



Transcript

Danny Lennon: Hello, and welcome to another episode of Sigma Nutrition Radio. My name is Danny Lennon, and beside me of course, is Dr. Alan Flanagan. We're gonna title this episode something along the lines of the "Death of True Expertise", and we're gonna maybe focus in on one element of that, of maybe domain specific expertise, which is, I think we've alluded to on a number of our episodes before, but is a really interesting topic to think about.

Not only has that kind of maybe fallen out favor with some people, in certain cases that is seen as a bad thing, which is weird for people maybe to first hear that some people are saying those with domain specific expertise in an area are actually more likely to give bad information. We're going to maybe try and make the case that is not true.

But really this comes about because of the increased prevalence of very strong voices. In the field of nutrition. I wouldn't even say in the field of nutrition, people talking about nutrition online is probably more accurate. Yes. Who have maybe no real expertise in this area, but that doesn't seem to matter.

And in the sense where their voice seems just as noteworthy as someone with expertise in a specific area. And there's a few different layers to this depending on how granular we get that. We'll certainly get into but before I lead off into some of the things that I was hoping to talk about with this general idea, I know this is something that you have lamented about yourself and have probably thought about quite a bit. What to you is this problem that has emerged over time of this "death of expertise" as we're gonna refer to it as?

Alan Flanagan: Yeah. And that's it... it is a death of expertise. And indeed it's the title of Tom Nichols' book, which was maybe 2016 or prior? So this is something that isn't necessarily a new observation.

There are various, perhaps strands that come together to create this environment that we have, but in essential, in essence, I think it, it comes down to a couple of factors within this umbrella of the concept of the death of expertise. One is that there's this almost celebration of ignorance that we have in the culture that that we've created now.

And that often translates to a deliberate assumption that someone who has, decades of experience in a given field is. To be discounted over someone that has quote unquote done their research. And despite the palpable difference in their level of knowledge, the relative ignorance of that kind of newcomer, the person who purports to be offering their thoughts from a place outside of the traditional structures of academia or otherwise, is basically being championed for their ignorance on that subject.

So I think that's one aspect. I think the other is that we probably do, and there's other people that maybe have looked at this from a slightly different angle that we can think of Jonathan Haidt in particular where I think more recently we have the product of an education system where people are just there for the sake of ticking a box, right? People are no longer going to university to have this learning process and come out more, learn it on the other end. They're going there because they need to do this if they're going to be a banker or whatever career they're going to do. It's just a box to tick.

So we have education as no longer something that's genuinely about the processes of learning and the improvement of the faculties that come with learning, but really just an end in and of itself. And then I think when we

combine that with the climate that we have created, where we have through. The mass communication tools that we have democratized opinion, and we've created a situation where that sense of, I'm entitled to an opinion, means that people really hold steadfast in their entitlement to be as wrong as they possibly could be.

So the democratization of opinion has also led to a scenario where maybe 15, 20 years ago, we could at least, if we had a disagreement as to facts, we at least agreed what those facts were. What we were disagreeing about was how those facts were being interpreted and what the implication of those facts and our respective interpretations meant.

Whereas now, because of that democratization of opinion, we basically have a scenario where everyone feels they're entitled to whatever facts they like on a given question. So you're just not even operating from the same playing field. And it all coalesces together to create this scenario, particularly for nutrition and health generally, that we unfortunately have where some dude who literally just did his own research, quote unquote, who has no formal training or education in the subject who has no general education capacity as far as their critical thinking or scientific literacy, is being offered up as a domain specific expert in that area and is doing so in a way that's bad faith.

That ultimately you can't ever navigate in defeat with facts, logic, evidence or otherwise, because they'll simply constantly change the facts as it suits them and shift the goal posts of whatever argument's being made. So it's really an intractable scenario we've backed ourselves into.

Danny Lennon: There's quite a few issues that you brought up there that we'll probably circle back later on to. I think one of the interesting ones you discussed is this feeling of my opinion is just as valid as anyone else's, and much of this comes from. I suppose many of the positives that we are tend to get talked about in relation to the internet, right? That now, no longer the gatekeepers of knowledge in the way that anyone can access this, which is true and this is great, or that internet has allowed this democratization of learning and of knowledge that anyone can access a lot of this information. Again, true. But that can lead us into a few pitfalls, which we'll certainly circle back to later on. And another one of the issues is how maybe expertise and skills, if they do transfer across different fields, how they do that and what

the limits to that. But first I wanted to start with maybe getting really clear on what we're talking about in relation to domain specific expertise.

Because what I think is important to make a distinction here is that we're not falling into. Appeal to credibility here of just saying the people who can talk about this stuff are people with anyone with a PhD. And if you don't have that, don't talk about nutrition. That's not really the line that separates what we're gonna refer to there as expertise.

Because on one side, as you noted, expertise isn't guaranteed by education. You can go and get a degree or even a doctoral degree or an md and not necessarily apply scientific thinking or critical thinking to ideas. But on the same token, there is something to having expertise, not just generally about science, but in a very specific domain that you're gonna talk about. And the narrower that goes, you probably have just an amount of expertise that can't be matched by someone coming from an alternative field. So based on all that, I what is the best way to summarize specifically what we mean by "domain specific expertise" and how that differs from just a fallacy of appealing to credibility.

Alan Flanagan: Yeah so I would think that there are two elements to domain specific expertise that will slightly take different shapes relative to the field being discussed. Or they'll have different contexts relative to the field being discussed, so that the first aspect to domain specific expertise is simply a depth of knowledge of that specific area.

