

EPISODE 36

“CP: We need synthetic vitamins. It’s not like these are bad things. They’re preventing countless incidences of deficiency diseases and what’s more, I don’t think our modern food supply could have developed without synthetic vitamins.

The FDA, thanks to this law passed in 1994 with the help of consumers like us, they cannot require supplement manufacturers to test their products for safety or for efficacy before they sell them and that is truly crazy.”

[INTRO MESSAGE]

[0:00:36.7] AS: You know battling food and your body doesn’t work. You want to love and accept yourself. And because you’re insatiable, you want results too. And wouldn’t you know, you bring the same intensity to your life, wanting to maximize your time, potential, and experiences you have here on this beautiful and wondrous planet Earth.

Fair warning, it will be a rollercoaster. But for those insatiable, that’s your prime time to thrive. We’re here to say “YES!” to the hunger of wanting it all. I’m your co-host, Ali Shapiro, a health coach who helps people end the losing battle of dieting and find a truce with food.

[00:01:17.3] JB: And I’m Juliet Burgh, nutritionist, fitness expert, and a co-owner of Unite Fitness Studio Franchise.

[INTRODUCTION]

[00:01:26.2] JB: Welcome to episode 36, *Vitmania* with Catherine Price. Catherine Price is an award winning journalist whose work has been featured in publications including the Best American Science Writing, The New York Times, Popular Science, The Washington Post magazine, The Los Angeles Times and Slate among many, many others. We had the opportunity to interview her on her latest book, *Vitmania: How vitamins revolutionize the way we think about food.*

Extremely interesting topic. Ali and I found this to be one of the most fascinating books we read in a long time and we want you to find out if vitamins and supplements are actually something you need, what you should be looking for if the vitamins and supplements you are taking are safe, and if the supplement industry might be a major threat to your health.

So stay tuned.

[TRUCE WITH FOOD MESSAGE]

[00:02:13.3] AS: Hello Insatiable listeners, it's Ali here. If you tune in here, you'll get that diets are a losing battle but are you equally afraid if you give up, you'll blow up? Fortunately, there's a better way and it's called a Truce with Food because here's what you already know, when you struggle with food, you struggle with life. As Candice from Pennsylvania, a past Truce with Food participant said, "Truce with Food is not just a plan but a lifesaving journey."

So here's what we do in the program, which starts this September. We stop the sabotage cycle and we get to the root of bad eating and most importantly, we figure out what food combinations work for you. Get the first lesson free and find out what is the better diet for weight loss, vegetarian, Mediterranean, or Paleo. Log onto alishapiro.com and find out.

[INTERVIEW]

[00:03:04.8] AS: So we are here with Catherine Price, author of *Vitmania*. Catherine, I love your book.

[00:03:11.3] CP: That's good.

[00:03:13.4] JB: I actually haven't seen Ali this excited about a book in a long time. She's like basically geeking out over this book.

[00:03:20.3] AS: Well you know I love the books. A lot of the books that I love people are like, "Well they're more like reference books." But what your book does is it, I think it gives us all the moving parts of how we came to this lens of vitamins and supplements that isn't healthy and this

mindset didn't happen overnight and if you have someone who can dissect all the parts leading up to why we think it's just safe to take any vitamin or supplement, it all starts to make sense and it's much easier to change from that place of understanding and you've done a lot of heavy lifting. So just kudos. I really love your scientific, detailed approach.

[00:03:59.8] JB: Because you've been working on this book for how many years?

[00:04:02.1] CP: Oh man, it was two and half or three years of writing. Yeah, it was a long time the whole process.

[00:04:10.4] AS: What give you the chutzpah to persevere? Why did you want to write this book?

[00:04:16.3] CP: Well, the reason I first came up with the idea was partly because I'm really interested in food and nutrition just based on my own background personally because I've got type one diabetes so I think about food all the time. Juliet and I are always talking about our blood sugars together but also, my husband tends to come up with a lot of my ideas and we're traveling together and at some point Peter just turned to me and said, "What's a vitamin?" Kind of out of nowhere and I said, "I don't really know."

I thought I would be able to answer it and then was surprised by how shallow my knowledge was and yeah he said, "You should write a book about that," and I readied up a proposal and then I got a book deal in 2011. So I see what kept me going was probably the pressure of the book deal but yeah, it was a very long process and a large part of it is there's a lot we don't know about vitamins that I assumed that we did.

[00:04:59.2] AS: Yeah, one of the things that was clarifying for me and I love if you could define for the audience, first of all the difference between a vitamin and a supplement because that has very big philosophical implications of how the book unfolds. So can you define that for everyone?

[00:05:15.6] CP: Yeah, that's a very important distinction that I myself didn't really recognized until I started researching this book. So when we used the word vitamin, especially in the United

States, we really mean much more than vitamins. First of all, we tend to be referring to pills instead of the substances that are found in foods and then we also tend to be referring to dietary supplements as in with the much broader category of pills that you can buy in the GNC or in Walgreens or whatever.

So basically, there's only 13 human vitamins and it's A, B, C, D, E and K and there's eight of the B vitamins. They all go by other names like Riboflavin and stuff too. So they can be a little confusing but it's 13 substances. Whereas right now, there are over 85,000 different dietary supplement products on the market. So that's a big distinction to make and the other thing is I did think that it was very interesting that people would go automatically to pills.

Because actually vitamins are substances that are found naturally in our environment. Whether they're in foods, most of them are in foods or in the case of vitamin D, it's a substance we can make in response and with the help of sunlight. So it's very interesting to me in terms of the effect that the supplement industry and how the way we think about these things that we actually now use the word vitamin to refer to so much more.

[00:06:25.7] JB: Yeah and I find it fascinating in your book that you go through the history.

[00:06:29.3] CP: Yeah, I really like to understand the sources of beliefs and where things come from and so I went very deep into trying to figure out how we actually discover these things called vitamins and not just how we discovered them like an X marks the vitamin C or something, but how do we have this whole process of coming to realize that you could have an invisible substance that can cause a serious disease or death when you don't have it instead of when you do have it. Because like a germ makes you sick when you have an exposure to it but vitamins will make you sick if you don't have them.

[00:07:04.7] AS: And I think that's important, for the listeners listening, and I was exactly like you. I had lumped vitamins and supplements all into the same categories but vitamin deficiencies, if we don't have them, are actually something that can kill us.

[00:07:18.1] CP: Yes and it's fine because people will ask me things like, "Well do we need vitamins?" And they're obviously talking about pills and multivitamins and things like that but I'm

like, “Well yes, we need vitamins. That’s the whole point, when you don’t have these substances, you’ll die.”

[00:07:32.7] JB: That’s why we don’t have certain diseases anymore. That’s really how certain vitamins came to be understood was through disease.

[00:07:37.9] CP: Right, it was through disease and another interesting revelation I had during the process of writing the book is the idea that you could never eradicate these diseases. You can’t get a vaccine against a deficiency disease because you have to be continuously be eating or exposing yourself to these substances throughout your lifetime and anytime you don’t have access to them for a certain period of time, you’ll actually get sick. So there will always be a concern, well, luckily for Juliet we will never not be old to not think of nutrition.

