**Episode #57**

**Speaker 1** [00:00:00] Welcome to the Cabrera Lab Podcast.

**Speaker 2** [00:00:06] How are you?

**Speaker 1** [00:00:07] It's super awesome.

**Speaker 2** [00:00:08] I have been thinking a lot about some of the recent stuff, the stuff that's about to come out that people are going to be seeing, like our new book.

**Speaker 1** [00:00:16] Oh, I thought you were talking about government stuff that's about JFK or something.

**Speaker 2** [00:00:20] No, I'm not thinking about that.

**Speaker 1** [00:00:22] I like the stuff that's coming out of it.

**Speaker 2** [00:00:24] I'm kind of living in a cow.

**Speaker 1** [00:00:24] The stuff that's coming out like

**Speaker 2** [00:00:27] from us, from our lab, from our work.

**Speaker 1** [00:00:30] Yes

**Speaker 2** [00:00:31] So we've got this push, so our conference is May 1st and 2nd. The theme of the conference is connect the dots. We have a new book coming out.

**Speaker 1** [00:00:40] COLD

**Speaker 2** [00:00:41] at the dots. So, I was thinking, since they're advertised everywhere, why wouldn't we talk about

**Speaker 1** [00:00:48] connect the dots.

**Speaker 2** [00:00:49] In order to talk about connect the dots, I was thinking about it. I mean, when we say connect the dot, we really mean webs of causality.

**Speaker 1** [00:00:57] Yeah, connect the dots is kind of the general way of saying it, but scientifically, I guess you would call it webs of causality. Yes. Networks of causally or something.

**Speaker 2** [00:01:10] Yes. Because problems present themselves in webs of causes. Well, so before we do that, I can tell you right now, the first objection or thing that people will be thinking about is this idea of root causes. Root causes contrasted with webs of causality. So I know when we work with our students, when we, you know, we're out and about in the world, a lot of people use the term, well, I'm looking for the root cause of this problem. Yeah. Why is that problematic? and then let's contrast it to what we're talking about in terms of webs.

**Speaker 1** [00:01:42] Well, the first thing I would back up from Root Cause is because Root cause is an advancement of what most folks do, what most of the time we do, which is One Cause. Okay. Right? So we can start with kind of the one cause thinking.

**Speaker 3** [00:02:05] Uh huh.

**Speaker 1** [00:02:06] which is you have some effect, some outcome, some thing, and we look for the one cause, right? So this is the cause. Single cause. The single cause, yeah. A leads to B. Single cause or one cause kind of thinking. Then you get that root cause thinking, right? And root thinking is you have this effect. and you work backwards, and you say, well, they sometimes say six Y's. Yes. The six Ys. Yes. That's something people might... So you ask, well why? And then that's, this is the cause. But, okay, why? Well, this the cause of that. Okay, why. Well, you do that six times and you presumably get back to the root cause. And you'll notice that this is very linear in the way that it works, right? And if you think about... Just think about the metaphor root. How many roots you have a tree and you have a trunk in the ground. How may roots go like that?

**Speaker 3** [00:03:13] I love that.

**Speaker 1** [00:03:13] Very few. You know, most root systems go like this. That's how nature works, right? So, and then there's even fungal hyphae that are on, well, we can talk about that later. But, you know, most root system's go like that. So already we've, we're sort of going against the basic structure of nature when we do root cause. Now, root cause is better than one cause. Yes. So root cause thinking is... better than single cause thinking, because it's a little closer. At least you're kind of... There's a series of things. There's a series. There is a series of things, right? But what we want to do is move to webs of cause, and we want to connect the dots. So webs of Cause is going to look like, like this, right, and it might even look like like this. Right? Something like, it's not always equal, right. It could be three things here. and it could even have feedback in it and you know things are feedbacking and right webs of causality sort of saying well there's a bunch of things that are happening some before others in time but but a lot is happening simultaneously to bring about this outcome or this effect or this thing that we're seeing

**Speaker 2** [00:04:29] And I think the key to what you just said is simultaneously, right, like these things are happening in a series, but this is simultaneously meaning all of these conditions are happening in the same timeframe and leading to or are involved in.

**Speaker 1** [00:04:44] Yeah, I mean, they could be happening in both. It could be simultaneous, meaning these things are happening simultaneously to bring this about, and then these blue things, let's say, this is the, you know, next level in time, let us say. So it could be both. It could happening in time in sequence, but also simultaneously in sequence.