Now, knowledge here, is simply just an understanding of the facts as they stand in that area. So if we're talking about a historian specializing in early modern history, European history, for example, the depth of their knowledge will go to, they will know battles from that period and dates without necessarily having to go into every detail with that per with, say a class that they're lecturing to on the intricacies of every individual battle.

But they will have this level of depth and breadth of knowledge of the in, of the occurrences in that specific area. And in a nutrition context, someone will have depths of just basic factual knowledge. They'll understand micronutrients, macronutrients, their roles in the body. They'll understand processes. They'll have broad understandings of what we have as far as the current evidence base and why that evidence base exists, why it's supported

by certain, more persuasive bodies of evidence than others. So they'll have this depth of actual, the actual knowledge, the body of knowledge specific to that area.

And then the second part of it will be they'll also have analytic expertise in that area. So to go back to our historian example, the analytic tools that historian will use will obviously be very different to a scientist. That historian is not going to be running insulin assays in a lab or conducting a multivariate regression, but they are going to be experts at verifying documentation, at archival research, at understanding how to vet primary sources to check those sources against each other and to ultimately come away with an accurate representation of the period they study that has been rigorously verified against the available evidence and evidence in this context. Obviously maybe being documentary evidence are or actual records or works written contemporarily at the time, eyewitness accounts, et cetera. And so that they've got this analytic expertise to be able to come away with a contribution to knowledge in that work that a scientist wouldn't have if they went into that historian's university and hung around with them for a day.

But similarly, the scientist is going to have analytic expertise in terms of scientific literacy. They'll understand the strengths and limitations of papers that are of different methodological designs. In terms of the study. They'll be able to critique and understand strengths and limitations of a randomized control trial versus a prospective cohort study, for example.

They'll have understanding of statistical models so that they'll be able to. Actually see, did this analysis even do the right thing in that regard? So there's these two broad aspects that we have to domain specific expertise. We have the content specific knowledge, the actual knowledge, depth of knowledge, and then we have the analytical ability and both of them combined to give someone domain specific expertise.

And it's simply the context of its application, and the two examples I use being a historian and a scientist, that would differ. And that's not just saying I'm a professor in history, or I'm a professor of nutrition. You need to believe what I say because why you would believe what they say is a separate question that we can discuss to domain specific expertise, but that's how I would classify domain specific expertise. The depth of knowledge combined with refined analytical skills specific to that area.

Danny Lennon: Yeah, and that's really useful because one of the things we're gonna talk about is how maybe people can move across different fields or at least contribute to different fields and some of these ideas around cross-domain expertise.

But if we're keeping with this idea of domain specific expertise, one of the things that we've talked about in this podcast before gives a really good example of how those two issues you just brought up, or the two ways of looking at it can actually overlap. So if we think about the nuance in expertise of reading research or health science, one of the common narratives, I think sometimes that people may come across is someone has started to talk about nutrition online or write a book about it and they're coming from outside of nutrition, but they can say, Look, I have a background in a certain scientific discipline. Maybe that could be physics, that could be engineering, that could be even medicine.

And I've used those skills to be able to, because I know how to read research and using that, I've been able to try and interpret some of this nutrition stuff that's in a different field. But I've read through that and that's allowed me to come to these conclusions. But as we've pointed to, whilst there is some capacity to do that, and certainly it's a good starting point.

There can be certain cases where that can be there can be some shortcomings unless people have exposed themselves to ideas of people who have gone in very specific ways. So as, one example that you have brought up a number of times is if we think about nutrition epidemiology specifically, and we think of the real domain experts in that area and the things they're aware of in terms of interpreting some of that literature appropriately might be different from someone who, again, has expertise in reading scientific research, but comes from a background purely in biomedicine or even further a field. They're a physicist, so they can read research, they can read scientific research, they know how to do that, but is unaware of maybe some of the nuances of a specific field in this example, nutritional epidemiology.

So maybe just for anyone who hasn't heard, you can talk about that idea, could you maybe use that as an example to discuss whether there's this nuance for expertise in being able to quote, read research or to be a health science expert, so to speak?

Alan Flanagan: Yeah, and this is something that is really important when it comes to some of the criticisms leveled against nutrition science in particular. So yes, someone can have broad scientific literacy. And they have good understanding of, in a methodological sense, strengths and limitations. They could appraise a study for its characteristics in terms of its strengths and limitations. But if they didn't have, and so that would be the literacy part, the kind of skill-based, analytic expertise that they would have.

But if they didn't have the knowledge, expertise, the depths of knowledge of that area, they could still actually come to at least misleading conclusions that perhaps are not necessarily. Or they can perhaps be overenthusiastic or under enthusiastic about certain findings in this area that they're not too familiar with because they're lacking, again, that kind of domain specific knowledge aspect, even though they're analytic skills are allowing them to say this trial was a more robust study than this trial because it was double blind and placebo controlled.

Okay. They wouldn't be wrong in that assessment. But one example, just to bring this outta the abstract to life for people that I can think of would be Professor John Ionidis' criticisms of nutrition generally as a field of inquiry. But what he likes to highlight as an example of this is why we cannot rely on nutritional epidemiology, is very much based on a kind of broad and unspecific general skills based analysis from a biomedical perspective. So what I mean by that is he uses a number of examples of epidemiological studies that have found certain associations, for example, for vitamin E or other nutrients. And he's able to find randomized control trials that found no significant association with the outcome observed in epidemiology i e They just showed up, nothing, null.

