Bret and Heather 7th DarkHorse Podcast Livestream\_ Smoking a...

Sat, 10/9 12:51PM • 1:02:35

**SUMMARY KEYWORDS**

people, smoking, essential, fact, smokers, case, lockdown, meta analysis, stores, papers, point, argument, problem, situation, test, question, flooring, potentially, population, game theoretic

**SPEAKERS**

Bret, Heather

**Bret** 00:08

Hey folks, welcome to the seventh Dark Horse podcast live stream. I am sitting here with Dr. Heather Hyang. As has become our custom, and we are about to embark on another exciting discussion of our global situation. We have been opening up with corrections, we had some technical difficulties in the last stream, which caused us to have to compile the footage and upload it separately, which may have gotten in the way of us registering some things that needed correcting. Or it's possible that there were fewer corrections this week, but I'm not aware of anything major that we said that would require an update. Are you aware of anything?

**Heather** 00:49

No, am I Alright, so

**Bret** 00:51

I do have an update or two that are not quite a correction. Several livestreams ago, we talked about the possibility that was being raised by several doctors on the front lines of treating COVID-19 patients, that the the symptomatology looked more like altitude sickness than it did like a standard viral pneumonia. I've now seen several papers address this question. And it is looking less likely that this is high altitude, like symptoms, and more like standard viral pneumonia. Now, as we covered last time, it's possible that different doctors are seeing patients with different symptoms. And I would also point out that the dialogue between doctors about what they're seeing and what its meaning is, is actually a very healthy thing for medicine. And that in some sense, doctors, once upon a time were very much more scientifically oriented in the sense that they had fewer pharmacological tools at their disposal. And their greatest tool was their ability to analyze patterns that they were seeing and figure out how to treat people individually. And maybe among the positive things that might come out of this terrible situation is a rebirth of medicine as a science on the front lines.

**Heather** 02:13

Yeah, in the era of big pharma diagnostics on hypothesis testing became something relegated to a specialist view, rather than something that all doctors did all the time. And every ICU doctor, and really every healthcare professional who's looking at patients right now is effectively having to generate and test in a you know, imperfect way. But with the patient's they've got hypotheses about what the best course of action is.

**Bret** 02:41

Yes. So that would be a positive thing. And maybe there'll be a renaissance in old school medicine, I'd love to see it. Let's see, among other things that I thought were worth raising, before we get to the meat of our discussion. Are, I've seen several reports now that suggests that the actual infection rate is spectacularly high relative to the rate of cases that are detected. And this would, on the one hand, it sounds like terrible news. But it would in fact, in some sense be great news. Yeah, we

**Heather** 03:15

said that a few a few livestreams ago, in fact, yeah, because

**Bret** 03:19

what it would mean is that a lot of cases are asymptomatic. And so presumably, if one acquires an immunity to the virus, by having an asymptomatic infection, then it would mean that a large fraction of the population has actually encountered this thing already, and gotten through it without a major cost. Now, on the flip side, I have also, as you may have even brought it to my attention, there was a report that suggested out of South Korea, I think, right out of South Korea that suggested people may be getting the virus a second time. And I must say, I'm very doubtful that this is going to turn out to be the pattern. There are viruses that behave that way. But I don't think there's any reason to expect that here. And what there is reason to expect is that we will definitely see given that there are false positives, we will definitely see a certain number of people who have not had the disease, who test positive and then do get the disease and test positive again, and that would look just like a case of somebody getting it twice. So I think we can be certain that we will see that pattern a little even if there is no truth to the idea that you can get the virus a second time.

**Heather** 04:36

I think I mean, the data such as work that was cut that was reported on in this very brief article out of South Korea was scant and very hard to interpret. My sense was that it was people who were sick enough to be identified as as patients with COVID-19 the first time and we're now sick again. So that would that would not fit with that possible model that you just

**Bret** 05:01

know, I think it would, because, in fact I've seen unrelated to this particular claim. Another paper suggests that the number of influenza cases, and I forgotten where the study was done, but the number of influenza cases was too high in January, relative to the progression of influenza. And the conclusion that those authors Drew, was that in fact, some of those influenza cases weren't influenza at all, they were COVID-19. So the cases that were diagnosed as COVID-19 may have been something like flu, that was very serious, they got tested for COVID-19, got a false positive, recovered, and then tested for COVID-19 in a second bout, so you would expect some small number of those, and the problem is the way

**Heather** 05:52

and maybe you know, and maybe a high number, I think we won't do this this time. But maybe in a future livestream, we can talk about what how false positives will give a very wrong sense of what is going on, depending on what the base rate of infection out there is, which we can't necessarily know until we start doing a lot of testing. So there would appear to be a circular logical problem there.

**Bret** 06:15

Yep. All right, good. So let's see, I had a couple other things that I wanted to cover. Oh, also began to see several tests. One was a test and the other was a meta analysis on hydroxychloroquine, both of which suggested it was not effective at treating people who were admitted to hospital with severe symptoms. So that doesn't say it couldn't do something preventative, and nor is it definitive, but

**Heather** 06:47

it's gonna be interesting. If so, given that it's also used only as prophylaxis for malaria, and actually is chloroquine used as treatment for vivax malaria. It's certainly one of it certainly is prophylaxis, which is to say, you take it in advance of getting exposed to malaria in order to prevent you getting it. But I don't I can't actually remember if chloroquine may also be used as treatment.

