries throughout history have been made by amateurs or professionals with accidental discoveries, penicillin, all sorts of things like that. Even the process of evolution by natural selection itself is sort of a blind amateurish process that moves forward and fits and starts through trial and error. So you know, if amateurish trial and error is good enough for evolution by natural selection, it's good enough for me and it's good enough right for a lot of people in this food movement to experiment and to take those results seriously. So I think it would be a fatal error if

professional academics were to look at a group of entrepreneurial hackers and to discard their learnings. I mean that would be the most shortsighted mistake particularly if you have any understanding of how evolution natural selection works.

So this really elevates the importance of this hacker philosophy of good enough solutions and getting 80% there and using smart heuristics to get close to a right answer and to customize. See that's the thing that the other thing that this chapter does is look I can give you, Robb can give you a pretty decent set of guidelines for how you start to eat based on some paleolithic guidelines. But you got to take it home. You're the one that has to experiment and do your N=1 experiments and see how your body responds. You've got to customize your diet and your lifetime to make it sustainable for you on an ongoing basis. Everybody has a unique genome and gut microbiome and allergies and injuries and tastes and preference and your budget and where you work so you have to customize your lifestyle, how you eat to your conditions.

This actually was very liberating because then I didn't have to feel like I was telling everybody that everybody has to eat or live in the exact, same way. You should try that sometime. It's very freeing and liberating.

Robb Wolf: [Laughs]

[0:50:00]

John Durant: It's like oh my god, the weight has lifted.

Robb Wolf: Man, I try to get people to you know, this idea that this is like playing darts and it gets maybe 80% there and then there's just some tweaking and fiddling and this is one of the just mind numbing elements of the low carb, high carb back and forth tennis match. So we had Dr. Perlmutter on a couple of podcasts back.

John Durant: Yeah, yeah I heard that.

Robb Wolf: Brilliant guy, fantastic dude, and he's doing just this amazing work on the road generative disease. He's using ketogenic intervention and some glutathione therapy and the results he's getting are just stunning and they actually did a very nice Huffington Post piece where they were talking about okay maybe there's a different way of tackling neurodegenerative diseases and we're talking about Parkinson's, Alzheimer's. I would throw even Huntington's disease in there like you know, that's not on a lot of people radar but some potential there, dementia, a huge morbidity, mortality.

You know, from a longevity standpoint, I mean getting cancer would suck. Like there's a lot of ways that are not great to go but I've got to say that probably losing your marbles has got to be about the worst thing I could possibly imagine.

John Durant: Yeah.

Robb Wolf: Like the day that I could still figure out how to tie a hangman's noose or pull a trigger, it's probably like okay this is the time to check out on this and we -

John Durant: It would be one thing if it happened overnight.

Robb Wolf: Right.

John Durant: But it happens gradually and you realize that it's happening and that's what makes it so hard.

Robb Wolf: Yeah. It's like being consumed by a carnivorous plant or something and it just digests. It's like the thing in Star Wars where it digests you over an eon or something like that.

John Durant: Yeah.

Robb Wolf: You know what I don't think that some people get who are very... Because Dr. Perlmutter I asked him a question about my own performance and he said oh you just need to ketoadapt to that and I don't know that I necessarily agree with that. But that just because we don't agree on that point doesn't mean that it invalidates everything that he's doing related to neurodegenerative disease and using a ketogenic diet to get some therapeutic benefit on that. But then the other side of that is that because this approach works for specific people with specific conditions doesn't necessarily mean that everybody is going to benefit for meeting a ketogenic diet every day all the time.

John Durant: Right.

Robb Wolf: Like you know, if you're trying to be a rock star crossfitter, a Brazilian jujitsu person or something like that, in my opinion it's probably not the way to go and you know there's all these other ways to parse that stuff out. But it's interesting, I get this same energy both from people in the scene but it seems eerily similar to the evidence based medicine crowd where they're really trying to find a one size fits all story.

I've been thinking about another evidence based medicine piece and talking a little bit about the LD50 and toxicology which is the lethal dose 50. You take a hundred mice, you expose them to a toxicant at a certain level and when that level kills half the mice then you call it the LD 50 and then you use that as kind of a baseline. But it's fascinating to me half the animals died but half of them didn't so how important is that. Like are you part --

John Durant: Right.

Robb Wolf: --you know, if we're talking about gluten reactivity or the ability to deal with sleep disturbance or how much exercise you need like are you in the group that at the current dosage recommendations say by the evidence based medicine crowd whether it's cardiovascular risk parameters or you know, pick whatever it is, are you in the group that's going to die from that are you in the group that is going to be untouched regardless of what the recommendations are. There's really no accounting for that at all that individualization.

John Durant: And you know, the concept of individualization actually dovetails very nicely with hunter/gatherers and diversity of diet, broadening your diet. I think we should really embrace this notion of how different hunter/gatherer tribes adapted to local circumstances in different ways. They experimented with new foods in their environment and they had a very broad diet and I think we should emphasize that a little bit more.