Some of it's for cardiovascular disease, some of it's for other outcomes. And in his kind of analytic framework, he's pointing to the hierarchy of evidence and he's saying a randomized control trial is methodologically superior to a prospective cohort study. And this randomized control trial contradicted the findings in epidemiology, therefore, the randomized control trial is a more trustworthy finding.

It's the true finding and by implication. It's another example of why we can't quote trust nutritional epidemiology, but where that defeats him then is just at the very simple level of knowledge-based expertise in this area, because

he's not a nutrition scientist. And one immediately obvious example is that the epidemiology that he's referring to is looking at dietary intake and identifying nutrients consumed in the diet and the RCTs he's referring to, we're using isolated supplement forms of the nutrients.

In the epidemiology you are comparing people with very low levels of intake to people with high levels of intake. In the randomized control trials, you've got everyone already with relatively high levels of intake. There is no low intake group. So because nutrients exist on a bell curve and are not a drug that you're comparing to a zero exposure placebo, this is what we've discussed before.

While it's not incorrect for him to state that there are methodological advantages to a randomized control trial over an epidemiological study or prospective cohort study, that skill based analysis is not necessarily incorrect. The lack of knowledge, domain specific knowledge is actually making his critiques weakened by that absence of that knowledge.

And there are reasons then why that critique really doesn't necessarily hold up. Because you're not comparing apples and apples. So it's an example of where his entire critique is based on an assumption that the broad methodological analytic approach that anyone with scientific literacy and health sciences could take.

Here's my hierarchy of evidence. Here's this study's better than that study actually applies independent of domain specific knowledge. And in this context, the knowledge here is hugely important cuz it helps contextualize your ana your analytical knowledge. And the disconnect between the two means we ultimately come to misleading conclusions and then unjust criticisms, then leveled at the field.

Danny Lennon: That's a really useful example to start with because that's probably one of the highest points where you can actually have someone who's publishing research, who understands quite a fair bit about what they're talking about is missing this kind of critical piece of nuance.

Whereas maybe some other examples we get to now are probably much more egregious of people talking even way beyond that level of understanding to head off some of the counterpoints because, and we'll later

on, we'll more formally maybe walk through some of the typical counter arguments, but one that maybe people first have when they hear this is saying surely does this not mean that others can go and read some of this research and learn more about this certain field, even if they're not actually trained in nutrition?

And of course the answer is yes they can do that. But we need to be aware of a few of the things that you've outlined already of that expertise as we've defined. In a subject matter is not just this matter of time and effort, because I think sometimes it gets reduced to that. Oh, you're saying someone needs to spend a certain amount of time and effort getting a PhD or doing research in this area.

It's not just that, or even that alone. You could have something separate from that. It's really about the skill acquisition that you've pointed to a couple of times of this skill acquisition in interpreting evidence appropriately, number one, which speaks to the specifics of that field. But second the content knowledge means once you've interpreted that, say individual study you're looking at, you can now place that the, in the appropriate context of the rest of the evidence base.

And so if you haven't had the time or exposure to that, you're just not gonna be able to do that. And with that idea the time and effort, there is some misconception that is sufficient, which hopefully it should be clear isn't right if someone is just starting reading nutrition research.

First of all, they can't have the insights of someone who spent a lot longer time doing it. But there's multiple examples of people who put out bad information, even though they claim, I've been looking at this for years. That classic narrative. And you people self label themselves as experts.

As one example that comes to mind is, that I told you, Ivor Cummins telling me on Twitter exchange before that he was a "lipid expert", which in itself is wild once you start thinking that most medical doctors even within that, that treat people with cardiovascular disease wouldn't say they're an expert in lipidology. That's a very specific field. But yet applying his engineering perspective to this issue, he has uncovered the truth that these others he would not deem as experts. So to get back to the point, of course this can happen where someone comes from a different field, learns certain things,

and has interesting insights and this is where this idea of cross domain expertise comes in, or lateral thinking or cross fields, but this is not something that gets promoted in the cases we're gonna get to. So this is not someone that is completely from outside of nutrition, starts reading themselves, uncovers some sort of unknown truth, and now is gonna expose it to the world. Yes. What cross domain expertise is actually what you get in a lot of academic institutions when you have multidisciplinary work of people in different departments of whether that's epidemiology, working with statisticians, working with biologists and so on.

Not this random person who is an ex psychiatrist and now has determined everything about human nutrition. So I think there's a clear difference there when people talk about cross domain expertise. Yes. And that's not actually a counterpoint to what we've said so far.

Alan Flanagan: No. And it's also a rarity. My, my PhD was to an extent a cross because I had the krono biology aspect and it was nutrition that I was looking at, obviously in a kind of chrono context. And so I, I actually think for me that this is quite a good, I spent a lot of time in the chronobiology department, possibly more so than nutrition.

I think this is an example of where this applies, this kind of cross domain context that you might be exposed to simply because you're in an area and it's, and there's these overlaps with other areas, and this is really common with nutrition. You'll have people that come into nutrition research from maybe a psychiatry or a psychology background because they're interested in the effective food on the brain and mood and behavior.

And nutrition can really benefit as a field. And hopefully as we go on, I think it's becoming more accepted that cross and multidisciplinary nutrition research will really benefit the field overall. But there's a limit to it and that limit to it. For me, for example, like I really am interested in the chronobiology. I think it's a fascinating subject, but at the level of a PhD, there were great limits on what I was going to know in that area. So to a generalist or to someone in the street that I'm having a conversation with, or to another academic who's never ever heard of chronobiology, I would sound like someone with a lot of knowledge if I was explaining to them the transcriptional feedback loop that results in, the generation of circadian rhythms and all that kind of stuff.