**Speaker 2** [00:05:07] Right, and what I think is the most important thing structurally is that with webs of causality, you're focusing on the interactions between and among all of these things. you're not assuming a a to b to c to d linear

**Speaker 1** [00:05:24] It's not linear. Set up. A lot of times there's feedback, there's interaction effects, there is simultaneity, there's things happening simultaneously. And the thing to understand about this is, especially when this effect is a big thing, even when it's a little thing like breaking a glass in the kitchen or something, there is a whole web of causes and effects, right? When this is, in particular, the big things that we care about, like homelessness or inflation or, you know, any of the big issues that we care about. Yeah. This has a web of causality, almost certainly.

**Speaker 3** [00:06:05] Yes.

**Speaker 1** [00:06:06] The bigger the thing, the more it has a web of causality that must be considered. And then there's one other problem here. First, we have to think more like this. We have to thing in webs of causally. But when we solve the problem, when we attempt to solve the problems, either through policy or some solution or some action taken, there's a couple things we can do. We can do simultaneous causes, right? we can deal with the causes simultaneously. or we can deal with the causes one at a time. And there's a huge problem here, which is when we deal with causes one-at-a-time, we sometimes, so let's say we deal with this cause first, and we try to we try, to affect this thing by dealing with this cause, right? Well, when we do that, we rule this cause out because we don't see the effect that we want. when we let's say we we try to erase this as a cause and we go well that thing still exists so it wasn't that thing yes and then we go okay let's erase this thing as a cause well this thing rears its head again the thing that we ruled out and we don't we didn't see the effect that we wanted so this isn't the reason And then we go, oh, well, let's try this one. And then this thing rears its head again. So these things are still operational. And we don't see the effect that we wanna see. So we rule this one out. And we constantly do this as a problem solving technique where if we even get to this level, mostly we're over here at one cause. Sometimes we go to root cause. If we even to this, we then in the solution, choose a one-cause-at-a-time solution.

**Speaker 2** [00:07:55] Yeah, the approach to it.

**Speaker 1** [00:07:56] the approach to it, and then we don't see the effects, so we rule out that as a cause. We ruled out that an effective solution. And it's not, it's a partial solution, and we have to simultaneously do these things together in order to see the effect that we want to see.

**Speaker 2** [00:08:16] Yes, and I think the thing that's really interesting to me, and it's partially because we talked about wholism and reductionism, is when you're doing this elimination thing, you're not accounting for the interaction effect across these four things, right? Because the causes are happening in a dynamical, interactive state in reality, and when you eliminate one at a time, you are not getting rid of these interactions and the connections between them.

**Speaker 1** [00:08:42] And that's why we say connect the dots, literally, you have to connect the dots. You've got to see that these things are connected in a web, in a web of causality. And so the effect that we're seeing, that we care about, is caused by this web of Causality together, simultaneously interactive dynamical. And if we don't connect the dots, meaning see the relationships between them, we never solve the problem. And these are big problems. These are the problems that are the hardest problems to solve.

**Speaker 2** [00:09:23] One of the things I was thinking about, because I was curious about this, because I hear root causes all the time, and the origin of root causes actually came from closed mechanical linear systems, mostly mechanical breakdowns and system failures, where they could go back, literally go back and trace the point at which some mechanical piece of a system failed. Yes. Right. Well, that's not how most of reality works.

**Speaker 1** [00:09:49] Well, it's one of the problems in systems thinking, because systems thinking was originally very much influenced in some regards, on some trajectories, by successes in mechanical types of studies. And then we said, well, gosh, this is so successful in this machine area, like circuit boards and things like that, that we could apply it to the human area. And we did. And, you know, socio-technical systems or systems that are both social and technical that involve people or biological kinds of squishy things, they don't quite operate in the same kinds of networks that these mechanical systems do. And so we get it wrong a lot because we take mechanical metaphors and apply them to organic things, right? And when we do that... we fail to understand the underlying structure of those organic things. This is why we need to think differently about the way we manage organizations. Don't manage them as clocks or mechanical machines, but manage them more like organic or biological kinds of things. Because they are, if they have humans in them. Yeah, so that's why we say flock, not clock. But connect the dots. critical to solving the biggest problems we have today. If we don't connect the dots, if we don''t see webs of causality, and solve try to solve them in as much of a simultaneous way as possible because they're operating in a simultaneous way, then we're gonna get we're going to get kind of like hoodwinked by the solution. You get a little hoodwanked is a great word. You know, because you say, well we tried that. People say, well, we tried that. Yeah, but you didn't try it together. It's like saying, I want to increase my sleep, right? Sleep's really important. Well, how do you increase your sleep? Well, there's about 10 different things that you can do to increase your asleep. And it's not just one thing. So to get better sleep, sleep in a colder room, turn the lights down earlier. Don't be in blue light with the phones and all that kind of stuff. You know have a schedule of sleep have a room. That's not like you know that a room that's kind of designed for sleep So your brain associates the room