**Bret** 07:12

If I recall correctly back from when we used to travel in these places, and actually you've had a field assistant come down with malaria. In one instance, the treatment for vivax malaria involved a large dose of quinine, which is related to chloroquine. And but

**Heather** 07:35

while this was in rural Northeastern Madagascar, so what the what the treatment there was, may not at all be the state of the art, it may just have been what was available, right, but

**Bret** 07:44

it's effective. What it doesn't do, if I remember correctly, is vivax malaria retreats to one's liver. And the quinine apparently does not reach it in the liver. And one requires a second drug to chase it out of the liver. And I can't, I can't remember what drug it was that does that job. But the quinine apparently did not, did not reach it if I'm if I'm remembering accurately. So anyway, I guess, stay tuned for that story. Both of these things, or all of them, that we've talked about so far are reflective of what we talked about in the last live stream, which is that we are now all of us who wish to be on the front lines of an active scientific discussion, in which nobody really knows the score. We're all learning as we go along. And that is fraught with pitfalls, you know, you're getting to tune in on all of the false false starts about different things that may or may not be true. But you're also there to witness the dawning of understanding of how the thing functions. And that really, you couldn't ask for a better lesson in science or medicine than then being on the front lines of this one. All right. So maybe that's all of the things I wanted to cover that reflect on prior discussions. Do you want to introduce the first of our topics for today's discussion?

**Heather** 09:09

Sure. I think what we've called This episode is smoking and other essentials, which is not quite quite what we actually mean. But it was it was maybe enough to garner some interest, as we want to talk about smoking and the apparently contradictory evidence that is coming out with regard to what the effect of smoking has on bad outcomes with regard to COVID-19. And then also talk about what what makes something essential for humans in light of the kinds of and ways that lockdown is happening and services are being shut down in the US which is where we know most about it. But so let's start with smoking showing. So there there are a lot of papers out there and this is all pretty much on the preprint servers as we talked about last time. That, that say a variety of things. So I'm just going to mention three here. varde of us, I'm probably mispronouncing the names for Davos and Nikki, Tara 2020, found that smoking is predictive of worse outcomes in COVID-19 patients. They did, it's a preliminary meta analysis, which means that they went and looked at other published papers, most of which were in preprint stage as well. And they initially found in this case, 71 studies that they thought they could use, they went into two, five on the basis of whether or not those studies actually had evidence about, you know, people and COVID-19 and all of the things that one might need to winnow it to. And by then doing a, again, a meta analysis of those five pieces of published research, they found that only one of them had. I've got a typo in here. They found weak positive association between smoking and worse outcomes for COVID-19. But they concluded that there is indeed, there is a need a correlation between smoking and bad outcomes. lippy and Henry did another preliminary meta analysis using different search search terms in slightly different in slightly different databases. And they initially found 27 studies, they were noted also to five, and they find, effectively no association whatsoever. But when you look at these two meta analyses side by side, you find that okay, they both were actually looking at five different papers. And as it turns out for the papers, and their two cases were exactly the same. So the statistics that they're using, which are pretty blackbox, for almost anyone, even people who are fairly savvy and sistex is where all the you know, where all the magic where, you know, a magic is happening. And they came to quite different conclusions based on meta analyses of four of the same five papers between the two of them. So that tells you something about what what kind of numeracy, sorcery is going on. And so you know that the interesting stuff happens a minute, but did you have something to add there?

**Bret** 12:13

Well, there's, there's a lot to say. First, we should probably say for those of you who aren't familiar with the term meta analysis, what it really means is an analysis of analyses. So to the extent that you have a bunch of papers that disagree, on some points, somebody can analyze them. And there may be reasons to discount you know, if all the papers that say one thing happened in the same location in that population might be anomalous, you might discover that if you, you know, if you throw out that data, that the pattern becomes very consistent or something like that. But a meta analysis is an important thing to do when you have a complex phenomenon. And the, the conclusions go in different directions. So

**Heather** 12:57

well, and in this case, they weren't they weren't looking for conclusions that went in different directions, they were just looking for all cases, all published papers on COVID-19. That had that said, that included any information at all, as to the smoking status of patients, right? That was just that was what they were looking for.

**Bret** 13:15

So there, I mean, still, it amounts to the same thing. If you were an expert in such a field, you would be faced with the fact that there were different studies that said different things, some of them will be contradictory, and figuring out what you believe. And therefore how you proceed with your own work requires you to figure out why the pattern is not consistent and what message exists if you pull the data and ask a question. Somebody else has Nast. So anyway, this is an essential art. But what Heather is saying is that it is fraught with dangers, because it is inherent, that the methodologies will differ. And so figuring out how to compile the data so that it tells a coherent story

**Heather** 14:01

even harder now, when everyone who's doing this work is working so hard, they probably are not eager to respond to requests to you know, just supply me your entire data set. So they're comparing they're comparing the publication's really, they're not necessarily even able to go and look at the original data sets, which means that there are whatever biases are in you know, in data set 1234 or five are going to be different, are not going to be visible, we therefore don't know what assumptions are being made. Add to that the whatever assumptions and biases are, are present on the behalf of the people writing the meta analysis. And it's just much harder to assess where the errors might be than in a non meta analysis, but it has the opportunity to potentially reveal bigger

**Bret** 14:46

patterns, right. And this is, I mean, in some sense, it's like field work for data. If you go into the field, you're faced with a chaotic environment that doesn't tell a clear story and figuring out how to you know, to prove out the noise from what you're seeing, so that you can identify a pattern worth pursuing. That's part of the art of fieldwork in this case, the noise is in the different kinds of data interacting and the different, you know, labs that have biases to them. And figuring out what's worth pursuing is, you know, it's at least as much art as science and trying to make it rigorous requires sharing your methodology. This is another place where having this done out in the open with all of us amateurs, with respect to epidemiology, able to tune in and you know, maybe bring evolutionary, an evolutionary toolkit with us or whatever, that that helps, because it allows us to spot errors that, you know, an epidemiologist may not be an evolutionist, and to the extent that an evolutionary perspective might allow you to rule out certain kinds of explanations and cause you to focus elsewhere. We can bring it to bear so good. I think it's all quite positive. Now the question though, is what might be going on with this smoking?