[00:08:05.9] JB: And Ali, yeah.

[00:08:07.2] CP: Yeah, and Ali.

[00:08:08.3] JB: Just in the past year I have seen a lot of controversy around vitamins and pill form vitamins and how there are certain research stating that you’re not actually absorbing certain vitamins that you’re taking and you really should be getting them through food. So I think it’s been confusing for a lot of people and I found that my clients have asked me, “Should I be taking a multivitamin?” Or I got a lot of those questions like, “Should I just be trying to eat food?” It’s one of those things that if you’re not eating the perfect balance of food, where does that leave you and I’d love to hear your thoughts on that.

[00:08:42.5] CP: Yeah, it’s a very important question to ask and I think the first things I say and there’s many things to say about it but the first thing I think that’s interesting is when people ask “should I take a multivitamin?”, we should really be starting with a different question which is “what are you eating, what am I eating?” Because you can’t say, I can’t just go to a stranger in the street and say, “Oh yeah, you should take a multivitamin,” you shouldn’t.

You don’t actually know what they’re consuming so I tend to break people down into three groups when it comes to that. You’ve got people who are eating a very stereotypically good diet

like lots of kale and chard and spinach and all these stuff and basically, they're probably not just in terms of most of the vitamins but also in terms of all the other stuff that's in those foods that we don't know that much about it.

So a lot of the phyto chemicals, which means plant chemicals, that you hear a lot about in health magazines like lycopene and stuff like that. Then you have a category of people who have such poor diets that they actually are really not getting enough vitamins and they actually probably could benefit from a multivitamin although I'd probably say you should change your diet first and then the category that I didn't really think of before we search in this book is this big middle ground of Americans.

I'd probably say it's most of us, we eat a fair number of processed foods that have been fortified with synthetic vitamins. So things like breakfast cereal for example is a great or breads that are made with enriched flour or sport drinks or sports bars that have lots of stuff added to them, in that case oddly, we're actually probably totally fine in terms of vitamins but we might not be getting or we probably are not getting all the other stuff that occurs in foods that naturally contain vitamins.

So for example, if you have a vitamin C tablet that is the same form of vitamin C that's it's in an orange but if you were to examine what else is in the orange, then there'll be all sorts of other chemicals in there versus a vitamin C tablet will just be C. This is a very long winded answer I'm giving you now, but basically...

[00:10:31.8] JB: Yeah but then it's like, "Is the C all we need?" Someone could just say very basically, "Okay, well I don't really like oranges so I'll just eat the C tablet."

[00:10:41.1] CP: Well yeah so that's the other thing. Vitamins are essentials we were just talking about for life, the reason being that they help with all of these chemical reactions in our bodies that are essential for keeping us alive and we need the continuous supply of vitamins to keep these reactions going. So you probably don't need lycopene in the same way that you need vitamin C and I think that's an important distinction to make because if you are taking a vitamin because you actually need the vitamin, it's almost like you're taking it as a drug in a way because you're correcting a medical deficiency, if that makes sense.

But if I don't get lycopene and you probably don't notice as much, if I don't have vitamin C I'll get scurvy. So if I were to have some kind of medical condition that prevented me from absorbing vitamin C, then I would be at risk of scurvy and then I would need to take vitamin C as a tablet as a medicine to prevent that disease. Yeah, go ahead.

[00:11:32.7] JB: Through the research in this book, did you discover that there are any particular vitamin deficiencies in this day and age?

[00:11:40.6] CP: Well there are plenty depending on where you are on the world and what you're status is I guess. For example vitamin A deficiency is a huge problem elsewhere in world something between 250,000 and 500,000 kids are going blind a year because of vitamin A deficiency and many of those children will die because we now know that vitamin A is essential for our immune systems. So not only can it make your eyes basically the cornea disintegrates, it's really horrible but it also will damage your immune system to the point that you're extremely vulnerable to all sorts of other conditions.

And in terms of the United States, it really depends on what your access to food is. We don't have these widespread deficiency diseases like scurvy or rickets which is vitamin D or blindness or death from vitamin A but at the same time, I don't think you need to spend too much time looking around to see that are our diets are not that great. So there are both people who might be deficient because of what they're eating and there are also certain lifestyle choices or medical conditions that it can cause you to be deficient in a vitamin such as being vegan and not adequately getting enough B12 which is only found in animal products.

Or having Crohn's disease or some kind of digestive problem when you're not absorbing nutrients or being over 50 to 70 I would say when vitamin B12 becomes a lot more difficult to absorb. So you might actually not be able to get enough even if you are eating a good diet so things like that.

[00:13:04.7] AS: Well what I think is really interesting even if we take vitamin D for example, there is this big controversy of what causes skin cancer, right? Because it's not just staying out in the sun and we know we need the sun but there are also theories that it's actually the sun

screen that's causing sometimes an increase risk and whatnot but one of the big problems is that people can absorb the sun that much anymore because they don't have the antioxidants from foods.

I did an NBC segment on this several years ago that our skin because we're not out in the sun as much anymore because we're all in offices or whatnot but also we aren't eating the foods that will help us actually convert the sun that causes more burns. So that's also interesting and what I loved about your book and talking about we should be getting our vitamins from food is what's not there? As much as we love science, Juliet you and I are all big science people, you also have to hold the reality that science is this unfolding process.

It's never ending and I love that you are talking about it with foods, in your book you talk about for a while we didn't know about vitamins and then we didn't know about antioxidants and then we didn't know about minerals and what are we going to discover in a 100 years that we don't know about now? And so I think in the book how you dissected that, it just made it so important that we don't want to look at supplementing vitamins as the ultimate answer. It should come from our food.

[00:14:30.7] CP: Right and I think the important point that you're pointing out is that there is just so much that we don't know and that nutrition is an evolving science and that we really want to think that our concrete answer, "Should I take a multivitamin? What should I eat? What is my specific recipe to a perfect health?" and we actually don't know all the answers yet and as you were suggesting like I thought it was interesting that you can use the story of vitamins which to us seems so obvious.

As a kind of cautionary tale about how we should think about ourselves now because the word vitamin was only coined in 1912. This is a very new discovery actually. So if you think about how crazy it seems to us that people didn't know about vitamins in the early 20th century, then you have to think what about nutrition do we not know and there's just so much stuff that we don't know.

[00:15:17.0] JB: So scary.

[00:15:17.9] AS: I love when you say in the book, “Vitamins teach us about ourselves, about our hopes, about our fears and about our desperate desire for control,” and you talk about it with such a great lens about our current approach in nutrition. You said, “It’s a perfectionist attitude that simultaneously misguided and fantastically naïve”. I love that.

[00:15:39.1] CP: I’m glad. No, I think it’s really the way we approach food is so weird and so you guys know that we just want control but we want to have control and we want to think that there are answers and if we can just follow these particular rules ideally like three maybe then we’ll be on our way and I think it’s also really difficult with the media because as anyone who picks up a house magazine or even a newspaper, there’s nutritional headlines all the time.

