

Transcribed from a presentation delivered at a CrossFit Health event on Dec. 15, 2019:

Why is *Titanic* one of the most-watched movies of all time, especially given that we know the ending? And it's because James Cameron tells a good story, and you've got to admit that *Game Changers* was a good story. Now Gary very helpfully introduced the fact that the movie doesn't say everything that it should, because what James Cameron didn't say is that he has a \$140-million investment in pea protein.

Okay, so that was the first vegan movie that I've actually watched. I didn't watch *Cowspiracy* or *What the Health* or *Forks Over Knives* because I know the arguments. I know the three arguments that are used for being vegan, and I know them because I was vegetarian and vegan over a period of about 20 years.

So what are those three arguments? Number one: Vegans claim that it's healthier. Number two: It's better for the animals. And number three: It's better for the planet. And I learn nothing new watching *Game Changers*, because the exact same three arguments were used, and 75 minutes was devoted to the nutritional argument, just four minutes to the animal argument — that was the poacher bit — and three minutes to the planet argument.

So I'm going to concentrate on the nutritional argument, because that's what the film did, and that's my area of expertise. So I'm going to go for that now. We need to do a little bit of small print to start with, because what exactly is plant-based? Now, they don't use the word “vegan” you'll notice. They're moving away from that because “vegan” has connotations of militant and aggressive and unfriendly. “Plant-based” sounds really fluffy and friendly and we should all be doing it, so there are a lot more mentions of plant-based — vegans, vegetarians — but if you noticed, meat, fish, eggs, and dairy were all attacked, so make no mistake: The message that we were supposed to take away from *Game Changers* was ditch all the animal products. And when I've analyzed leaflets that come from the plant-based world — I did this over about a 6,000-word takedown last year — they are all attacking meat, fish, eggs, and dairies, so we proceed now on the basis that “plant-based” means vegan.

Now they play fast and loose with the definition of vegetarian as well, and a lot of the studies that they quote are epidemiological studies related to, for example, Loma Linda, the Seventh-Day Adventists. So this is a 2009 paper by Gary Fraser. Look at the definitions of vegetarians. “Pesco-vegetarian” — pesco is a fish eater. Fish eaters are not vegetarians. Oh, and these ones also have meat up to once a month. And then you have a semi-vegetarian. You can't be half pregnant — you're either pregnant or you're not pregnant; you're either a vegetarian — I would not

have let you get away with that definition of a vegetarian when I was one. I would have put you straight. You're not a vegetarian.

So anyway, what was the story? Well we've just watched it. Didn't you love those self-defense moves? I mean, James Wilks — what a great guy. Really really good mixed martial arts fighter. He then got injured, and he then researched — in his own words: “I spent more than a thousand hours studying the peer-reviewed literature, looking into recovery and nutrition” because all he wanted to do was to recover as fast as he could. So after spending those thousand hours, obviously he came back in the movie, and he presented the systematic reviews and the meta-analyses of the randomized controlled trials that have been done into the plant-based recovery world. Well, not exactly. He didn't go that route. He instead stumbled across a paper that suggested that the gladiators were vegetarian, and he said, “That blew my mind,” and it kind of blew my mind that that blew his mind, but there you go, because this was the easiest one to debunk. If you've seen the good debunks out there on *Game Changers*, this was the easiest one.

Okay, so why were the gladiators vegetarian? Because they're slaves. Not for them the oysters and the pheasants that the masters were eating at the time. They would have plants, starch, and more plants starch. Plus, it actually helped them to fatten up, which is what carbohydrates do, because when someone's running at you with a cosh and they're on a horse and you're in the middle of the stadium, you want some fat to make sure that your vital organs are protected.

But anyway, that didn't put him off. He carried on looking into the plant-based diet, and we had the first of the two burrito experiments in the movie. We'll come to the other one. Don't worry. So the three college guys — you know what they did? They had the grass-fed beef, they had the bean burrito, they had the chicken burrito, and this is what convinced him: seeing what a single animal meal could do to an athlete's blood sealed the deal. Cloudy blood basically sealed the deal for Wilks.