**Speaker 2** [00:12:20] Yeah, they said don't work on your bed, don't do other things in your room.

**Speaker 1** [00:12:24] Yeah, and there's a whole list of things that you can do to get better sleep. So if sleep or lack of sleep is the effect that you're trying to affect, then the thing that you have to do to affect it is simultaneously do a bunch of little things. And if you do one of those things and it doesn't work, you don't assume, but it's easy to assume, you shouldn't assume that that thing isn't related. Right because it's related in a web of causality.

**Speaker 2** [00:12:56] Well, I mean, I think it would be helpful. There are a couple of examples that come to my mind as we're talking. One was straight from the work of James Densley in the Violence Project. Remember our students did a presentation last year? Yeah, last year's conference. And his work is excellent. I mean he has the largest database of information on how to stop mass killings and gun violence.

**Speaker 1** [00:13:18] Ah, shootings, yeah.

**Speaker 2** [00:13:19] And here's what's interesting is if you think about the dialog in the media and in the public, it's about mental health. That's the root cause. Or it's gun laws. That's root cause, or it's children being medicated. That's a root cause so everybody's trying to pick one thing that is the cause of the increase in violence and mass shooting.

**Speaker 1** [00:13:41] And this is why perspective circle is so important, right, because for every one of these causes, there's some group in society that says, well, it's this thing. And this group says, Well, it is this thing and this group as well, because it works with their political agenda. Right. Then these folks battle for resources to say it's thing. And the truth is, they're all right. They're all, right. And they're all wrong. They're all right and they're all wrong. They're alright in the sense that, yes, this is one of the causes that's in the web of causality, but they're wrong because they're doing one at a time solutions. And if we took the collective of this perspective circle, we would get it much more right much more often.

**Speaker 2** [00:14:29] Right, in other words, if you took a multi-pronged solution to a webbed problem, whereas you're doing interventions with mental health, you're looking at the gun laws and regulations, you are looking at adolescent health and well-being rates of depression, you are looking at schools, how are schools managing safety, you look at all, there is something like 16 factors that he identified. And it's about doing all of those things at the same time. Public education campaigns, there's a whole list of them.

**Speaker 1** [00:15:01] And not just those kinds of things. I mean, there's great people out there that are doing this without really knowing the underlying structure of what they're doing. People like Densley, people like Casey Means and her brother Cal. Cal Means. They're doing some amazing work that is really fundamentally webs of causality. Connect the dots, right? This episode is sponsored by Training Camp. the ultimate online spot for building the mental fitness that drives personal and professional change and success. At training camp, you'll have access to the science and practice of thinking with personalized thinking assessments, tiered training, and best of all, practice that improves skill. Go to CabreraLab.org to learn more. And now, back to the episode. That it doesn't just apply to these big systems and these big problems, it applies to problems in your life. If you want to lose weight, there's 10 different reasons why you're not losing weight. I know. It's not one. I know! If you wanna sleep better, there are 10 different things that are happening in your daily life that are causing you to get sleep or not causing you get sleep. Yes. And they're all contributory, right? To have a better diet, you know, all of those things. if your kids are having, you know. immunity issues, if your kids are having sugar kinds of issues like diabetes or something like that, those are effects that you want to navigate and there is a web of causality that is leading to those effects.

**Speaker 2** [00:16:39] Well, what's nice is it's not just so, yes, and it's not about just eliminating one at a time, which will be unsuccessful. It's also not looking at it this way because it doesn't exist.

**Speaker 1** [00:16:49] And not looking at it this way.

**Speaker 2** [00:16:51] Right, because in nature these things don't tend to be as prevalent as this. This is the way most of nature and the problems that we encounter.