People tend to want to change their diets based on what that headline is in a way that you never would if it was a new discovery about a planet right? That’s hypothetically interesting but I am not going to change what I’m eating for breakfast based on that but then you open a magazine, you find out that supposedly blueberries are going steam off Alzheimer’s or whatever and you are spending your paycheck on organic berries.

[00:16:27.4] JB: That’s so true.

[00:16:27.8] AS: And they will cost you. Organic blueberries will cost you a paycheck.

[00:16:31.6] CP: Yes, exactly.

[00:16:33.6] JB: I know I’m thinking back to some of the most stressed out people I have known in my life and they were the ones that took 12 pills, just different supplements and vitamins a day. They were shovelling them in their mouth and I’m like, “Are you better or do you feel good?” and they’re the ones that are usually sick, really stressed, not to correlate the two things but that whole idea of control. I’m doing this to feel like I have it all together.

[00:17:00.1] CP: Yeah and it’s also interesting, that’s often the same people who got handfuls of supplements who would never do that with drugs. So they might even be resistant to taking the pharmaceutical drug out of principal but then they’re perfectly willing to take 17 pills that they’ve gotten at whole foods and just pop them all and the worst that could happen is nothing.

[00:17:18.3] JB: Can we talk about that a little bit because you did so much research on the regulation behind a lot of these vitamins and supplements and I think that that to me was the most fascinating part about this all is the lack of regulation really with everything.

[00:17:32.9] AS: And I think we do need to just for the listener, again supplements we're not talking about vitamins. We're talking about weight protein, we're talking about probiotics, we're talking about ginkgo biloba or all of the fat burning CLA's, that's what we're talking about. So I think it's important to realize because supplement means supplementing not about the deficiency. So I just wanted to clarify that.

[00:17:56.9] CP: Yeah, that's a great clarification and then going back to the idea of giving historical context is probably worth pointing out how we got to that point which is that when vitamins were discovered in the 1910's, 20's and 30's basically, the word was just made up by this Polish biochemist who didn't actually end up isolating any vitamin but this guy Kazimierz Funk came up with the word. It's a mash up of the Latin word for life which is Vita and then Amina is the chemical structure and he was just guessing that all of these substances that prevented deficiency diseases would end up being chemically similar to one another.

They ended up not being similar to one another. They actually are really very different from one another. His contemporary didn't like the term vitamin. They had ideas like food hormone or food accessory factor, all these very non-catchy words to call these things and what happened was that the problem...

[00:18:50.1] JB: I still like food accessory.

[00:18:51.4] CP: I know, food accessory factor, it's like even worse. I would like to say you'd never had Flintstone's food accessory factor being a thing, but anyways, some of these biochemist actually wrote for the public press like for the woman's magazine. So the public began to become aware of these word vitamin and food marketers picked up on it. So even as the nutritional chemist themselves hadn't discovered all the vitamins were arguing about what to call them, you have the public becoming aware that there are these substances in foods that

you need in tiny amounts invisible and immeasurable amounts at that point that will make the difference between sickness and health. So this becomes a marketing phenomenon.

Meanwhile the chemist eventually give up and they decide they're going to chop the E off the end because it used to be "Vitamine" with an E on the end and combine it with the letters because some other people in one of the other set of word theories described it and began to call them like a fat soluble A or water soluble B. So that's how we ended up getting the Vitamin A, B, C.

But anyway, food companies that vary into these term, and as it began to become possible to make synthetic versions of vitamins. You began to have early supplement makers who are making vitamin pills and that starts to take off. Then in the 60's and 70's, you begin to have this real interest in this natural solutions, natural food things that begins to explode and the supplement industry, which at that point was mostly vitamins, begins to expand into more things.

But basically to fast forward, what you end up happening is that you have all of these non-pharmaceutical pill people or supplement manufacturers who want to get laws passed that will basically remove nearly any ability to police them and they managed to get the public to support their efforts to pass a series of pretty crazy laws, taking the FDA's ability to firmly regulate these substances and the way they do it in a large part is the use of the word vitamin to refer not just the 13 substances that we've been talking about.

But to refer to this much broader category of stuff that today, as Ali was saying, includes everything from vitamins and minerals to botanicals like herbal things, ginkgo baloba or St. John's Work, body building powders, sexual enhancement products, weight loss concoctions, sports bars can even sometimes be consider that, teas, amino acids, ground up glands and organs. It really becomes crazy.

[00:21:18.3] JB: That shit show basically.

[00:21:19.7] CP: Yeah, if you go onto the GNC website or The Vitamin Shope which is a funny name for something that has 18,000 products with 13 vitamins.

[00:21:27.9] JB: But it sounds good.

[00:21:28.6] CP: It sounds good, yeah and it's shocked with an E isn't it? It's like old timey with vitamins, shoppy but you go on there and you get some of those products and if you actually think about how that could possibly be considered something that would be in the vitamin shop. The one that always comes to mind to me is this product called Black Widow Extreme Energizer or like some multi core cellular Xtreme. There's lots of extremes that is just spelled Xtreme.

[00:21:56.5] JB: And they're usually for weight lifting, for workouts like pre workouts and stuff?

[00:22:01.5] CP: Yeah, for weight loss. It's to make you bigger or smaller or sexier and if you actually think about it, objectively you're like, "How the hell is that called a vitamin?" And you could see that if you are going to your local Rite Aid, at the drug store and you look at the aisle where the supplements are and you will probably see vitamins and if you look down the aisle, you will realize that's not just vitamins. That is all sorts of stuff.

So anyway, getting to our point about how they are regulated now, the FDA, thanks to this law passed in 1994 with the help of consumers like us, they cannot acquire a supplement manufacturers to test their products for safety or for efficacy before they sell them and that is truly crazy. So you can come up with a product and sell it on the market and unlike a pharmaceutical over the counter drug, you don't need to have any evidence proactively given to the FDA to demonstrate that it is actually safe or that it does what it says.

[00:22:55.1] JB: So not only... Go ahead Ali.

[00:22:57.3] AS: But basically, the commissioner of the FDA said that the supplement industry is basically a Charlatan's dream.

[00:23:04.2] CP: Yes, that was his quote. He usually said it's a charlatan's and it is. It really is. It's really scary to realize how it's a wild west.

[00:23:13.5] AS: Yeah and you said which I think is really interesting for people to know is that back in the day like opium, cocaine, morphine and heroin were allowed to be added to supplements as long as they were mentioned.

[00:23:25.1] CP: Or the medicines, that was just medicines. Yeah, those were medicines so this is actually a good point if you talk about how we got to where we are. In the late 1800's there was all these crazy stuff being sold as medicines. All the patent medicines you hear about and a lot of those they're like baby cough syrups and the reason they help soothe the baby is because they have morphine in them so that is a big problem and it was because of things like that and some of the disasters that ensued that we ended up with a process for pharmaceutical drugs to be approved but that didn't happen for the supplements.