So the best debunk that I've seen — one of the best anyway — is the Brian Sanders movie, which is exactly the same length as *Game Changers*, and he's debunked it throughout. So he looked at those bean burritos versus the meat burritos, recreated them. So many things changed. It's not true. The calories were fantastically different, and look at the fat — almost triple. So he then had some people do other experiments for him. There were two guys who said they would sit down and have the most massive meal of butter and eggs and meat and kefir, and they reckon they accumulated about a hundred grams of animal fat. Both the bloods were similar. This was just the best photo shot that I could get, and you can see that in the fasted state versus the hundred grams of animal fat state, blood completely clear, so don't blame the animal fat.

The second experiment: A female athlete sent in her experiments on the left-hand side. Here's her fasted blood in the middle — she'd had bacon and egg — and on the right-hand side, she'd had a vegan burrito. But the key thing is she'd kept the fat constant, because that's what you do in a decent scientific experiment, even if it's just an $n=1$. Now, I'm quite happy to argue that they're all clear, but if there's one that's slightly cloudier than the other, it's the vegan burrito, if that's the game that you want to play. But he didn't let that deter him. He was convinced. He turned up at the gym. This was obviously not a CrossFit box, because you got your name on the board if you could do this for 10 minutes. I think you guys would be falling around laughing if that got you on the board. But anyway, his personal bests up until then had been eight minutes, and you saw it. He did 10, he did 20, he did 30, he did 45, he's going for a personal best, and he only stopped because, well, why wouldn't you stop? I mean, can you imagine Mat Fraser? He's on course for a personal best and, hey, I've had enough. I'll just stop here now. And I'd be really interested to see what Coach Glassman thinks of this, because what he's basically saying is his PB went up seven and a half fold based on bean burritos alone. I'm just not buying that one. And then Gary, again, gave me a great introduction, because it's about what wasn't said.

So we had Morgan Mitchell — I mean, she's gorgeous. If I could look like that, I'd go vegan tomorrow, trust me. Two-time Australian 400 champion. Wilks narrated she represented Australia at the 2016 Olympics. What he didn't say is that she came 24th, so what were numbers one to 23 eating? That's what I want to know.

Then we had the contender. Remember the boxer? His claim to fame was that he'd lasted the distance with Wladimir Klitschko. So what's Klitschko eating? I mean, good for him, but what's the other dude eating? You're not exactly a champion.

And then you have Arnie with his vegetarian kind of diet, which is quite helpful to remind us that that plant-based term is quite loose. He even implied later in the movie meat once a week is still fine. But then this is what he looked like when he was on 15 eggs a day and 250 grams of animal protein, so I'm thinking what's your point? Because he kind of looks a bit better than he did to me.

So then we move on to the NFL team, and if ever there's a great example that the standard American diet is rubbish it is this little anecdote, because you've got a team that basically goes from eating junk to eating whole food. Now the whole food just happens to be plant-based. How good could they have been if their whole food diet had been animal-based? And they had a better performance, but how much of that was just being a team together, eating as a team together, having that delivery together? We know doing stuff as a team makes things so so different, so that's just also not a valuable experiment.

And then the only thing I could call this slide is “the truth economist,” because this guy has been economical with the truth. I would call him a liar, but I don't want to be sued. He's definitely economical with the truth. So Wilks narrates, “It would also help explain why the only diet that's ever been actually shown to reverse heart disease is a plant-based one.” Now, the speakers all know this study. A lot of you in the audience will know this study. This is the study. Now look closely. This is a multifactorial study done over a year. Twenty-eight people started. Not all of them finished. It was a low-fat vegetarian diet. It wasn't a vegan diet, but here's the killers: They were asked to stop smoking, adopt stress management, and moderate exercise. When you read the paper, it was actually aerobic exercise. They were getting up to five hours a week, but hey, let's just claim that whatever changes were made, all down to the diet.

Then we have the penis experiment, which has been debunked in various ways, but you saw what happened in the movie. So the guys, they have meat burritos the first night, they have the plant-based burritos the second night, they're supposed to put this thing on their beef jerky before they go to bed, and they had more erections, they had longer erections, they had better erections and all the rest of it the night they had the bean burritos. That's because they're dreaming about meat you motherfuckers. That is an American word, isn't it? I can get away with that one?