**Heather** 16:07

So we haven't gotten to the to the major part of the meat of it yet. What I will say is that those two which I just said something about are two of many actually there have been both many individually published, pre printed papers and several meta meta analyses already and, and articles calling themselves review articles, which basically I think the distinction between review a review article and a meta analysis is that a review article doesn't inherently try to do the fancy statistics on the the competent combinatorics of the analyses that they're citing, I would say your article is just saying, okay, here's, here's what I see, from all of these different lines of inquiry

**Bret** 16:48

review article does not have a method. A review article reports what has been found, even if it disbelieve some part of it, it may say that, but it basically says, here's the state of what we know so far, whereas a meta analysis actually goes about trying to integrate these things into an emergent.

**Heather** 17:08

Yeah, good. It's empirical. Yeah, yeah, a review article is not. So in either of those two review, there's two meta analyses that I just mentioned, is their attempt to look at background rates of smoking in the populations from which the patients came. So they are effectively comparing outcomes of patients that have that have been hospitalized and saying do smokers or non smokers do better but farsalinos at all 2020 and Zack if you did have that you could pull that up now if you don't, that's fine just let me know. So this is a paper cool that came out on it's a very new server it's like it's like a new kind of open source. I think it is at the moment acting as a preprint server but it could become both a preprint and a post print as it were server it's something I'd never heard of before today before it was nothing Oh, okay. Sorry, we can see it but but you guys can't. So as of April 14, it's in preprint version 13 and it and some of the versions some of the versions through version 13 are adding new reviews to their to their meta analysis. And you can see now it's it's up on the screen it's smoking vaping and hospitalization for COVID-19 and I'll just jump to one of the one of the conclusions which is that because there are literally no data on vaping they have nothing to say about vaping so I'm not sure why that got ranked is so important and up in the title given they really don't have anything to say about it. Let me talk first for a moment about something that's not that interesting I think from from what we can what we can add here and you can maybe take it down whenever you want to Zack but your you can leave it up. The section from the intro on possible mechanisms of action has to do with these Ace two inhibitors which we feel that a question on this, I think in the q&a last time, and it reveals how little we know really so I'm just gonna read this. I think it's the second or third paragraph in the introduction. SARS cov. Two is known to use the angiotensin converting enzyme to let's Ace to as a receptor for cell entry. There was a complex and unclear interplay between COVID-19 and the renin angiotensin aldosterone system. Until recently, smoking and liquid nicotine were found to downregulate a stew expression in the lung and other tissues. More recent analyses suggested upregulation of AES two caused by smoking could be detrimental for COVID-19. However, experimental data suggested infection was SARS cov. Two of SARS cov and SARS. cov two leads to downregulation phase two, and this downregulation is detrimental due to uncontrolled Ace and angiotensin two activity. It has been observed that decreased days to availability contributes to lung injury and arts development there For Hire as to expression, while seemingly paradoxical may protect against acute lung injury caused by COVID-19. So that tells us that we don't know what is going on with regard to mechanism that three things COVID SARS, cov two well more than three SARS Cove SARS Cove to smoking, and nicotine as distinct and separable objects, which usually when we talk about smoking, we kind of conflate those two buzzers curve to smoking and nicotine all have a relationship with and on the ACE to receptor. That's about all I can say with certainty at this point, we know that they all three of them have a relationship, and that that has led some people to say maybe, maybe there will be some kind of a protective effect. So I think I think for me anyway, I'm prepared to leave that part of the conversation because we just don't know much more.

**Heather** 20:53

But the results of this paper this farsalinos at all, 2020 paper suggests that current, but not former smokers are underrepresented in hospitalizations and severe outcomes relative to COVID-19 compared to the sample populations from which they come. So specifically, they're looking at these are these are hospital hospitalizations in China, where I don't have the numbers here. But it's something like a quarter of the Chinese population are smokers. And that's highly sex skewed like two plus percent of smokers of women are smokers. And slightly over 50% of men are smokers in China. And that allows knowing that, that allows someone and in this case, these authors to do what is called a Goodness of Fit Test on the data that they have on hospitalizations. And in fact, what they're doing a meta analysis, they went and looked at many of the same papers that those previous meta analyses that we talked about looked at plus a bunch more. And they said, given that a quarter of Chinese people only, you know, 150 Chinese women, but one in two Chinese men smoke, we should expect if there's no effect of smoking, on, on infection with SARS, cov. Two and development of COVID-19 symptoms, that one in two Chinese men who show up hospitalized with COVID-19 are smokers. And one in 50. Chinese women who show up hospitalized are smokers. But in fact, they find much lower rates. So this is this does a this does this beautiful, simple statistical analysis of the sort, like I said, it's called the technical terms and goodness of fit test, which allows you to say here's what my expected values are. Here's what the observed values are, let's map them onto each other. And see, see if they patch. And you might my favorite is former students of mine knows Chi squares, which you can, you can literally do the math on, on the back of an envelope, you really can do the math on the back of an envelope, and you have to compare your result to critical values that have been calculated elsewhere. But you don't need any heuristics that you cannot understand to do these sorts of tests. And furthermore, what they do is they lay bare the assumptions of the researchers, right. So in this case, these these authors said, the expected values are the base rate of smoking in the population, let's compare hospitalizations based on to that base rate. And lo and behold, we get a much much much lower rate of hospitalizations for smokers in China, which is where these data were taken from, then we do then then is present in the population.