But I just know that, my, the intricacy of my knowledge of these, processes that generate circadian rhythms in the body would have this limit that if I was talking to a chrono biologist, I essentially am almost novice relative to their knowledge. So it's really important that, I think people just are mindful of that if we're talking, which I'm sure we will about someone like an Andrew Huberman, because I could explain, if someone asked me a basic question on an Instagram story, like what are circadian rhythms?

I could provide that answer. I could go into more detail in terms of why they're gen, how they're generated in the body, and all that kind of. But that's it. I can't go further than that because that's not my expertise. Even though my PhD cross context with this other field, my expertise is nutrition and I think that is something that most people within academia would be very conscious of: what's your main, what's your primary area? And what areas do you have bits of knowledge on or have you touched on because of your research that you have more knowledge than the average person, more knowledge than another academic that's not in that area, but you're a novice in that field compared to the people that are actually in that area. And that's where Huberman really fits in with the nutrition stuff, I think.

Danny Lennon: Yeah and I think there's even more egregious examples which we'll get to, particularly in relation. To ldl. Oh yeah. You spent so much time talking about in the podcast. But this is a really useful example because with something like that, people come from, let's say, outside of even a cardiovascular background or even a nutrition background, and then we'll start talking about things like saturated fat, LDL, atherosclerosis and start saying about how "the established knowledge is incorrect". And all these experts that are currently there have it just got it all wrong. And that's not really what is being talked. In relation to cross domain expertise in the way that gets promoted. So if, one of the popular ways that, people may have came across the book "Range" by David Epstein, which was a kind of science, popular science kind of book, but that talked about a lot of the literature that has spoken to people from outside certain domains, being able to help solve a problem in another domain because they were able to look at it in a different way or use knowledge that they had in their background, which is fantastic.

That is not what's going on in some of the examples that we've been talking about with ldl. What he's talking about there is. Where there's an unknown,

that there's, we don't really know how to solve a certain issue, and then someone comes in and makes a certain suggestion about how that could work and they're coming from a different field, and then we go and test that and, Oh, this actually helped us solve this problem, that's really useful. That's cross domain expertise and cross domain work, really working usefully. What's happening here with something like the LDL story or the carnivore stuff is someone coming in and saying, All this established stuff is wrong. This alternative hypothesis is actually correct.

But what they're not doing is they don't care about that this has actually already been tested. That you, this is not some sort of cover up that the people established in academia are trying to hide this away or prevent them speaking. They can voice that and it has been voiced, but it's already been looked at and just found to be not a very good hypothesis. Yeah. And it doesn't really hold up to scrutiny, so there's no conspiracy out there. And I think that's just an important point to, to clarify because indeed cross domain expertise is a thing. And lateral thinking from other fields. But that's not the same thing as what's happening in nutrition science, certainly on the internet and social media and the people who are gathering these huge audiences, where expertise is deemed as a bad thing now.

Alan Flanagan: Exactly. And that cross domain expertise is generally acquired within a research context. These aren't people who have contributed to the fields that they're propping to hold themselves out as experts on. They're just someone from a different background, whether they're Saladino with his psychiatry degree or Max Lugavare, a journalist, or Ivor Cummins and Dave Feldman are ironically, are both engineers and they're assuming that background gives them some way of seeing the quote unquote truth. And they're assuming expertise in that area, but they've never actually been in that area. So they don't have those analytic skills and they don't have the knowledge based skills. And even if they do acquire some knowledge along the way, just through their own reading, they don't have the analytic skills to contextualize that knowledge.

And I think that's a really important distinction. And that's basically where I was at the start of my MSc. I had done a lot of self-learning, quote unquote, about nutrition, but I had no scientific literacy. I'd never done science in my life, so I had no ability to take that knowledge and turn it into context

And that's basically what you have with all of these people. They're unifying kind of theme running between them all. Whatever it is they're talking about is that they're sprouting all this stuff. Totally devoid of context. Totally devoid of analytics skill and yeah, like you said it's it's always antithesis to the status quo.

Danny Lennon: Some of it, at least from some of the popular people online that is more based around entertainment and journalism than anything else. That can be a real issue. And so maybe let's talk about that as one example, because we've talked about this in a, the specifics of the nuances to this in a research setting.

But then when we talk about online information, At least from a consumer point of view, now there's this real problem of people being really interested in health information, right? And there can be this illusion that they are learning. And because a lot of people, I think many people that listen to our podcasters and our podcast, and certainly we are the same love learning things, and particularly about science and things like nutrition.

And there are many people broadly that maybe. Aren't trained in nutrition, but want to learn more about this stuff and health science more broadly. And then they come across maybe a podcast like some of the ones you mentioned, an Andrew Huberman podcast where he is talking about nutrition, a Max Lugavare podcast, a Tom Bilyeu podcast, whatever it is that are, have huge audiences that are talking about health science.

And it can give you this illusion that you are learning because the content is understandable, it's engaging, and there are people with credentials and it seems to make sense. And because there's this kind of entertainment factor to it, it allows people to continue sticking with it. And I think that is what I see is this this death of perceived expertise because now it doesn't matter that there.

No necessarily expertise in specific topics that are being talked about. As long as it sounds authoritative enough and is engaging enough and someone has a big enough audience, that is almost enough for it to be consumed by more people under the guise of, I'm learning more about this topic, right?

Alan Flanagan: So this is where, there's a couple of things that are conspiring, I think to mislead what counts as knowledge. One is that, you made the kind of point of, approaching, people are approaching stuff as if they're investigative journalists, right? And so you don't, you, you don't ever, even with good investigative journalism, they're almost at the end of the day going to be just presenting facts and describing what happened.