[00:23:57.4] JB: I was going to say, yeah you can have supplements that probably have nothing in them, right? There might really be not even what they're saying is in them. It could just be sugar, salt, whatever and then you could have products that have a lot of stuff in them that they don't list because they're in the factory and things just get in there. I know mercury, lead.

[00:24:21.1] CP: And it goes beyond that too. You can have very unscrupulous supplement makers who actually put analogs for prescription drugs into the supplements.

[00:24:30.2] JB: That is so scary.

[00:24:31.0] CP: It's terrifying. So the biggest culprits there are the body building, sexual enhancement and weight loss products. The US anti-doping agency has to issue, they have a page called supplements 411 that's attempting to tell athletes you have to be careful because you can take something that's completely legal that you think is one thing and it actually may have steroids in it and may have illegal substances and you can actually ruin your chances of competition because you'll test positive for drug tests.

My favorite example of that is an analytical chemist I interviewed, I think I mentioned this in the book. He was trying to do some test on a supposed sexual enhancement herbal product and he did so by breaking apart a couple of capsules and then analyzing the mixture of those powders

but he opened one of the capsules and in the corner of a Viagra fell out like an actual Viagra. Yeah with the V on it and he's like, "Well, I don't really need to and not too hard to analyze that one." So people really need to be careful with these things. It's not just that they could be innocuous and just have nothing in them. It's that they can have very dangerous substances in them.

[00:25:38.2] AS: I love how you mentioned that they can just slap any kind of label like "scientifically proven" or "done in clinical trials" or "all natural" that my favorite. But that doesn't have to mean anything, they don't have to back that up and I think that's important for people listening. There's nothing substantial about those claims.

[00:25:59.5] CP: And also to recognize, just as realizing the absurdity of calling some of these products vitamins. If you start to look at some of the claims on this labels say like salt palm meadow to support prostate health and you look at it and then recognize that they're not technically allowed to claim that any of these products, that any supplements can cure, prevent, mitigate or prevent any disease. So they can't say something like "it prevents urinary incontinence" but they can say "it supports urinary health" right? Supports, it supports, it's very supportive.

[00:26:35.4] JB: I like being supported.

[00:26:36.9] CP: I know right? Yeah, exactly it's like a hug like a good hug but then you look at it, there's always this disclaimer. It says "This statement has not been approved by the FDA," right? And that is a political work around in some backroom deal when this bill was passed and made into law in 1994. What I was talking about is basically the FDA is like, "You can't say that it can cure or prevent etcetera because that's a drug claim. But okay, we'll just let you say this thing that means exactly the same thing as long as you put this little disclaimer on the bottom."

People need to recognize that's just plains of words like would you be buying that product if you didn't think it was going to prevent something? And that gets to a bigger point that I think people often lose. We were touching on it before but to ask yourself why are you taking these things. It's probably not because of nutrition in most cases. It's certainly not for nutrition in the case of something like saw palmetto oil or St. John's Wart or whatever.

You're talking that because you want it to cure, prevent or treat something and that means you're taking it as a drug and you should have the same caution that you would have if you were taking a drug.

[00:27:44.9] AS: Yeah and I think another really fascinating philosophical point that I took from the book was there can also be an excess of stuff right? Just because something is natural which does not necessarily mean it's safe. I remember, I have to get MRI's every year from just to screen for secondary cancers for my radiation and I was trying to scale back on them because they put Gallium in the MRI and I called the woman to be like, "Well what is this?" She's like, "Well, it's natural." So I don't know, I was like radon is natural but it does not mean the same.

[00:28:18.4] CP: Uranium is also natural, right and I think that's really a dangerous word again that we're just like, "Oh it exists naturally. It must be fine".

[00:28:27.4] AS: Yeah but just because something is natural, you can have an excess of it and you bring this up in the book about wait, nature has this brilliant balance that we don't know. We have no idea why or that it works but having an excess of supplements or even vitamins, that can be as equally as dangerous and I think a lot of people will take a multi or take B12 as an insurance policy. "Okay, I know it's not going to cure anything, maybe I'm not taking it for this but it's just in case." But it really got me to think, your book about it, I don't take a multi but like, "Wow should we really be so cavalier about excess just as a safety insurance policy?"

[00:29:07.2] JB: Yeah and don't you talk about the RDA, the recommended daily allowances being sort of arbitrary?

[00:29:13.6] CP: Yeah, the RDA's are not, I wouldn't say arbitrary but they are educated guesses and the other important thing for people to realize about that is that there's no personalized, each have personal requirements that are different for people and it's impossible to come up with a recommendation that would fit each person perfectly to their needs but the RDA is meant to be basically if you're designing the old school district and you want to make sure that those meals you're providing are enough of certain nutrients.

So that 97% of those kids will not be at risk for deficiency that it will meet the needs of 97% of those kids, that's what those are for. It's not to say that, "Oh Ali on your plate tonight, you should have whatever milligrams of Vitamin C." There's many issues with the RDA and I could get into that but I think that we really do end up thinking about it as an insurance policy in a way that again, doesn't really stand up to reason if you actually think about it.

Juliet's heard me say this before but I think of it as like we're taking out insurance for the wrong kind of disaster because so many of our foods are fortified with vitamins that, as we were talking about before, if you are eating a lot of processed foods, you really probably are fighting on vitamins. So you are taking about out of policy against the floods but you're actually risk of fire because there's other things that are missing from your diet, you know?

[00:30:28.4] JB: And then you had said something in a talk that I saw you talk recently and you said, "If somebody wanted to declare war on us, they can just stop fortifying our food because a lot of it comes from overseas." I'm like, "Oh that's scary." I don't eat processed food really but a lot of people do so that would cause disease again.

[00:30:47.8] CP: Right that I thought that's also fascinating is to think that we need synthetic vitamins. It's not like these are bad things. They're preventing countless incidents of deficiency diseases and what's more, I don't think our modern food supply could have developed without synthetic vitamins because if you think about it, if you have foods that naturally contain vitamins like a melon, right? It can't travel far distances and sit on a shelf for five months like a box of breakfast cereal can.

You would not be able to have the food supply that we have without vitamins and what Juliet is talking about is the actual vitamins themselves. The chemical substances are produced in plants that are mostly overseas. America does not have any vitamin making facilities. We package vitamins and mix up the products and make pills and stuff here but we don't actually make those chemicals and so I don't think this will actually happen but as I was saying in that talk, it's like, "Okay, technically if you really want to bury the city for warfare, you could cut off our supply of synthetic vitamins and just sit back and just wait for us to eat ourselves into scurvy." It's a long term view there but it is pretty crazy to think about.

[00:31:58.8] JB: Yeah, let's not give anyone ideas maybe we should edit this part out.

[00:32:04.6] CP: Do not listen to this.

[00:32:06.0] AS: Well and I think it speaks to the importance of again and this is why I love this book is it's like look, vitamins put this idea that there's a magic bullet to nutrition. That there's a guarantee. But we have to work in concert with the environment and that is actually the only solution and it's really about food. I found it even interesting, I'm kind of going back to the beginning of the book but you're talking about we're trying to standardize how much vitamins we get.