**Bret** 23:36

So let's be clear on what sort of complex world we've landed in here. That could be the result of all kinds of things, which would be fascinating, some of which would tell exactly the opposite story that this data seems to be suggesting. Like, this is not going to be the case. But let's say for example, that people who smoke had a high chance of dropping dead within hours of contracting SARS cov. Two,

**Heather** 24:00

they're less likely to end up in hospital. Yeah, they don't

**Bret** 24:02

end up at the hospital. Lo and behold, it looks like it's protective entities in its own way. It's protective of ending up in the hospital. You don't live to get to getting there, but it's just bracket that with this isn't going to end up being true. It's very unlikely to be true. Although I will say that, you know, my favorite stuff is often the things that seem really, really unlikely, but I have some reason to think they probably are right. And one of them. I am going to pat myself on the back here potentially, which is I have been saying forever. That as terrible as smoking is for you. It will turn out to be a mixed bag in the air. Now. I'm not a smoker, you're not a smoker. But the reason I said that was because you had populations of Native Americans with a long history of smoking tobacco, and that passes what we would call the Adaptive Test, which makes it a presumptive adaptation. Where it true that it were simply bad. those populations that didn't do it would have an advantage and you would see the behavior go extinct. So

**Heather** 24:58

I mean, there's there's also With regard to Native American traditions, it often is smoking tobacco. But separating out these two variables smoking, which we know to do damage to lungs, and to cause cancers in the entire respiratory tract and such, and nicotine, which, you know, we understand some of the risks of nicotine to we presumably don't understand all of them, nor presumably do we understand what some of the benefits may be. And for all we know, there may be benefits to smoking, although I hesitate to say that out loud. But these are these are different things. The nicotine

**Bret** 25:31

reduces rates of herbivory. So if you're a plant, it's a slam dunk, because, well, alright, maybe that doesn't make sense. But But let's say, you know, again, heading down into this complex rabbit hole, a, the tobacco, the Native American population, smoke is not the corporate tobacco that you find at the gas station, right. It was a different tobacco, and the tobacco that is being sold at the gas station is optimized for economic realities that have nothing to do with human well being. And so it may well be that the smoking that people in generally do in the modern world is almost entirely unhealthy. But

**Heather** 26:12

there's a perfect analogy, and it just not very hard to get there to the marijuana that people smoke now versus even even just in the 80s, even just before, you know, 6070s 80s before there was such financial pressure to make it heavy, to melt to make it dense and small and packable. So we could cross borders. Yeah,

**Bret** 26:33

marijuana, you're too kind. Oh, that was terrible. All right. I apologize for it. But But in any case, it is likely that merit that tobacco in an ancestral context has a net positive effect for populations that smoked in, it is likely that that has been disrupted by the way tobacco is now currently delivered. But even in the current context, I believe there's some evidence that in cases of Parkinson's, it has some sort of positive effect. And I also remember years ago when we were reading and teaching the emperor of sent about Luca, Turin, and his model for how olfaction functions, terrific book, excellent book, highly recommended emperor of sand. Yeah. There was a question this Luca turn is one of the world's leading experts on smell, not only how it functions, but in the art of describing smell. He has written perfume guides, for example, that are world renowned, and they too

**Heather** 27:36

are exquisite, like his his writing is unlike what most people have to say about perfume smells.

**Bret** 27:42

If nothing else, reading this book will cause you to have a completely different relationship to the way things smell. And even if you had never had any interest in perfumes, you'll find yourself going to seek them out and trying to identify what the various notes are. But anyway, Luca, Turin, at least when that book was written was a smoker. And he was often asked, how could you possibly be you're destroying your olfactory sense. And it turned out that No, in fact, if anything, it went the other way, and had a heightening effect. So

**Heather** 28:12

So let me just say, I tried, I went down this rabbit hole just a tiny bit today I went looking for, you know, I've heard that smoking increases people's sense of taste, and that often chefs are smokers. And I can find nothing in the published literature just just from, you know, a half an hour of looking today. But certainly, you know, this is, anecdotally, we've heard this report from, you know, people with masterful noses and masterful senses of taste. And the fact that the literature isn't hearing that, at least so far as I could find it does not inherently mean it's not true. Yep.

**Bret** 28:47

Now, I also did read, which I remember where it was, but I did read somebody, it's just a conjecture, but somebody was going down the various paths of how the lack of smokers of current smokers to meet the expectations in hospital could possibly be explained. And one of the things that was offered as a possibility was that smoking was effectively keeping people at a distance from you, therefore reducing your likelihood of contracting it. So anyway, there are, you know, probably 1000s of different ways that this could interact other than being physiologically protective, but certainly physiological protective, physiologically protective is one possibility.