One of the things I tried to point out in my book in my chapter on food is the way in which this I don't think I've seen a single media piece that has made this point to my great frustration. Many of the people who eat paleo now or primal or whatever you want to call it, they actually have a broader diet than they did before they started.

Robb Wolf: Uh-hum.

John Durant: You know, I was raised on traditional Midwestern fare. It was wheat, corn, soy, one cut of beef, maybe two, chicken, salmon and that's it. What seven, eight species and now people are eating nose to tail and more species and discovering new vegetables.

[0:55:04]

I mean you make this point in your seminars. So really let's move away from this notion that diets have to be restrictive and emphasize how many people who have gone this route have actually broadened their

diet and are now closer to the food system and where food comes from. You know, I would love to see a media piece talk about that.

I actually had the opportunity this past weekend to speak at a conference where Michael Pollen was also speaking and we got a chance to chat. You know, he's a real big tent, I can't speak for him in any way but he's a real big tent kind of guy and we just like to see more people become conscious eaters. I think folks in our world would agree with that. So I hope that we can continue to find allies with different folks in different tribes.

Robb Wolf: Yeah and to not have it turn into the protestant reformation where you know, we need these schisms. I think throwing some sort of a general term of like ancestral health over the whole thing and if you're into Weston A Price or paleo or you know, some....

John Durant: Macrobiotic.

Robb Wolf: Macrobiotic or whatever you know but this is and I know people get all weirded out with the quasi political stuff. But if we kind of focus on freedom and some tolerance and some market based interventions you know, like so much of the stuff that we face right now like we didn't have farm subsidies a lot of these stories wouldn't be going on. Like you know,
--

John Durant: Right.

Robb Wolf: -- we would -- people would be able to compete on an equal footing and it would be similar to prescription drugs versus over-the-counter drugs, over the counter are not picked up by third-party insurance. There's tons of competition and they tend to get better, they tend to get cheaper. You know, there's a lot of stuff to be learned from stuff you know, things like that.

John Durant: And the other good thing and we don't have to get political but my last two chapters are called hunter and gatherer and it's a more speculative vision around ethics in the environment and things like that. And I think This broader ancestral health movement is playing, sometimes people think of paleo and vegan as polar opposites and they're just not.

Robb Wolf: They're not.

John Durant: They're yin and yang in a sense. They're different, they have different styles and they emphasize different things and in some sense, you need

them both. One thing that I've really learned from vegans and vegetarians and I'm grateful for this and it didn't happen quickly or overnight or anything is we do have serious problems with how we treat animals in the industrial food system, and I tip my hat to them for bringing attention to some of those problems.

At the same time, you know traditional agriculture, permaculture farming this is not a vegetarian utopia. I mean hunting, you know, I've read a bunch of vegan and vegetarian books and there's frequently no mention of hunting how it's integral to maintaining a healthy holistic habitat and it's very healthy and sustainable food. So in a sense I think empathy is the strong point of sort of the plant based world but they can take it too far and this I do think that's sort of the crossfit libertarian sort of slant is a little bit less empathetic.

But, you know, people are starting to look at things like trying insects or cricket flour or things like that. You just don't see that in the vegan or vegetarian community because their disgust reflexes are so strong that they can't eat oysters and because it's just too slimy so we can play a different role. We don't need everybody playing the same role. There can be different roles for different types of people and that makes the food movement stronger and not weaker.

Robb Wolf: I love it. I love it. Dude, we could probably consume about three or four hours on it. You know, it's kind of funny though that you jumped to the hunter and gatherer sections because I actually wanted to touch on that and you jumped right into them anyway. We basically covered the first chunk of the book, the origins and then we somewhat stepped through really, really quickly the here and now which is some phenomenal stuff talking about movement, bipedalism, thermoregulation, photoperiod, just really phenomenal --

John Durant: Sun and sleep, fasting.

Robb Wolf: Yeah, yeah all of that.

[1:00:00]

John Durant: That's the more practical part in the middle and then this part three is the shortest and is more ethics in the environment.

Robb Wolf: Nice. Nice. Well John, I again I think you wrote literally just an amazing book and I know that I usually as much as people will try to drag me into shit talking one person or another, you know, I'm usually pretty complementary about folks and I guess in some ways that can be

detrimental to me because I'm usually pretty positive so then when I'm actually legitimately like really, really impressed and really excited by something people are like well Robb is a nice guy, you know, he always says a good thing about whoever it is he's talking to.