On a serious note, the Seventh-Day Adventism started because meat was alleged to make men particularly wicked and lustful. You can't have it both ways, guys, and there were a couple of Seventh-Day Adventists in the film. If you didn't spot them, ask Belinda Fettke. She's always on the case.

Right, so this is why Wilks didn't present the systematic review and meta-analysis of all the randomized control trials on the superiority of the vegan diet: because there are none. It does not take a thousand hours to search the literature. It takes 30 seconds. You open up PubMed, you put in “vegan diet and recovery,” and one paper comes back. And that paper was actually talking about a 14-year-old vegan boy who had a stress fracture. It was a case study, and the conclusion of the case study was if he could get some better nutrition, then all would be well and this 14-year-old wouldn't be breaking things. So I thought, “Should I put in ‘plant-based and recovery?’” There were zero returns. I thought, “Okay, it's vegan. I'm gonna stick with the vegan term.” I then put in “vegan diet and performance.” And we had five studies returned, but they are not talking about superior performance. They're talking about things like quality of life, practical advice if you're going to be a vegan, iron deficiency, how to fuel as a vegetarian or vegan athlete, and preeclampsia for goodness' sake. I mean, how obscure can you get? I kept trying “vegan diet and athlete” or “vegan diet and athletic.” You get four returns, and two of those were on the previous slide. So we're now looking at health status, and then there's one that said “exercise capacity,” so they look great. We're at last getting somewhere, to

where we should be going with this movie, and all it said as the conclusion of that paper was you could be okay on a vegan diet. If you were a recreational runner, it was probably going to be suitable. It certainly wasn't going to be superior in any way.

So what the film boiled down to was basically random $n=1$ s of athletes who were doing okay. They weren't necessarily vegan. The cage fighter apparently eats fish and eggs. Arnie — we don't know what he eats. Whole food, plant-based is definitely better than the standard American diet, and there is a honeymoon period. Would whole food, animal foods have been even better? And they linked those random $n=1$ s with vegan doctors, vegan academics — basically cherry-picking studies rather than doing the whole top down — and a couple of burrito experiments, and that was the film.

So what it should boil down to— Now, if any of you have present— seen me present before, I got a really simple approach when it comes to nutrition. There are things called essential nutrients. And they're called essential nutrients because we must consume them, and they are complete protein; essential fats, vitamins, and minerals; and some particular vitamins and minerals are only found in animal foods. Now, the film said that you get all those essential amino acids that make up complete protein in plant foods. That's true, but not in the right quantities. You will be missing at least one of the amino acids if you go for plant food, which is why you need to combine plant foods to get complete protein. Essential fats are found in the form that we need them in animal foods, DHA and EPA. Most vitamins and minerals are found most densely and often exclusively in animal foods. The ones that are found exclusively in animal foods are retinol, the form of vitamin A that the body actually needs, B12, D3, as I've said EPA, DHA, and heme iron. And notice how they tried to demonize heme iron, knowing that you can't get it in plant food.

Now, thankfully, one of the vegans has actually come up with the optimal vegan diet, so we can analyze what they think of as something that's really healthy. This is Michael Greger. He's 47, by the way. I think he was about 45 when that photo was taken. His book, *How Not to Die* — I started my blog on this book by saying, "I'm really sorry to be the one to tell you, but we're all going to die, even if you follow a vegan diet." But anyway, he set out his perfect diet in what he called his daily dozen, and there's some elements here that are actually not so different to meat and vegetables, nuts and seeds, some fruit, little starch, no sugar. There's a lot of areas of agreement there. I've put in red the kind of things that we would quite happily eat. Exercise: It's not something we eat but we certainly subscribe to that. But where we differ is on what's excluded, not what's included, and that's in the meat and the fish and the eggs and the dairy, which is the most nutritious, dense food that we can get into our diets.