**Heather** 29:30

And it might it might be obscured, you know, the the first meta analyses I pointed to which one of which found, you know, maybe mild support for the idea that smoking is actually a risk factor, which we've seen elsewhere. And then, you know, again, I'm not sure how seriously to take that result. But we know that smoking is associated with other issues that are comorbidities for COVID-19. So if you're a long term smoker, and therefore you have lung damage and Or COPD, you may well be at greater risk for COVID-19. Even if either the nicotine or somehow the smoking and we're going to remain agnostic as to what the mechanism there is, even if smoking nicotine is giving you some sort of protection, the other effects of the smoking may outweigh the benefits that may obtain

**Bret** 30:21

Yep, this, this goes to what we discussed in our last livestream about non mutually exclusive hypotheses. And this is going to be if you are new to biology, this is a very frequent case, because biology is above all else complex. And that means you're often dealing with a bunch of factors that pull in different directions. And you know, you may see the top factor and rule out the others falsely. And anyway, you get down the list of some very subtle stuff if you pay attention long enough. Yeah, it's an interesting set of questions.

**Heather** 30:55

Indeed. Well, that's what I've got on smoking for the moment.

**Bret** 30:59

So let's see, from the point of view of advice, we can say, well

**Heather** 31:03

prepared to give advice now on smoking tobacco at the moment,

**Bret** 31:07

here's the thing. First of all, if we're not saying you should take up smoking, but if you were going to, you probably have time to do it now that you're in lockdown. But it makes more sense from a medical medical perspective, if you're going to take up smoking to do it in China, because you're less likely to end up in the hospital.

**Heather** 31:25

That is some of the worst advice I've heard you give today.

**Bret** 31:28

All right. I feel like we're getting some okay.

**Heather** 31:32

So we also wanted to talk about what what an essential item is, right? So this is in light of, you know, we've talked a number of times here on the live stream about the shutting down of nature areas. The 85 miles span of the Columbia River Gorge is shut down. We just heard from our friend Sam caviar today that most of the national forests in Washington and Oregon, or maybe it was just Washington are closed and in breaking these, breaking these rules potentially come with very large fines. And that, you know, we we've talked about the the desirability and potentially the need to get out into nature, a fair bet. And then Michigan, which, you know, we lived in for eight, nine years, something in the 90s into the early aughts, when we were in grad school, Michigan stay home stay safe order has been extended to April 30 as of a few days ago, and he does all the stuff that we've now unfortunately become accustomed to with with the lockdown. Including this line though. Large stores must also close areas of the store that are dedicated to carpeting, flooring, furniture, garden centers, plant nurseries, or paint. And this this came to my attention through Amy aliquam. Me alikhan retweeted on Twitter, someone from Michigan finding I don't know what kind of store it was Walmart or Kroger or something that had roped off the area where you could buy seeds to plant vegetables, which you could then eat, which are somehow included in the this isn't essential for you. You can't buy that now, order, which is obviously not only essential by many measures for many people, but also timely, it's not like well, you can just get around to it whenever you get around to it. And nature will wait because nature won't wait. So there's a number of things to talk about here. But you have something to say right?

**Bret** 33:37

Yes, I'm going to try not to visibly fume. I'm going to try to deal with this carefully. But yeah, maybe this is not the place to start. Maybe what we could do is we could steal man, the argument for limiting sales to essential items before we confront steel Manning, for those of you who are new to us is a concept sometimes associated with the ID w but the ID w borrowed the concept of steel Manning from the rationalist community. And basically the idea is that you want to offer the alternative position in the strongest possible terms rather than straw Manning it you want to offer it in terms that people who advocate this position would recognize favorably as a description of what they what they are thinking.

**Heather** 34:27

So we want so stores are potentially incredibly potent modes of transmission. They are enclosed spaces with recirculating air with people who until recently mostly weren't even masked. And they have a density of people that is quite high typically. So along with these measures, we have increasing rules about how many people can be in stores at a time you have these circles on the floor saying where you can stand when you're ordering meat or when you're trying to check out etc and keep No, having people know that they cannot go shopping for paint, or, or plants at this point may keep people out of the stores who don't need to be there for, for reasons that, you know for, for toilet paper and food. So so that's that is that is one argument that it may it may keep people out of the stores. For Non for non essential reasons,

**Bret** 35:24

it will keep some number of people out of the stores and it will reduce the amount of time that some who do go to the stores will spend there because they've got less to do. Okay, so it will reduce the amount of contact that people have. And some number of people who would contract this disease and presumably go on to die of it will not come down with it because somebody didn't go to the store because they knew that the thing that they would go to buy wouldn't be available to them. So that's one argument. I think there's another argument that you could Marshal in favor of the sale of only essential items, which is that there's a problem that this arbitrarily affects different businesses differently. So is it fair that I can go to Costco and because Costco is open, since they sell a certain amount of stuff that bears some resemblance to food, and then I can go buy a TV while I'm there. But if there's a mom and pop TV store down the road, they're closed, because we've got a lockdown, and they don't sell any food that is unfairly favoring the Costco style store and not the mom and pop place and may

**Heather** 36:30

get people in the habit who were not already in the habit of shopping at Costco for their televisions, of just figuring it's the one one stop shopping place. And it further takes the mom and pop and small businesses stores out of business once we're at a lockdown.