And that's useful in an investigative journalistic context, but it's not giving you, again, that additional context, domain specific expertise to piece it all together. And then I think, so the difference is there's a difference between reading and thinking that someone understands something versus critiquing.

You can sit there for, you could sit there with a big book on the history of Eastern Europe in the 20th century and you can read it and come away and have a few tics in the head, but to confuse the reading of that particular text with actually analyzing the events in that period. To a level of understanding is a mistake.

They're not the same thing. And it's the same with scientific literacy. It's this confusion of I read this paper. And if it's in the general context, look we probably could know that if it wasn't just the abstract someone read, it might be the discussion. But absent the expertise domains that we were talking about, they certainly haven't scrutinized the methods.

They certainly haven't scrutinized the analysis. And they certainly haven't scrutinized then whether the outcomes that they've derived from the methods that and form of analysis that they've used all stack up such that we can say that this is a good study. So basically what we have is a proliferation of people who have read things and have an illusion that they're reading.

Whatever that is translates to understanding and knowledge. So you can have someone that comes across a day Feldman article, an LDL cholesterol, and they've read it and they're walking away with an assumption that they now have a level of understanding of that topic when really all they've done is read and internalized a number of points made.

And those points may or may not be valid. So what they haven't done is take that article and actually analyze it because they don't have that ability to do

so it's this difference that I sometimes think about between reading and broadly thinking you understand something versus critiquing and analyzing.

And most of what's passing for conversation out there really is people who are just like reading and saying stuff like we've mentioned this one point a number of times, but I think for listeners to again, to take this outta the abstract, this is Paul Saladino 101; he'll stand there with his top off in a supermarket shouting that your body needs cholesterol, cell membranes need it does this and that.

And none of that's necessarily wrong. Like any first year biology students, that's, it's as if he's just read this stuff and he's then assuming that what he's regurgitating is knowledge and analysis and context and it's not. But again, your average punter hearing that is like, "Oh my god, cholesterol makes cell membranes and steps sex steroid hormones", and it does this and that and the other.

And it's just reading. It's just stuff that's been read and with this illusion of understanding. No, no analysis, no context, no actual expertise on what any of that means. And yeah, that's maybe a distinction.

Danny Lennon: Yeah. That's really useful. And that kinda reminds me, I wanted to make one other distinction that might be useful. Talk about, on, on one side we can talk about these people who are positioning themselves as experts. Some of the people that we've just named and will certainly have more to say on that. But there's this other side where people feel like they're acquiring knowledge in this area, almost to the point of expertise. Just as a consumer of this content.

And many of these people are, I have a lot of sympathy for because as we've talked about in the podcast, the first time I. Gary Taubes' first book *The Diet Delusion* as it was called in the UK or *Good Calories, Bad Calories* in the us. You read that and it's Oh, this is, feels like a kind of historic tome of this, everything that came into developing of guidelines and how we got to this position with obesity and as a book of like historical documentation of things that happened.

A lot of it is cool to see, but much of the conclusions are obviously clearly completely wrong, and so it can, I can see how people consume that feel that

they've learned something, but unfortunately it's incorrect. But there's a number of people who, like I said, are really interested in learning this stuff and have done so much of it over maybe the last number of how many years.

And I'm sure you've interacted with people like this on social media. I know I have. Who. So steadfast in what they believe about some of these topics, because they said, I've spent years looking at this stuff. I've spent years on my own learning about this. And unfortunately for them it's just be, it's came from the wrong sources.

So if we think of the example of, again, LDL and atherosclerosis, this might genuinely be an interest of someone who is not involved in the field, but for their own interest. Maybe let's say the last 5, 6, 7 years has consumed lots of this content online, hours and hours of this. But maybe they've spent a lot of that time consuming content that is YouTube videos by an ex psychiatrist like Paul Saldino or some of the blogs that you mentioned like Dave Feldmans or interviews or opinion pieces by Aseem Malhotra. And none of that is learning from the established domain experts, right? Chris Packard, Brian Ference, Jan Boren, Samia Mora, Tom Dayspring. All these people we've mentioned in relation to some of those expert topics, and in fact those are looked at with disdain because unfortunately the people they are listening to paint them as like these people are in some cabal, right? This is bad information. And so now not only do you have the problem of the self position expert, probably even more problematically, you have vast numbers of people in the general population now who feel they have a really good grasp of this topic because they've spent so much time consuming it, right?

They really feel they have a good grasp of atherosclerosis. LDL isn't a problem. It's high or diet and how the whole thing around saturated fat is all being made up. They feel they have a really good grasp of it, and that is even more problematic than feeling like they don't know anything at all.

And like I said I feel some degree of sympathy, but that is something that's quite common. And that's even probably more of. A very genuine issue because some of these people like a Saladino, how much of his rhetoric is just performative and to make money, I don't really know. But for people who are just on the internet with no money to gain or no notoriety to gain who are interacting with you and I and others on social media, you can tell they really steadfastly believe this and really believe they do have some

degree of expertise and believe they know far more than you about some of the topics that you're posting about because you're posting outdated, wrong information that they're trying to correct you on. And I think that is, is a problem that I dunno how we get around.

Alan Flanagan: Yeah. Reminds me of a point that Nichols made in "The Death of Expertise", was basically he blamed journalism for giving people a distorted view of like facts and information and, good journalism like we just alluded to, will be fact based, right?

It'll be fact focused. That's not really what defines the modern information landscape. You blogs or these kind of alternative news out, sources that are outside of the traditional mainstream. It's very much opinion led. Even in broadsheets, the opinion sections used to be, what showed up on the weekend and were just a smaller part of, But now the opinion section, whether it's the New York Times or The Guardian is the driver of it.