But every week that you go to the farmer's market and get kale, that kale has different vitamins in it every week based on the soil, the sun, the rain. Everything is much more magical really than we give it credit for and to try to then standardize something like that, it's just...

[00:32:51.8] JB: And our bodies are incredible to be able to take that Kale one week and take Kale the next week and utilize the vitamins and the minerals and the phytochemicals.

[00:33:02.8] AS: And everything else we don't know yet.

[00:33:04.7] JB: Yeah and for us to find this place of homeostasis within the body.

[00:33:07.3] CP: Right, it's true. Yeah that our body is really homeostasis. It is very interesting and yeah, I got very into plants during the research of this book because I had questions like I want to know how a strawberry became a strawberry? And so I called a plant physiologist and they'd say, "Well because it has genes to make it a strawberry just like a person," and I was like, "Okay, I guess that makes sense but isn't it crazy?" They thought it was so weird but anyway, like plants grown in different conditions will have different characteristics like you're saying.

So I think that there is really something magical about how that, I mean you could use the word magic or nature or whatever but I think our issue is that we really want to pin things down. We want to try and understand and break this into a mathematical equation for nutrition and health

but not recognizing that there's too many variables at play here and we don't even know what those variables are and we don't know how they interact with each other.

So it's a multi variable equation that we can't solve except that the easiest way to solve it is to just not try to solve it, if that makes sense. We know what we need to do, we need to eat a wide variety of foods that naturally contain a lot of nutrients and as you guys have been saying, our bodies have evolved to function well with nutrients at the level that they are found in foods.

[00:34:22.1] AS: Yeah, I think it comes down to valuing awe and mystery. If we could look at this like, "Wow, look at what happens," rather than being afraid of what we don't understand. I think that's where a lot of the control. I joke people who don't have religion buy nutrition and I think it's because they're like, "All right, I'm going to have the path of to never die," and it's like no, none of us have all the answers and rather than being in awe that we're so miraculous and it all still works even though we know one tenth of one percent that is to know but that's whole other...

[00:34:55.8] CP: Well, no I totally agree. That's where I got philosophical too. It's lie, "Oh yeah, we need to identify ourselves by what we eat. So we're vegans or we're paleo or vegan after six," or whatever in a very interesting way that I think is specific to Americans.

[00:35:08.9] JB: It's like tribal. We are trying to find tribes of people that we can connect with.

[00:35:12.4] CP: Yes, exactly and understand you and then also for people who don't have religion I think actually even if you are religious, there is something about food that carries its own sense of religiosity like you say you want to have control on immortality but I guess what I came away with is that yeah, it's actually really simple. We need to eat a wide variety of foods, the whole eat your colors is really true and then in terms of what we're talking about when you should supplement, you should look at your diet and like any particular health issues you yourself have.

And then you might actually need to supplement but again, that's more of a medical thing than a nutritional thing if that makes sense? So it's like there's a nutrition aspect and then there is actually adding things that you need because of a medical condition.

[00:36:00.0] **AS:** Yeah, even though I have healed my gut it's still sensitive. I take probiotics as a supplement because it's healthy but it's also something that isn't the strongest part of me and I know I'm not going to be eating sauerkraut and kimchi every day. I also have to accept that, I'm humble, I mean I'm human.

[00:36:22.1] **CP:** Yeah, I went through a phase of sauerkraut every day but that didn't last very long.

[00:36:25.3] **AS:** I didn't know.

[00:36:25.7] **CP:** A very strange phase.

[00:36:28.8] **JB:** That's a weird thing to crave all the time.

[00:36:30.3] **CP:** Yeah.

[00:36:30.6] **AS:** So do you take any, I'm curious what Juliet and you Catherine, do you guys take any supplements or vitamins?

[00:36:38.8] **CP:** Do I go first Juliet?

[00:36:40.2] **JB:** Sure, I take zero supplements and vitamins right now. I've gone through phases where I'll take vitamin D and that was because I did get blood test and it said that my vitamin D was borderline low so I tried to build that back up and the only other thing that I've gone through phases of taking are fish oil because I know that sometimes I don't get enough fish in my diet but currently, I'm trying to eat fish at least twice a week, actually more like three times a week so I feel like I am getting enough fish oil.

I am trying to think — no, not really probiotics, only in relationship to if I'm trying to heal my gut from something. If I had to take an antibiotic, I would definitely make sure that I was taking probiotics but no, I don't take anything regularly.

[00:37:27.4] CP: Yeah, for me right now I'm taking vitamin D because I am not good, I mean I don't like being in the sun and as we were talking before I do wear sunblock. I do tend to cover up and I'm a freelance writer, I'm like living in a cave so I do take D and that is actually a good example of a vitamin trend that actually does have science behind it but that's a whole other subject that we could get into. D is fascinating but...

[00:37:54.2] AS: Because it's really a pre-hormone. We call it a vitamin but it's actually really important metabolic function, so it straddles that line.

[00:38:02.2] CP: Right and it's really not to be meant to be gotten in food because it's really in very few foods naturally. It's like fish liver oil is the best source of it but when you look at vitamin D in your milk or your orange juice or something, that's a synthetic addition.

[00:38:16.4] JB: So are you not getting vitamin D from a grass fed cow that is consuming the grass as the sun is hitting the grass?

[00:38:24.1] CP: Not really because it doesn't pass through that much into milk. For example, one category of people who really should think about supplementing with D or mothers who are breastfeeding who they should think that they should be giving D to their babies, they probably should because not much D gets through your breastmilk. So I just think it's so interesting to look at that and think that must mean evolutionarily we are meant to be in the sun more.

And there are some theories that skin color, getting paler as you go further north, that might be related to vitamin D because the more pigment you have in your skin, the less D you'll be able to make. So when you look at Norway or something and blond maybe and that might actually have to do in part with vitamin D so yeah.

[00:39:05.7] AS: It is because I remember taking a course in college about how race is totally and socially is constructed and how we all have these different percentages of pigment in our skin and it's just an evolutionary, to your point like the, people who've travelled further away from the sun, their bodies are adapted and I feel like the D, it's brings back to the philosophical reality that we need to be in our environment and nature. So much research is coming out about how your blood pressure goes down when you're in nature than inside.

Again, it reinforces that inner dependence on our environment the same way that we need to eat in harmony with the food and seasonally. It's a theme.

[00:39:47.1] CP: Yeah, I was just joking with my husband. We were in an airport in North Carolina this weekend. It's like an airport that's not really a natural place but they have this wall of water by the TSA checkpoint with little pebbles behind it and I was just staring at this wall of water and was totally in trance. I actually was saying this proves that point, that there is something about natural looking at that like I look at the bathroom they had pebbles embedded in the woman's room door and I was like, "Oh this is so calming".

[00:40:12.1] AS: Yeah and some of the research studies are fascinating about people on hospitals. Even if they look at a picture of nature, they heal faster than people who look at a brick wall. It's only a picture.