**Bret** 36:47

Right? So I think we've done a pretty good job of steel Manning this one those seem like two really good arguments, say them, you know, we've got we're defending mom and pop. And we're preventing people from dying by

**Heather** 36:59

it. We're saving mom and pop and the economy. Right? I mean that look, look at

**Bret** 37:03

how good that is. So now let's get to what's wrong with this policy so much, so much, so much. So I will say one of the things about this pandemic is that it is simultaneously demonstrating the insanity of libertarianism. And it is also driving many of us in that direction based on the horror of what's being deployed on our behalf. And because of how bad government is how bad government is when it when it is done poorly, which is frequently and but that's not to say that it has to be done poorly. No, it doesn't. But in this case, the idea of limiting sales, only two essential items. It's not the worst idea I've ever heard, but it's definitely in the top 10. Yeah, I mean, it's it's really bad. It's it's not quite as high as Joe Biden is the right guy to beat Donald Trump, but it's close. Just leave that one there. I'll feel the political blowback from it. But anyway, the problem is, the whole idea of knowing what an essential item is, is preposterous on its face, it presupposes

**Heather** 38:15

that the people defining what's essential, have a really good grip on what humans are, and what we need.

**Bret** 38:21

So since I've heard about this policy, I've been playing a little game with myself where I come up with an item that presumably is not essential. And then within 14 seconds, figure out how I could make a pretty good argument that it might be essential. And the fact is pretty much everything's on the list. Because, you know, if we were just machines, and we needed a certain number of things to keep us running, and we didn't have a psychology associated with them, then for a while, for short term, you could define the difference between these things. But given that none of us know how long lockdown is going to last. We have a psychology that has to be maintained that is now being confronted with this very frightening fact of a thing we can't see that seems to be lurking everywhere and pursuing us. We have to deal with living in close quarters, the obvious refuges that we might go to, in order to retain some kind of normalcy have been shut down or heavily regulated. You know, this is this is a terrible situation. And, you know, let's take your example of was it flooring or carpeting that's been

**Heather** 39:33

both carpeting, flooring, furniture, garden centers, plant nurseries or paint.

**Bret** 39:37

Yeah. Now, on the one hand, not essential. I mean, you do need some flooring, but by and large, most places that you would rent or by habit installed, I actually

**Heather** 39:48

wonder if we might not just go back and tell an anecdote from our own lives here and this doesn't. This doesn't get to essentials, but when we lived in Michigan, We had a little house that was very sweet. We were in grad school there. And at one point, so you were in the field, you were in Panama for 18 months. And during that time, I came down and acted as your field assistant for a couple of months. And you would before you let that come to Madagascar, I guess afterwards, come around and ask her with me on one of my field seasons. But I was there alone for a few months, between coming back from Panama. And before actually, we got married, this would have been 98. And we had the most wonderful neighbors in the world, Tom and Sue McGuire. And Tom McGuire was a flooring guy by trade to be dead, he installed carpet and tile. And I thought for our wedding, I would have our solarium tile that had these, you know, cheesy stick on linoleum tiles, and we were grad students, we didn't have much money, and I wanted to learn how to do it anyway. So I hired Tom to do the work and to have me as his apprentice so that I could learn how to tile tile floor. And I did it. And then we together, tiled I think my parents front patio A few years later, and you now had the skill. And since then you I've done a little bit more, but you've done a tremendous amount of both wood flooring and and tiling. And I've done some as well. And no, I don't know at what point you call it essential. But there's those are skills that we have, that allow us to be more self sufficient than we would be absent them that bring pleasure that allow us to affect the aesthetic of our home and our environment and be creative and be productive and increase the value of our homes. And so much of what is available to people right now is shut off just like you said.

**Bret** 41:51

So let's, let's make the argument cleanly, right? On the one hand, flooring seems non essential. On the other hand, you've got people, many of whom are facing a frightening situation with respect to their employment, what they have is time and they're home to the extent that they can upgrade their home with that time, that is at least some sort of a hedge against the situation of having lost their job and potentially medical insurance, the value of their home could go up, it entertains the mind, it's a real skill. So it you know, it can be contemplative, it can be educational, it's something people can participate in with their kids, you know, we've spent a lot of time during the lockdown outside, you know, you've done a bunch of gardening, I've done some, some landscaping, we've brought our kids into it. And the fact is, I don't think we have a problem with our psychological health here in part because even though things are very definitely not normal, there's a lot to do, and it feels okay. But we also have a much better situation than most people. You know, we're not cheek by jowl with our neighbors. It's we're not stuck in an apartment building. So anyway, for people who I think the basic point is, I can't tell you whether flooring is essential for you or not. But I would easily entertain an argument in many circumstances that it could be essential in, in, in many people's lives at this point, just the simple fact of something productive to do rather than dwell on the frightening situation that we find ourselves in

**Heather** 43:33

changing your environment for the better for some in some way that feels better to you that is increased the value of of your home and giving providing a project providing you something to see changing over the diamond cut, it's it's increasingly hard to figure out what day of the week it is. And this is true I think across many sectors, maybe not all but you know, the people on the front lines Who are you know who the health care workers may have that problem for the inverse reason the days are running together? Because they're always at work. But for those of us who are working, you know, who's whose kids are doing remote schooling and we're supposed to be pretending to keep this Monday through Friday work schedule. Not really like I don't I haven't heard from anyone like yeah, that totally, that's working. It's it totally feels normal. And I get up at the same time that I always would have been on a Tuesday, and I'm going to bed at the same time. No, you know, those things are beginning to tatter and fray and being able to either do work of the sort that you already have the skills and or potentially learn some kind of skill that you didn't have before, while really working hard to stay out of the hospital seems like an extraordinary way and a potentially easy and cheap way for governments to allow for this. Not to Be a massive psychological death as well. Yeah.