So this is creating a kind of situation where a teleological narrative created on a given issue sounds really persuasive and truth to someone. And I think that's, I think that's what's playing out with, certainly with a lot of the kind of diet nonsense, right? Is, and we, we've discussed how certainly within the low carb umbrella term community, keto, carnivore, whatever, it's the same stories.

Like to the point it's now boring, and so any number of people, whether it's a Gary Taubes or a Max Lugavare, or a Dave Feldman or a Paul Saladino, or they're all going to have the exact same story about "saturated fat, Ancel Keys, seven country study, dietary guidelines, yada yada", they're all automaton.

They all literally have the exact same thing, but they convey it as if they're this harbinger of truth. And I think that then sounds "truthy" to, I don't know how it ends up being combated by, actual experts in a field, but one thing that is certainly obvious in all of that is you have these people buying into stories and narratives about a given topic.

And what's fascinating, and we mentioned this in relation to Dave Feldman and the documentary he was making about the lipid hypothesis and he was visiting the UK and some of the leading minds in cardiovascular sciences are

based in the uk. And yet he was interviewing Aseem Malhotra, Zoe Harcombe and a bunch of quacks. There was nowhere, I don't think he'd heard of Brian Ference. No, he had, because he led that original EAS consensus statement, but he hadn't heard of Professor Chris Packard, which is absurd. So they're forming narratives about whatever area they're interested in. But what's interesting is what's informing that narrative is a total absence of the actual genuinely genuine leading experts in that field.

And I don't know that there's any sort of remedy or work around for that because most of these highly credible people, of course, are not wasting their time arguing with a shirtless idiot who's standing in a supermarket shouting at vegetables because they're doing their real scientific work and generating a body of knowledge.

So I think really what we have now is two different worlds. We have this online world, which is totally cut off really and marooned from the knowledge based. World. And I tend to agree with Nickles, Nicks' analysis that journalism has created. conditions unwittingly or wittingly for this type of culture that accepts teleological narratives as an evidence based analysis as a fact.

Danny Lennon: Yeah. It's interesting. I think there's another author that, I can't remember his name, it's not coming to mind now, who wrote a book very much along the lines, more relation to politics and news and so on, based in the states right now and talking about this post-truth world that we're now in of essentially what you talk about this death of wanting to even talk about facts.

Or even holding them to any degree where anything can be true based on what you want to believe or your own experience and in relation to some of these people that we've just mentioned who believe they've garnered a real degree of expertise in learning from. Experts over a long period of time who are very steadfast in this.

And again, coming back to the example of people who've probably interacted with you on maybe some of these topics and maybe have disagreements on that, just to maybe touch on some of the typical points or arguments that put towards you that I know are quite common because I don't really know how one is supposed to engage with some of them, right?

So there's the typical ones of "Oh, this is just very closed minded. This is very elitist of you. This is, you're just stuck into this, the old way of focusing on academia or these certain institutions. You're brainwashed by your educational background". So that's one aspect to it. And then there's this weird kind of question of "How do I know that your experts are better than my experts", right?

"So you say Chris Packard, Brian Ference, Bruce Griffin. How am I to know that they're better than Paul Saldino or Dave Feldman? Who are you to tell me who the experts are and who are not? Aren't you just saying guessing at this, with this type of frustrating discussions?"

Is there any way to resolve some of this?

Alan Flanagan: I don't think so. . So I think there's a couple of, sometimes we've discussed on a lot of the Quack Asylum episodes that there is this grain of truth often as the seed from which the quackery grows and. It's not unreasonable or indeed incorrect to suggest that academia can be the quote ivory tower.

That it can seem elitist particularly in certain domains. It can seem inaccessible. And so there's nothing necessarily wrong with any of that critique, and I don't think anyone in academia would necessarily deny the existence of some of those characteristics of academia that are aspects of the area science, not just, but any kind of domains of knowledge.

History is famously territorial and, has a touch of a superiority complex within it. None of that is necessarily wrong, but I don't think anyone is necessarily blind to those issues. And this is where science and knowledge and academia as a kind of forward moving, iterative process of knowledge acquisition tends to be, although the pace of change can be slow, mindful of this stuff. So just one example, science now is undergoing what people are calling the open access revolution, right? This kind of gatekeeping of access to journal articles where you've got these journals that will charge 40 quids just to buy an article. And so you have this big push towards not just open access publishing, but researchers making their data publicly available or at least available upon request of the authors in a bid to improve transparency.

So these things are acknowledged. What they don't mean is that their existence means that we can throw the baby out with the bath water. And this is ultimately, I think, what people that are trying to engineer a space for themselves as contrarian, purveyors of truth ultimately need to do.

Because up to me, it speaks to the fact that actually there is still expertise. How does someone, how does a Brian Ference or Bruce Griffin be recognized as having more expertise than a Paul Saladino? It's quite obvious, it should hopefully be quite obvious. It would be their depth of knowledge.

It would be the way that they discuss the subject, their understanding of gaps and limitations, which any academic in an area where they're sought would be willing to discuss the gray areas or the blind spots or the limitations of their field. They'd be able to understand and explain to someone why study A is better than study B.