So I put that into a nutritional calculator that we've got on our website, and surprise surprise, it turns out to be chronically deficient. Now, it's only 1,400 calories, so you could scale up to 2,100 calories by eating, say, one and a half what he recommends. Look at those macronutrient ratios: almost 70% carbohydrate. No wonder it's going to be too low in fat, because the fat intake is too low, has none of those things that you don't get — if you don't eat animal foods: retinol, B12, D3, heme iron, and so on. It didn't have enough of many of the B vitamins, and also K2 and many many minerals were deficient. And the movie didn't cover this. It only warned about vitamin B12, if you remember the vitamin B12 warnings. And they did the classic vegan argument, which was all — we should all take supplements. Well, I'm sorry, but that's bollocks, because when I last went for a blood test my doctor said, "Your test results are fantastic." He said, "Your B12 is especially high." I said, "That's because I eat a lot of animal foods," and he kind of looked a little bit baffled. I couldn't work out if he didn't know where B12 was found or if he was surprised that I ate a lot of animal foods, because I wasn't coming in as a 300-pounder, or whatever.

But we don't need to take supplements, because this is the bottom line: A healthy diet provides the nutrients that we need. A healthy diet does not require supplements. A vegan diet requires supplements. De facto, a vegan diet is not healthy.

Very very quickly we're going to go into the animal argument. Joel will cover it much better. Here is where I have agreement, because the reason that I was vegetarian for so long despite knowing that it wasn't better for me nutritionally is the animal argument. And this is wrong. This is wrong for the animal. It's wrong for us as humans. It's wrong for the planet. This is also wrong. And this is wrong. That's the dairy animals being kept in cages to milk. And this is wrong.

If we now move from that into the planet argument, they were saying that 25% of the rivers no longer reached the ocean. Tim Lang was saying if you take a hamburger, there's been water given into the grains, which is fed to the animal — dadada. And he then says you've got 2,400 liters of water behind that one hamburger. Well yes, that's insane, and if one good thing can come from this movie, I would love it to be that we go back to farming in the right way and eating the right foods in the right way, because that is wrong. But then, this is also wrong, because is it better for the animal? Well, we wouldn't have those animals in a vegan world. Farmers don't keep pets, so there's no cows, there's no pigs, there's no sheep, there's no chickens, there's no goats. You have no animals, then no ruminants that are sustaining topsoil, so you have to grow food upside down in greenhouses like that, and that is wrong, and this is then what your landscape looks like, and that is also wrong. But this is right. Who's that handsome fella at Polyface Farm? Joel Salatin. And this is also right. This is a photo taken by my husband, Andy,

on a recent dog walk. If you pan to the left, you can see the sea. If you pan right, you can see cows, and that's our house, because we just go up into the hills. So my local food is beef and lamb and fish, and we have people who have chickens and grow vegetables in the village. It's not bean burritos from Mexico, not my local food.

Going back to the animal argument, the question to ask of the vegans is what do you eat for which nothing has died, because if you seriously think that even if we don't feed those grains to the cattle, but you guys are going to eat those grains, do you really think that the way we industrially farm nowadays, you are not going to Hoover up rabbits and voles and mice and birds and worms and flies — all of the things that the vegans want protected? And what do you eat that sustains soil, because the only thing that sustains soil is ruminants, which is meat and dairy from cows and sheep and goats, and so what do you eat as a vegan that is going to sustain the soil, that's going to feed the planet? Because your vegan world is taking us to that Armageddon of every field is now a greenhouse, and Cargill and Monsanto control the food supply, and those kind of organizations are the guys behind the EAT-Lancet diet, so I truly believe that that is actually an end game. Lierre Keith said the North American prairie's now only 2% of its original size, and the topsoil, which was once 12 feet deep can now only be measured in inches.

So just to summarize, those three arguments: First of all, I say to a vegan, "So what supplements do you take?" The minute they say they take supplements, and it should be B12 as a minimum, you can tell them, "Well, your diet is not healthy, because you need to supplement. De facto, it's not healthy." If they say they don't take any supplements, then you guys are medical practitioners, so give them your card. The animal argument: What do you eat for which nothing has died? What do you even think you eat for which nothing has died? And what do you eat that protects and rejuvenates topsoil, because that's what my diet does.

The most honest line I found in the movie was — I don't know if you saw it, right at the beginning — "The statements expressed in this film are not intended to be a substitute for professional medical advice." No shit. And I'm bang-on 20. Thank you very much.