**Bret** 45:05

I would say it is an interesting exercise, try for yourself naming a product, something you might buy, and take whatever list you think it normally belongs on and see if you can't make an argument for the other. I mean, it's pet food essential. Yeah. It's peps aren't unless you think they are. I mean, that's the problem is we're all going to agree pet food is is essential, because so many people have a relationship with their pet, that It's unthinkable that you would view it any other way. But the fact is,

**Heather** 45:37

even even if you don't like pets, even if you think that people who have pets are ridiculous. You have to know that those of us with pets, if you take pet food offline, we're not going to just stop feeding our pets, we're going to start feeding our pets human food, which causes more of a problem with the supply chain for human food. Yeah, it's far better to allow us to continue to feed our pets.

**Bret** 46:01

And people will feed their pets regardless. And in this case, I don't think there's any danger at all of people making the wrong choice on this. But the point is, that's an aesthetic call. And so much of it is I mean, this podcast itself is functioning on the basis largely of materials, that I mean, the cabinetry, and all of this came late at night. Yeah, Zach, and I late at night, went to Home Depot, there was essentially nobody there. And we just sourced everything we would need, because we didn't know what kind of lockdown was coming.

**Heather** 46:34

This is right before Governor Brown put the lockdown order in place. So as it turns out, Home Depot and Lowe's and even the smaller hardware stores are open just with much restricted hours. But you were going there, they were closing like a 10 or 11. Yeah, so you'd go until closing, bring this stuff back, then go to the office to dismantle it

**Bret** 46:53

to get the equipment. But I mean, the thing is, you could make the argument, this is not essential, right? Frankly, even if you thought the podcast was somehow important, we could do it with you know, the camera that's on our laptops and you know, sit in the corner. So was any of this essential? Well, I don't know, because it has some effect on how other people are dealing with lockdown there. A lot of people are finding that they take solace in these discussions and hearing what rational people who don't know any better than you all what's going on, but maybe have some tools to sort it out. So

**Heather** 47:28

and that in turn provides us solace. So you know, it goes both ways. And the places that we find solace are not obvious, in part because we are not machines, which is where you started,

**Bret** 47:40

right? So all I would say is, I don't I think the idea that you can take a list of products and decide whether they are essential is preposterous on its face, right? And literally try it for yourself, take a product, and then make an argument for make an argument against them. Now imagine bureaucrats deciding this for you. It's an obscene kind of an exercise, what needs to happen is we need to be armed with good information about how this thing is transmitted. You know, so that we can make judgments, we also have to build a system that doesn't externalize the harm. In other words, what we evolutionists, especially people who are well versed in human evolution know is that systems of reputation exist in order to facilitate well being. So in other words, to the extent that if you're sick and you go out, you're going to get other people sick, but you're not necessarily going to make your own situation worse, that has to, in some sense, be viewed as unacceptable behavior, you know, like not washing your hands after you go to the bathroom, right? This is viewed dimly, for good reason. Because the harm to your reputation of being seen, you know, leaving the bathroom without washing your hands, is enough to inspire people to wash their hands who might not otherwise do it. So we have to have that kind of reputational cost for behaving badly. And then you need to have discretion to say Actually, you know what, in this case, this object, which might be not essential in some other context, is essential enough that it's worth it. And here's how I'm going to minimize the risk that I am involved in creating a epidemiological hazard for anybody else. Right, and that is doable with information. But this again,

**Heather** 49:37

requires that people develop models of what the actual risks are, and where they're coming from, as opposed to receiving a list of do's and don'ts.

**Bret** 49:44

Yeah, the the, the idea that you can do this by algorithm that's going to be effectively automated, is nonsense. And that is not to say that there should not be aligned between essential and non essential But it's to say that you can't, you can't put the object on a list and say, what its nature is that just won't work.

**Heather** 50:07

Yeah, I guess one one of the thing with regard to essential, very quickly, live entertainment was shut down. So we had tickets both to the armory here, Portland center stage to some theater and to Oregon Shakespeare Festival down in Ashland, both of which we are, well, for Oregon Shakespeare Festival long term, you know, more than a decade, we've been going there most summers in Portland center stage since we've lived here. live theatre is a fabulous, fabulous joy of being human, for those of us who do enjoy it. And it yes, it would appear to be non essential with regard to you don't die within six months if you don't get to see live theatre. But I would say that the reason that they were shut down was not for their non essential nature, it's because what you have to do in order to enjoy live theater puts you and everyone at risk, right? So there's this, again, a conflation of is the activity itself dangerous, and is the activity itself actually valuable. And value, necessity essential, these have an interplay that are going to be very, very hard to define. And no one is going to argue that live theater should should rank above say grocery stores in terms of their ability to to run, but the fact that they closed, which was, you know, we saw coming, and we're disappointed, but we knew it was going to happen, should not be read as an indication that the people behind those, those theater groups are not doing great services to humanity and providing not just beauty, but truth in artistic form to humans.