The likes of Paul Saladino can't do any of this. They're not capable of doing it. They don't have the baseline analytic literacy and they don't have the knowledge specific domain specific knowledge to combine those two skill sets to do but that isn't easily obvious to a lot of people. And ultimately the perception that we have this perception that institutions themselves, and this is I think veers into somewhat of the political, but it is very much a modern kind of, I think a lot of the blame here can be leveled at modern progressives because they're really the ones that have liked or enjoyed over the last five to 10 years, taking the axe to institutions and saying that there is no value in institutions. That they're all just, places of prejudice and oppression and racism and everything else. And so if we completely devalue institutions, then there's no reason to value the products of those institutions, whether academics or the body of knowledge produced by those academics.

And so when you've got unscrupulous actors that would then step into that fray and they're able to say the easiest way for me to position myself as someone with expertise in this area is to be able to point over there and say that whole institutional space is corrupt. And we can't trust anything that it produces and we can't trust the system itself.

And so suddenly all of the credentials and the expertise. That a legitimate expert in a field has, are overturned, not because that individual has

produced a fantastically more cogent argument or indeed published any research that overturns the status quo. Simply they've gone out with the bathwater of dismissing the entirety of the institutions of knowledge production.

And so I think that's, I think that's a landscape that's being created by the modern, progressive left, unfortunately, but it's one that's capitalized then by quacks because they're able to basically dismiss anything affiliated with an institution, They're even able to dismiss the acquiring of expertise.

I had someone recently tell me that, they knew nothing about my PhD, but they basically just said "you've obviously just been, brainwashed with your three years wasted and good luck with all your, student debt and what a pointless exercise just to think old stuff".

And it was quite telling of how of, yeah of how these our institutions of knowledge production are now perceived and how easily they're dismissed.

Danny Lennon: Yeah. And I think this gets us to, I suppose the big question that maybe we'll try and round this conversation out on of people thinking who can I trust?

Because on one hand we've said, Look, there are people who are incredibly persuasive and engaging and can certainly make themselves sound intelligent, can have the validation of having lots of people follow them, can do all the tricks that we know to make someone seem like an expert. And it is very difficult for, certainly for the average person, and even with someone with some degree of understanding of some of these areas to even listen to, let's say a Paul Saladino, and they listened to him talk on one of his podcasts for two hours and to be able to really know whether everything he said there was correct, incorrect. A mix in between which things were right, which were wrong, and decipher between that can be incredibly difficult for people. And him and other people are then saying this is accurate. And these other people that are seen as experts, what they're saying is inaccurate or outdated or these other claims we've just heard, and this can be quite tricky for people. So what do we do? Because we have this interesting issue bring up relation to institutions and groups that you've just outlined. Because in an ideal setting, what we'd love to have is, okay, for most people in general population,

They're not gonna have either the time or the expertise to be able to work out who is saying things that are accurate or not on an individual level.

So we have these institutions that are the consensus of our best knowledge, that represent accurate information to, to go and follow. And so then for any of these given topics, we can have an institution there that produces this information that is the best way forward. And in general, I still think that is probably the best way for the average person to go.

Now of course, as you said, this gets hijacked by people on the kind of pseudoscientific side of saying, Look, here are clear examples where institutions or individuals in those institutions did something corrupt or incorrect or were wrong about something or changed their opinion. And indeed we do have institutions and groups that have got things wrong.

They may need to update things over time or maybe they just were flat out incorrect about something, or maybe they just made errors in how they put out public messaging. There's been some examples in relation to Covid that we don't necessarily need to get into. And indeed there are individual researchers within certain academic institutions that are seen as, as quite prestigious that can publish research and have research in a specific topic, yet are still capable of error. Or maybe they even put out bad information as we said, it doesn't necessarily follow that they're gonna be good. For example, an expert that we talk about a dear to bias, it's not because she's at Harvard that makes her credible.

It's the quality of her research and the quality of her understanding that makes her credible, right? So given all these things, we have this now tricky issue for people where, okay, ideally we'd love to be able to go to these certain places but we are hearing about there's some clear problems with some of these institutions.

And again, a lot of this is fair. So what do I. And I suppose ideally the only thing you can kinda suggest to people is we have to think of what, what is more likely to be accurate? And you're not gonna be fully confident what is gonna be true, Which one of these answers or these sources of information is more likely to be true?

But I don't know what you would add to that in this really tricky question for a lot of people of, who can I trust? Where should I go through for information if I'm not able to decipher if what, let's say a Gary Taubes or whoever else is saying, How do I know who to trust and where should I go to get my information in relation to nutrition, health, et cetera.

Alan Flanagan: Yeah. Nick Heibert told me a line that he had come across, I dunno what the source of it was, but he related to me because of how profound, in some ways the simplicity of it is as a kind of basic heuristic to siphon through. To competing. I, arguments that someone is hearing, and it was basically that I think I may be paraphrasing, but I'll do my best to repeat it as he said it, to me, "evidence is that, which is best predicted on a given hypothesis", right?

So it's just between option A and option B. What is better predicted by current knowledge, on a given hypothesis. And I think that's a really, even without the domain specific expertise, I think people can use that in a critical thinking. To try and help themselves a bit. So if you don't have any understanding of science but you're interested in health and you're hearing saladino talk about LDL, and maybe you come across some of our stuff or our interview with Chris Packard and you're like, Wow who do I believe here?

You stand back and say, Okay, what's the given hypothesis? Does LDL cause atherosclerosis? And you would say based on these two sets of arguments what seems to be better predicted? You don't have to be right. You don't have to have 100% certainty. You would just step back and say, Based on everything I've heard here and everything I've heard there, what seems to be better predicted or what would seem to better predict or explain this relationship we're talking about.

And I would hope. I would hope that just that basic sense check would allow from, for nine out of 10 people or eight out of 10 people to be like, it really sounds like a weight of kind, of information seems to support what these guys are saying rather than this other person. But I'm now skeptical as to that hope.