[00:40:25.0] CP: And that's another one of those things where you're like now do we need to try to dissect that to think about how many minutes a day you have to look at that picture of a tree or do we just say, "Oh it's helpful to be around trees, " and it's a smooth diet. We should just spend more time with the trees? That would be good.

[00:40:39.3] AS: Exactly.

[00:40:39.9] JB: I think that is an important take away here is for people to stop over analyzing everything and trying to figure out the exact amount or number. Sometimes that applies but it really doesn't in this case.

[00:40:53.6] CP: Yeah, it's very true and I am just thinking of so many examples of getting a hug from someone makes you feel good, what number of hugs do you need?

[00:41:02.8] JB: 20 seconds.

[00:41:03.5] CP: Yeah versus we're into something...

[00:41:04.9] **JB:** No really, I read that but I have no idea.

[00:41:06.8] **AS:** So if someone lets go, no come back here.

[00:41:09.9] **JB:** As a joke, Mackie and I will hug and will count to 20 and be like oxitose and release.

[00:41:17.6] **AS:** I wonder if it negates it though?

[00:41:21.3] **JB:** You'd just see it, yeah.

[00:41:22.6] **CP:** Or like some weirdly long hug and then it's just that goes somewhere like 19.5 seconds but again, this is an interesting point. This is a great analogy guys because if you think about it, some people's creepy hug might be someone else's happy hug you know? We all have different levels of hug tolerance and needs.

[00:41:41.9] **AS:** Yeah, I know you're right. What's a creepy dose versus.

[00:41:45.3] **CP:** Right and you won't say that the person is creepy is higher than your creepy so you're like, "Oh this is really awkward," Or like even a handshake or they won't let go and you're like, "Okay?" but anyway, we all are different. We don't need to stress with that.

[00:41:57.6] **AS:** I know this is a whole other podcast but I just feel like all these devices today.

[00:42:03.6] **JB:** Biohacking.

[00:42:05.0] **AS:** But so many of them aren't even useful because we don't even know what they're measuring and Catherine, I know that you're type one diabetic. I was at a medical innovation conference and I forget what, it was one of the devices and I said, and I raised my hand I'm like, "What are you guys measuring?" Because I found that everyone responds to, like we were talking about diabetics and I am a type two diabetic but I think it will probably apply for type one as well.

I was like, “Do you know what levers push stress for which stress?” and the guy’s like, “No, it’s wild.” When you actually look at the data, some people sleep since their blood sugar and it tails like the lack of sleep. For other people, it’s exercise. For other people, it’s emotional stress. For other people, their food is more important and so I feel like especially for weight loss tracking devices like My Fitness Pal or all this stuff, are people even tracking things that really are moving the needle? But they think, “Oh but I’m tracking it so”...

[00:43:01.2] JB: And Catherine when she was just like, “Yeah Juliet and I talk about blood sugar all the time. That’s something that she and I talk about is that one day it could be sleep, one day it could be hormonal, one day it could be the exercise causes the blood sugar swing. Today, I had hypoglycemia, today I had a crazy low blood sugar where I had to have someone at flywheel run and get me some food or I wasn’t going to be able to teach the 12:30 class.

I got so dizzy and low, thank God I got some oats and some fruit and I was good to go but I wasn’t expecting that today. It was a normal day, maybe it’s because I got a little less sleep last night than I normally do or who knows, you know?

[00:43:38.9] CP: Right.

[00:43:40.0] AS: But the important thing is that you have the intuitive knowing. That’s why I always tell my clients to develop their intuition because you didn’t know what was going to happen but you have the intuitive knowing that I need oats and something.

[00:43:49.2] JB: Yeah, it’s like, “Oh my blood sugar is really low right now. Someone needs to take care of me help! Or you’re going to be teaching this class”.

[00:43:57.9] AS: But I think those tracking devices sometimes interfere with our intuitive knowing, they’re are not tracking the right thing.

[00:44:03.9] JB: I hate that Mackie wears that fit every night for his sleep. I mean it. Yes because he shows you the trends, six hours, six hours and 12 minutes, five hours and 57 minutes and it’s super stressful to look at even for the same boat of being his partner. I’m stressed for you, I feel bad for you, we’re not getting enough sleep you know?

[00:44:23.2] **CP:** Yeah, you're like, "All those numbers are still too love."

[00:44:25.4] **JB:** They're awful.

[00:44:26.0] **CP:** You'll particularly hear it whether it's five hours and 57 minutes.

[00:44:27.8] **JB:** If you just let yourself sleep, ignorance is bliss sometimes, you're getting more stressed out looking at those number.

[00:44:35.4] **AS:** It is. I will say though we had a client, he was fascinating. He went 21 days without alcohol and on the 10th day, he was measuring the quality of his sleep and his sleep got so deep without alcohol. So that's when it's though helpful, right? Not to track every night but wow, what are the real consequences of this drink?

[00:44:57.5] **JB:** Well that's the thing with tracking. I like to use tracking for people as something in the interim. I don't think you should be doing it every day for the rest of your life. It should really be something to open your eyes to what's going to make you feel better, just bring awareness to what you're doing.

[00:45:16.3] **CP:** And it also can actually create behavior change. You guys may have heard of the Hawthorn Effect which is basically if you're paying attention to something like when weight loss studied this as an issue because once people start writing down what they eat, then they're going to start eating different way and they'll change. So it either messes up a study or it's a good intervention itself to just have people track but yeah, I completely agree and with type one diabetes, I have a continuous glucose monitor. It gives me my blood sugar and basically real time.

In some ways it's wonderful because I do need that information to stay healthy and stay alive but it also can be totally oppressive and just too much information or make me act too quickly and then get myself in a dangerous situation. So nothing to do with vitamins but yeah, I think that's an interesting discussion.

[00:46:00.1] **AS:** Well I think that vitamins again illuminate the lens of control and so do tracking devices. So you take it back to the vitamins that you said.

[00:46:07.4] **CP:** Oh right, so vitamin D. I do think vitamin D, I do take fish oil when I can remember to actually buy it. It's so expensive.

[00:46:14.5] **JB:** It's expensive and the pills are so big, why can't they make it smaller? I love vitamin D pills, they're so tiny.

[00:46:21.4] **CP:** they're so tiny and there actually is an issue in the industry with fish oil. It's called fishy after burps.

[00:46:26.4] **JB:** Yeah, the fish burps.

[00:46:27.2] **CP:** Fishy, yeah but I found some brands that don't do this as much. One made from algae oil that fits much but anyway, I do take that.

[00:46:35.9] **JB:** Is that vegan though, the one that's algae?

[00:46:38.6] **CP:** I guess it depends when you think of algae as an animal, it's a plant.

[00:46:42.1] **JB:** I wonder for the vegans out there because sometimes I do get that question, what can I take that's going to get instead of fish oil.

[00:46:49.3] **CP:** Yeah, I think so because they use a gel for the capsule that's not animal based. It's called Ovega 3.

[00:46:56.1] **JB:** I think that's the one, yeah that is for vegan.