**Bret** 52:00

Yeah. And I will say another one of these silver linings is that I've seen quite a number of people begin to innovate substitutes for things like theater, using the online tools that we have, and you know, have never really been a great fit for civilization when it's humming along. But in this case, lots of things are conceivable that could be done remotely, that maybe would be better if you were sitting there. But given that the demand side is very high, because people have more time and less ability to choose what to do. So anyway, there's a lot of room there for people to figure out how to do these things. You and I have talked about offering lectures in biology, to institutions that are suddenly scrambling to figure out what to do, where they've promised online content to students, but they're not practiced in it. And so anyway, we've explored the possibility that we should be offering those lectures and if you are interested in such a thing, then please contact us at support at Brett Weinstein dotnet. Brett has one T. All right. So I there was one other outgrowth of that discussion that I wanted to cover there more that you had no. So I wanted to talk a little bit about the what I see as the looming game theoretic crisis that we, I believe are about to face. The fact is we don't have a national policy of only essential items being for sale, what we have is one state exploring it. Several states well, several states, Michigan was the one you mentioned. This raises a question, let's say that there was some smart way to impose this policy, which I don't think there is, but let's say that there was and then some state, like Michigan implements it, and it becomes better to live in some other state because it didn't implement it. So the epidemiology favors the policy. But those who live elsewhere have an advantage and that they can source whatever they want. And there would be competitors in Michigan, let's say are sidelined by the inability to source materials. So that creates a asymmetric competition between states which is likely to result in the economic realities dominating the epidemiological realities. The reason I raised this is that we have a question that we are an all now hearing the the discussion of which is well when does this end? When does this end is really two different questions. When do you think we will have The response to the epidemic that would justify ending the lockdown. That's one conversation we can have. But there's another conversation which seems to be brewing right alongside it, which is at what point? Do we realize we don't have a strategy for declaring an end to the lockdown? Because maybe the vaccine, if that's what we're depending on might be a year or two down the road? Are we going to live like this? Or are we just going to decide to bite the bullet and move forward. And my fear is that the discussion about biting the bullet and moving forward is really, it will be had in terms that are not completely honest, it will be had in terms that justify it that say, now is the time it's safe enough, whether or not it is and that in effect, what we would be doing, if we decided to go back to normal is we would be rationalizing something. I mean, it's a loose parallel. But you know, we've all heard tales of Inuit, for example, putting elders on ice floes. Now what you need to know is that this behavior did exist, it was only ever deployed in very severe circumstances like famine. And the logic behind it is kind of obvious, which is if you live in circumstances as harsh as the Inuit faced, then

**Bret** 56:30

elders are all well and good when there's enough to go around. But that there are times when things are so severe with respect to the number of quantity of resources, that a very difficult decision that most of us never need to contemplate, becomes manifest in a life and death form. So my point is, I'm concerned about a rush to normalcy based on economic considerations, which are very real, that will, in effect, have a massive consequence for well being of the most vulnerable people in our society. Those who are homeless, can't control their infections based on their living conditions, the elderly are physiologically vulnerable people who live in in dense circumstances because of economic hardship, all of these groups would pay the price for that choice. But the game theory will, in my opinion, be very unlikely to support the choice of the wise municipalities, states, nations that resist this urge, that is to say, to the extent that somebody decides to rationalize relaxing these lockdown standards, they will be economically rewarded. And what we will have is a race to the bottom, where people rushed to join the what will look like an economic boom for whatever part of the world starts back up. And I think we would be very wise to prepare ourselves for that totally foreseeable game theoretic catastrophe, so that we don't go down that road, because at the moment, what we have is a situation where, because the whole world is offline all at once, nobody's advancing. Now, that's not perfectly true, as we talked about, Costco has certain advantages over the mom and pop shop down the street, because Costco sells food. But from the point of view of one nation versus the next, by and large, everybody's offline, from the point of view of individuals, well, a lot of people are facing the prospect that they won't be able to pay their mortgage, now I realize are their rent, or their rent? Now, what is that? If you were to imagine that these were individual cases that'd be very frightening. On the other hand, when an entire population faces these kinds of questions together, in some sense, the bank doesn't want to own every house on the block, right? It can't use them. And if

**Heather** 59:16

and mortgage relief is built into the Care Act for up to a year. Rent relief is not I believe, but presumably, landlords could apply for mortgage relief, the same way that homeowners could, although there are limitations to the mortgage relief built into the Care Act, such as you need to have a federally bank loan, federally backed loan, which not all mortgages are and and, of course, you know, for people who, you know, for landlords, for instance, who simply own their property outright and who are depending on rent for all of their income. What what is it that they can do to, to, to earn income if suddenly all Their renters have no ability to pay. So it's not. There's no there is no perfect solution. So

**Bret** 1:00:04

this is in fact a reflection of exactly what I'm getting. Which is, because it is not in the interest of banks to foreclose on everybody, there was no resistance to the idea of basically protecting homeowners from facing mortgage default. The banks didn't want it because they don't want to own every house on the block, because there'd be nobody to sell it to those aren't valuable assets, if suddenly, every house in the block is for sale. So in essence, what you had is society deciding, you know what, let's just take a timeout. But my point is, timeouts do not make sense. If both teams don't take the timeout, right? If one team is allowed to advance while the other team takes a timeout, then there's no such thing as a timeout anymore. And so what we have to avoid is something where homeowners are in a different situation than renters, where people in one state are in a different situation from another where people in one nation are in different state than another. We have to carefully step away from the game theoretic timebomb that's been set in motion. And then if we manage that, then we have to figure out how to put in place something so that the next time something unforeseen like this happens again, we are not in the same predicament because the game theory isn't new, right? This is the thing that put us in that predicament. But there's nothing about the tragedy of the commons race to the bottom. You know, free rider problem. These are all well understood. And there's no reason that we should be having to navigate this hazard on the fly. Good. All right.

**Heather** 1:01:54

All right, perfect.

**Bret** 1:01:55

Perfect. Shall we move on to drop this one and pick up another live stream? Yes, we're going to drop this live stream and we are going to start another live stream where we will answer your super chat questions. Zack, do we have the link to that second livestream? Yes, it will be in the description in one moment. In one moment. That link will be in the description to this video. Click it and we will meet you there in a few minutes. 1015 minutes. 10 or 15 minutes. Good. All right. See you there. See you soon.