Because coming back to some of Jonathan Haidt's stuff, Nichols' death of expertise and some other kind of strands of people talking about, the state of knowledge, so to speak in, in our contemporary age. I actually think that one

of the biggest problems is there's a total lack of even baseline critical thinking capacity, particularly amongst what it seems height seems to pinpoint about 2011 to 2014.

Is when things started getting really bad. So for people that have graduated around that time or afterwards, they're almost devoid of any sort of critical thinking faculties whatsoever. So I don't know that necessarily the situation improves. And I think ultimately the reason why it's likely to propagate is I think within this knowledge context we're talking about. I cannot ever help but see narcissism everywhere. I think it's, I think it's a major driver of quacks. There's evidence certainly to that effect from the realm of studying conspiracy theorists and why they believe what they do. But I think that they're, I think there's a hugely narcissistic streak in the followers, people who follow a Paul Saladino as well. And there was a quote from from Nichols in, in the death of expertise where he basically talked about in America, you describe it as that the debates around whatever it is, whether it's science or politics shared the same characteristic of a self-absorbed and thin skin insistence that opinion be treated as truth.

And when I look at a lot of the followers of the Saladinos or Feldmans of the world, that's what I end up seeing is this level of self absorption and narcissism that they love feeling like they're the special ones. I'm more, "I'm smarter than the experts. I'm listening to the right people. Those professors with their degrees are idiots." It takes an awful amount of self-absorption and a grandizing and narcissism. To actually think that more than a Brian Farren, and I don't think there's no cure for that. There's no remedy for that.

Danny Lennon: Yeah. And I suspect if you were to talk to a psychology professional, there's a very set of deep layers to feelings of omnipotence that all of us can have at certain time points.

But when it's baked into someone's beliefs around this can be very strong of, I have the capacity to know this. And that. That in the rhetoric, right? It's I am a person who's able to think for myself, and I can work this out for myself and know all this myself. And so who are you to tell me to follow these certain institutions or experts blindly?

Again, it's just, it's a, just a defense from saying, Look, these are things. I can't necessarily know, and it's probably more likely that these certain sources are

gonna be better information. And they're probably just unable to sit with that degree of ambivalence and instead will insist on, No, I will work it out myself in this, and this way.

Instead of saying, Look, okay, if I don't have the time and expertise to do this for, if I wanna learn some conclusions around atherosclerosis, is it more likely I'm gonna get that from going to the EASs website? Or going and watching a low carb conference? Yeah. Or for generally how I should eat to be healthy.

Will I do better by looking at what's in the dietary guidelines or by going to a carnivore YouTube channel? And for someone who doesn't get involved in the new nutrition stuff, the average person on the street, you're here to ask them these things and say this is easy, right? Silly question, but for people embedded in this, it's baked into the rhetoric that if you are going and defaulting to the position of some of these expert groups, that is ju you're just giving up all your autonomy.

And you're just, oh, you're just believing blindly, all this stuff. As opposed to saying, actually in most cases, sure, there's some chance some of it could be incorrect, but in most cases, that's a pretty good istic for getting you as exposed to the truth as opposed to going this alternative route.

Alan Flanagan: Yeah. And I actually think at that point about the autonomy. I think that's why we tend to see that the most extreme nutrition kind of nonsense and this projection of the body of knowledge that we have and the people producing that knowledge is typically seen amongst a certain demographic.

It's typically your kind of libertarian leaning, tech bro with his Bitcoin, that's all about personal responsibility. And so it stacks up almost as a part of a political identity. And I can never help but notice that correlation any time I'm paying attention to, the kind of, the types of people who follow a Saladino or a Feldman or otherwise.

So I think for them it's that whole idea that they're an independent thinker. Rejecting authority figuring, it all out. li living off the grid for themselves, and just leading them to the most absurd positions on health generally. So maybe

Danny Lennon: To finish off unless we've forgotten anything, but maybe as a weight round this out, and when we think about this complete rejection or devaluing of domain specific expertise going forward from here, on a scale of one to 10 where would your pessimism rate?

Alan Flanagan: Like 10 being most pessimistic? I like a scale in the opposite direction. I'm gonna be at a solid eight, I think, because I think this is, I think this does have political connotations. I think on the left you have this scary rejection of truth, even as something that's obtainable and you have this assault on institutions and this denigrating of any of our kind of institutions of knowledge production and their subjugation to this kind of hyper subjectivist, hyper relativist worldview, which is the antithesis to the kind of enlightenment method of knowledge production. And then on the right, you have this kind of total rejection of authority reality.

And this is playing out in terms of the information age, and it's playing out in our institutions. And it's the dominant discourse on the kind platforms that we've created for communication. So I think it's definitely not going to get better. So the question is, does it get worse?

Or in the current state, if it's already terrible, does it stay there? So yeah, it's definitely not going to improve .

Danny Lennon: So I think that is as much as we can cover on this for today. I think we might talk about this idea of expertise another time in another one of these episodes, but hopefully some of this discussion has proved thought-provoking for you guys listening. And hopefully there's something in there about how we can work. Who to trust or what infor recommendations we can give to people who are looking for trustworthy information, but more broadly has put a few things on your radar. So we look forward to hearing some of your feedback to this and your own thoughts and own experiences with this topic would be certainly interesting to hear.

Both Alan and I will be backing in their episode very soon, so hopefully you tune in for that as well. But until then, thank you for supporting the podcast. Thank you for listening, and we'll talk to you in another episode. Until then, take care.