[00:46:58.5] **AS:** If they're telling you the truth.

[00:47:00.8] **CP:** I've actually been to their production, I went through a whole algae oil research thing in a different article but yeah, that one is good. I like that one but anyway, I take

that sometimes. I've also done some research about thiamine and diabetes that I don't remember enough details to make myself to go intelligent on this but it was convincing enough in terms of people with diabetes metabolism thiamine which is B1 differently from other people that I do take extra thiamine but I think that that's it in terms of supplements.

[00:47:28.5] AS: And what do you do in terms of, since you're the expert like I order from Metagenics because I can also get a discount and I trust their quality and for anyone who cares that's listening, I take D3 because I'm not out in the sun enough and then I do take probiotics but that's about it. I take fish oil when I remember because I just feel like that's my insurance policy in my mind because life is so inflammatory and even though I say, "Hey, I can't control the air pollution".

[00:47:55.7] JB: Are you just like, "I'm lubing up".

[00:47:57.8] AS: Yeah, well it's also good for brain health and I don't eat enough fish. I don't think so because also now, oh God, even though I buy one Alaskan fish, the radiation from the meltdown in Japan is coming over, I don't know, I feel like...

[00:48:15.4] JB: Everyone can drive I mean crazy with this thing.

[00:48:17.3] CP: As I say with into detail you guys, we're already doing what we just said we shouldn't do or like.

[00:48:21.4] AS: That's right but that's why fish oil, I trust Metagenics that they purify it as much as you can purify it but for listeners, how do you determine quality if they're at a drugstore? Is there good manufacturing from the GMP symbol or something else that you would recommend that that's a little bit more of a credible source?

[00:48:45.0] CP: Right, it's a tricky question which is depressing that it is so tricky because even though there are great manufacturing practices in place for the supplement industry now, there's still huge problems with it. So there's a couple of things you can look for, there are a couple of seals that companies can get by paying a third part company to analyze their product

to make sure it says what it claims it has. So the USP is one of them and then NSF is another one.

Those are both good to look for but be careful with the USP because some of those supplement companies actually use USP in their brand name and that's not actually indicating it's been tested. That's just marketing, so it must be USP verified is the seal. Now the thing to remember with that is that they're not testing the products for safety or for efficacy because no one is doing that but at least they are testing to see that they can team with their claim and then if you're really into supplements which hopefully you won't be after this podcast but if you are...

[00:49:39.8] AS: Or read the book. Read the book people.

[00:49:41.4] CP: Or read the book, yes, Vitamania: How Vitamins Revolutionize the Way We Think about Food.

[00:49:45.9] AS: And heavily targeted like hippie women at the whole food store until then they are taking away their chamomile and that's basically why it is regulated. That was like, "Oh my God" it's the same tactic, get people afraid, get them to vote against their interest and now we have no regulation.

[0:50:01.6] CP: It's true, that is actually an interesting point in terms of the politics of the regulation that the industry got consumers to support is they framed the issue of supplements as one of personal freedom and they basically said, "The government wants to take your freedom away and they want from taking your vitamins." Again, that was that word but they got people to write this letters that we're basically like really making a show of personal freedom. That, if we're ever trying to do some kind of manipulation of the public in the future, the three of us in addition to waging war by cutting out synthetic vitamins, that's like a sure fire way to convince a lot of Americans about something, we really care about personal freedom which makes sense and is very important.

We just have to be cautious about how that can be used to manipulate us, as you're saying Ali into doing things are totally against our self-interest. In the case of vitamins, I'm like, I don't feel

more free that I can't tell if a vitamin or supplement contains what it says it contains and then I don't know if it's safe. That doesn't make me feel free, it makes me feel scared.

[0:51:02.6] AS: Well that's my exact point with this freedom propaganda like how are you defining free? Much of the people who turn our "freedom" against us, it's so on the end, you don't have as much power because you can't make clear choices. I would never be a politician, I definitely don't have the ability to be a chameleon like that but I'd be like, well how are we defining freedom here people?

[0:51:29.3] CP: I know, you think way too hard.

[0:51:30.9] AS: I know.

[0:51:32.9] CP: Wait, I'm sorry, I forgot to say another big resource which is consumerlab.com is a website that is it's independent, its subscription based and that also tests products that are pulled off the shelves to make sure they contain what they claim. I like that one because they're not paid by the companies to do the testing. They also do like brand names like they'll actually show which brands they tested and they'll do a cost analysis, .o they'll say 10 multivitamin products and then they'll do like the cost per pill. You can tell which product is the highest quality and the cheapest.

[0:52:09.8] JB: That's how I ended up switching protein powders.

[0:52:12.1] CP: Oh really?

[0:52:12.3] JB: Yes, consumer lab, it is a subscription based website.

[0:52:17.8] AS: That's .com for those listening correct?

[0:52:19.5] JB: Yeah, I don't think you have to pay for like a certain amount of time if you just want to pay for the month or something and just look up everything at one time but I found that one of the protein powders that I was, that had a recall on it and it scared the shit out of me and I'm like okay, what protein powders didn't get recalled and what are in this powders?

[0:52:39.6] AS: So I'm curious because, to Catherine's point, you look for this signs and symbols right? To her point, it's not, it's just saying that what they're claiming is in there is in there, it's not proving that it's safe, that it's not dangerous, however you define that. Do you worry? Because Juliet, when we were talking about before we got on the line with Catherine, you were like, is whey protein powder and you know, in 30 years, going to be the opium, heroine, can we believe we ate that? Do you worry about that? Because protein powders freak me out.

[0:53:09.6] JB: I understand what you're saying, I think consumer lab helped me to feel a little better about this because the one that got recalled is because they did actually find traces of mercury and led in the protein.

[0:53:21.3] AS: But I'm not talking about even contamination, I'm talking about the protein powder itself.

[0:53:26.6] JB: I mean, I know exactly what's in it, the one that I'm eating. Is it excess? I mean, sometimes I worry if I eat too much chicken, it's going to be excess and so it's like one of those things you just have to go by how you feel. It's a food that makes me happy emotionally and physically. So I'm just going to keep at it, unless it didn't make me feel good.

[0:53:49.3] CP: I think it's about moderation too. Protein powder, I guess you could technically eat quite a lot of it. To me I think one of the good things about getting things in the natural form is that you'll never going to eat chicken to the point that you're going to truly overdose on protein, probably throw up.

[0:54:05.8] JB: Yeah, you also couldn't...

[0:54:07.9] CP: Your protein powder, you wouldn't want to...

[0:54:09.1] JB: Five scoops of protein powder.

[0:54:11.3] CP: Yeah. The only thing you're really eating I think has a natural stopping point in a way that taking it by a pill doesn't... one of the people who were trying to argue against this bill that got passed for the supplement industry, when they were testifying, they pulled out 16 cantaloupes or something like that and they basically were like, human being will never eat this many cantaloupes, you do not have to worry about anyone getting too much vitamin C or whatever from cantaloupes because your stomach would explode. But you can take three of these little tablets.