But I really like literally no shit, no joke, the Paleo Manifesto which John wrote is just outstanding and I think that it was such a sorely missing piece to this whole thing of tying in the really but in a very different way the cultural anthropology and the story transitioning through the different ages of humans and I really like your concept of both culture and culture. It is reminiscent of like Jared Diamond but you've couched it in a way that I think is way more accessible and just a fascinating read and very inspiring honestly. Like I think it literally is. It's the Paleo Manifesto like this is where we need to be going to when we talk about different position statements and stuff like that within this ancestral movement in my opinion.

John Durant: Well thank you and a big theme throughout which you just touched on is I do want to inspire people. I want to show that there is meaning in this way of living because if you don't add meaning to how you eat, if you don't add meaning to how you move, then you stop doing it and you stop caring about it. So it's not just about a list of nutrients that you should eat or foods that you shouldn't eat. You've got to find ways to make it meaningful in your life on an ongoing basis so that can be functional movement. It could be using traditional recipes from your family when you cook. It could be fasting not just for the health benefits but because of your religious tradition whichever you follow observing that. So I really hope it speaks to people on a level that's more meaningful than a list of foods to avoid.

Robb Wolf: Well you know, I guess that that again because you're much better spoken than I am, when I was trying to think about some ways of describing the book that there was just profoundly meaningful content in there and that literally it touched me like when I was reading the book. You know, I love seeing all the people doing new books and I literally am deluged by them and you know, I wish that I had a clone of me that could just read through the books and check them out and everything but--

John Durant: Yeah have more kids.

Robb Wolf: Yeah exactly. But you know, I wouldn't say it gets dull or repetitious but it's kind of like okay we've seen this theme --

John Durant: Right.

Robb Wolf: --frequently and whatnot and I mean this book really and I don't want to belabor the point because people are like Jesus Christ he's really hard selling this thing but it doesn't fit into any of the categories of any of the other books. It's not a cookbook. It's not like a kind of my quasi technical book.

John Durant: There's not very much yeah there's not very much biochemistry. I mean I started to dig into that stuff early on and realized I was in over my head and folks like you and Loren and Chris Kresser and Paul Jaminet you guys lead the charge on that. You do it better than I do. So it's yeah, there are no recipes. There's no 30-day plan and something else I tried to do is I really tried to include a lot of people. Fundamentally, this book is not about me so I tried to include of different folks in it.

Robb Wolf: Well I think you did an outstanding job and again we will have links to the book in the show notes. I literally just can't recommend the book enough. Like it is an outstanding read and whether you are brand new or you know, somebody brand new to the scene or somebody again who is very well versed in all the kind of ancestral health story, they're going to love the book. Like I would be shocked if they didn't. I would eat your book if you didn't like it at that so. But John --

John Durant: Feel the cover is really nice. Feel the cover it's got a nice texture.

Robb Wolf: It does. It does. You guys went all out on --it's fantastic.

John Durant: I didn't know it was going to be like that so.

Robb Wolf: [Laughs] Well that's a nice surprise so that's cool.

John Durant: It is. It is. One of the few nice surprises in the publishing process.

Robb Wolf: Yeah right. That's a whole other podcast. [Laughs]

John Durant: Yes.

[1:04:59]

Robb Wolf: John, can you think of anything else in wrapping up? So you're at HunterGatherer.com. Any talks or any other projects you have going on that folks need to know about?

John Durant: You know, the key thing is the book and I just simply reiterate that if you think if you've read all the paleo books, there's going to be stuff fresh

here to see. It's still a very good introduction if you want to hand it off to friends and family members and be like you know, all that cartoon caveman crap you see in the press. Well we're a little more sophisticated than that.

Robb Wolf: Yeah, I wholly – yes that is absolutely true. Yeah. Yeah. Well John, thank you for being on again. I know that it was little bit of a circus getting our schedules pinned down and that was mainly my fault so I really appreciate you being accommodating on that and again huge thank you for you helping me early in getting my own stuff launched. Like I honestly think that you played a really key role in helping to get that going and this was at a time when we – I mean I don't even know that we had met in person. Like we had exchanged some emails and stuff like that.

John Durant: Right.

Robb Wolf: And you opened up your house to us to have this book signing and this party. You spent an enormous amount of personal time and effort helping with that and I just wanted to say a very sincere thank you. Like I think you played a really important role in helping to get my stuff going.

John Durant: I was more than happy to do it. It was a ton of fun.

Robb Wolf: Well thank you. Thanks a lot. We'll have to do it again. The offer is still open here. I think that we could do a book signing for you at the Bunny Ranch so if you swing this direction we could do it.

John Durant: Sign me up, sign me up. I'm doing a few --

Robb Wolf: Perfect.

John Durant: --east coast things and then I'll probably hit the west coast in November or December.

Robb Wolf: Okay. It's cold so the girls will be bundled up so we'll be set so awesome man.

John Durant: Cool.

Robb Wolf: Well John thank you again. Will talk to you soon.

John Durant: Thank you, Robb.

Robb Wolf: Okay. Bye-bye.

[1:06:54]

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