[0:54:40.0] JB: What about if you're juicing though? That's how these juice companies get you to feel excited about what you're having, this is five pounds of organic vegetables in one eight ounce bottle and you would never be able to eat this much kale or you know...

[0:54:55.0] AS: Your poops.

[0:54:57.8] CP: I know right? It's just so weird though. Yeah, I do think there's like a natural capacity for us to kind of... most of the time you're not going to eat enough of a food that you're going to then like actually OD on it.

[0:55:10.5] AS: Yeah, it's such an important point, it's like again, maybe because I'm like a naturalist and again I see all the points that it's true. If you stick with nature and simplify things, you will develop an intuitive sense, you don't need to overthink things. It just... your body will regulate, it's magical.

[0:55:30.2] CP: Another way it's like more — you could be very broad in what you eat, there was a term in the 20's by that same chemist too who was writing for a public audience and kind of actually helped vitamins get into the public world. He called it the protective diet and in his case, this guy Omar McCulin, he called it that because they really couldn't test foods for vitamins at that point and no one knew how much you needed. He just advised people to eat like a lot of leafy greens every day. He was from a dairy state so he's very into eggs and milk but basically, what we would now think of as a Michael Pollen type diet, just eat a wide variety of foods that are minimally processed and don't worry about the details and I think it's actually a really nice term for us to think of now. Eat a protective diet and by definition, that means don't eat

foods that you know are not going to be good for you which is basically like a lot of the refined and processed foods. Just avoid those...

[0:56:19.2] JB: Eat from nature.

[0:56:19.7] CP: Don't stress too much.

[0:56:22.1] AS: That's not sexy.

[0:56:24.6] CP: I know.

[0:56:25.9] AS: This again?

[0:56:27.2] CP: Even my publisher was like, trying to be... they're trying to make the idea, the take away of this book is basically like, you can get what you need from eating a wide variety of fruits, vegetables and minimally processed stuff and I was like, you kind of get kind of more philosophical to make it exciting. I think it's very exciting. I think...

[0:56:44.2] JB: I think it's so relieving, thank god.

[0:56:46.3] AS: Yeah, that's what I was saying about the book why I loved it so much was because it deconstructed how we — because there was so many aha I had about , I'm just kind of clumping supplements and vitamins together and I think they're healthy, why is that? You break down the pieces and take us backwards so that we can shift pretty quickly to say my god, I really do have to put the effort into fruits and vegetables and balancing our blood sugar, my favorite thing.

[0:57:14.0] CP: That's great to hear because I really was what I'd hoped people would take away from it is that it's not going to end with a prescription of exactly what to eat because that's not the point but I really want people to take a step back and ask like questions are assumptions that we don't even realize that we have and then I think once you start to look at this things with a more critical eye like we were talking about the difference between a vitamin and supplement right? How those got conflated or why we believed this things will have magical properties, then

you're able to have a more critical view towards them and call out hype when you see it in a way that you might not have before. So that was really what I was hoping people would get from taking a look at the history and we're like kind of reexamining how this things came to be.

[0:57:51.8] AS: It's wonderful, where can people find the book?

[0:57:55.9] CP: Hopefully wherever books are sold but that's basically Amazon so you can definitely find it on Amazon.

[0:58:00.6] JB: So true.

[0:58:01.3] AS: *Next book on how Amazon Became a Logistics Company.*

[0:58:04.7] CP: My god, you can also check out my websites which is Catherine-price.com or actually vitamianathebook.com will also get to that. I also just before we end, I just also realized we didn't touch on one more thing, I really like to remind people of just as a practical matter which is we were talking like people taking supplements for medical reasons and I just like to point out that their interactions, these substances can have with each other that could be really dangerous, either with prescription drugs or with each other.

So people really do need to tell their doctors what they're taking and don't assume that things are safe just because you got them in the supplement aisle. It's not true, not just because of the illegal drugs we were talking about being put into them but also because for example, St. John's ward, it can interfere with something like 50% or more of prescription drugs. If you're taking Saint John's Ward and you're taking birth control, it actually can make the birth control less effective which is...

[0:58:58.9] JB: Not only that but if you have a history of any type of mental illness, it can affect that and it can actually bring on manic episodes, depression. They're natural right?

[0:59:10.8] CP: Who would say that a poisonous mushroom isn't dangerous right? It's such a weird thing about the nature of things we've been talking about. Yeah, anyways, you got to be very careful of taking things. Again, think critically about it. Are you taking it because you don't

think it will do anything? No, you're obviously not taking it because it will do anything. If you're taking anything, thinking it will do something, you have to also anticipate it might be doing something bad like...

[0:59:32.9] JB: We didn't even get into the conversation about a lot of those weight loss supplements but the causes of heart attacks, death.

[0:59:38.1] CP: Right. Guys in the military who are going on this big marches and extreme heat having taken all this supplements and stimulants and stuff and then dropping dead at like 22 years old. It really can be very dangerous.

[0:59:51.3] AS: This is kind of what I think too about all this multi-level marketing companies that are selling supplements and shakes and again, to your point, people think they're going to do something, we talked in one of our episodes about how stresses the HPA axis which over long term is very stressful but I think people need to realize that people selling this stuff have no idea what's really interacting or it can be interacting with medications.

Just really, I love that you said that, that is so important, just because something's natural does not mean it's benign and that's great, yeah, you're taking it because you think it's going to do something.

[1:00:24.2] CP: Yeah, just know, Saint John's wort is very well known, there is so many that are not well known and just to point out, how to think about the supplement industry, it's not mom and pop like hippies in the backyard growing camomile like you're talking about, these are huge corporations, it's a 36 billion dollar a year industry and when I ask the head of one of the consumer, the industry groups about hey, you know all this problems with Saint John's wort, you know it can cause organ transplant failure because it interferes with rejection for anti-rejection drugs.

Shouldn't you put a warning on it? He basically said no, it's the FDA's job to require us to do that if... we don't have to basically try to put it off in the FDA. They don't want to take responsibility is what I'm saying, it's very much like not in the consumer's interest. Just be very careful with this stuff. It's like a depressing spot to end on.

[1:01:10.8] **AS:** No, are you kidding, it's empowering because again, people get overwhelmed with health and they think it's expensive, there aren't... don't get me wrong.

[1:01:17.8] **JB:** It is expensive if you're going to be buying all those supplements and you really don't need all those supplements.

[1:01:22.7] **AS:** Yeah.

[1:01:22.8] **JB:** Can save so much money.

[1:01:24.4] **AS:** So much about health is simplifying and I think if people can feel like this book gives them permission to scale back, it's empowering.

[END OF INTERVIEW]

[1:01:35.0] **JB:** Thank you so much for listening to the Insatiable Podcast. We hope you enjoy today's episode. You can connect with us on social media. Follow me on Twitter and Instagram @julietunite and Ali @alimshapiro, M stand for Marie. Please feel free to also e-mail us any questions. We would love to hear from all of our listeners. You can reach us on ali@alishapiro.com and juliet@unitefitness.com. We'll see you next time.

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