**Speaker 1** [00:17:00] Yes.

**Speaker 2** [00:17:01] emerge, right?

**Speaker 1** [00:17:02] These effects are non-linear, and so there's a web of causality. And you have to have a little bit of those causes as part of your solution.

**Speaker 2** [00:17:13] So if you're not thinking, if you are thinking in root causes and you're not thinking of webs, one of the things you're doing is you're not seeing the critical importance of the interactions between and among the parts. So just off the bat, we're not seeing at least 50% of the reality of the problem. Yeah, a lot of what's happening is happening in those dynamics and those interactions.

**Speaker 1** [00:17:34] Yeah, and you can you can actually kind of collapse this thing into this thing by the way, right? Which is rather than rather than if you if you want to say well, what is what is the cause of? This thing right you can say well the cause Of this thing is this thing and you might say well that's that well, that's true unless Yeah, you see this as a Interrelated part-whole system, right a web causes, well if you see that whole, then then you can make it very simple and say well yeah all this stuff that interacts in these ways is leading to this.

**Speaker 2** [00:18:16] And what's interesting is this is 90%, 95% of the kinds of things we're thinking about, political polarization, American health.

**Speaker 1** [00:18:25] Personal health. I mean, I want to take it from the big issues, but also the little issues that you're the quote-unquote little issues they're big issues in people's lives, but individual personal things that you are struggling with and The biggest things that we're struggling with in society today. Yes have this structure

**Speaker 2** [00:18:45] I was just talking to somebody on a call and they were talking about political polarization in the United States. And what's funny to me is when people are talking about that as a topic, and that's actually one of the topics that's going to be presented at the conference, they're immediate to say, oh, it's this. It's the right, or it's the left, or its social media. And they'll pinpoint, they'll try to go, oh well, it always this one thing and they blame it and it's. They don't think about, well, it's the right and the left and the media and America's dissatisfaction with inflation. And it's like all of these different things that are connected that are happening, like you said, simultaneously.

**Speaker 1** [00:19:27] So if you have the urge to say it's one thing, say it is one thing like that.

**Speaker 2** [00:19:31] Yeah, say it's a network of things.

**Speaker 1** [00:19:32] It's a network of things, which is one thing. It's one network of stuff. It is a web of causality. It is A web of Causality. So it's singular. A singular web of causality is leading to this thing. If it helps you to... because a lot of people need that, like, well, what's the cause, right? Okay, well that's fine. The cause is a Web of Causalty.

**Speaker 2** [00:19:56] Yes, but I think also this can help reduce that sense of overwhelm, that it's too complicated, there's too many parts, there's things I can't think about. If you try to reframe your thinking as there's a node that has lots of different things interacting and that's what's leading to this, then this seems more manageable that way. Yes. Because we've talked about this. A lot of people are filming.

**Speaker 1** [00:20:20] And that's the value of part-whole thinking. That's what the S in DSRP does for you is it allows you to kind of get some compression and be like, okay, I'm going to think about this complex thing. I'm gonna understand all the stuff that's in it. And then I can just compress it down and say, okay that, that thing that I just thought about is the cause of this thing that i care about because this is the thing we care about. We don't care about this. We care about this. But in order to care about this, we got to understand this. You've got to do webs of causality. You got to connect the dots in your solutions. Yes. Because it's the relationships between these things that make it a web of causalities.

**Speaker 2** [00:20:59] Right, so when you really get down into it and you're doing a deep analysis of this object, you're going to actually start to think really what are these relationships between these parts. You're going try to understand them more deeply, you're gonna RDS them.

**Speaker 1** [00:21:15] You're gonna part party this, you're gonna zoom in, you are gonna part-party it, you are gonna RDS it, your gonna P-circle it, those are all gonna be the things that you do. You are gonna make distinction is not lists. You are going to use all those moves that we talk about so often to understand this thing because understanding this thing is caring about this thing.

**Speaker 2** [00:21:34] And a great example of that, because I always like to have examples, is if you think about what we were just talking about with political polarization, think about Americans' dissatisfaction with anything. Well, that has an RDS to echo chambers in social media, right? We create echo chambers that reinforce our views. So that is an RTS, right, in between those two things.

**Speaker 1** [00:21:54] But if you got rid of echo chambers, it wouldn't go away, right? Because it's not just echo chambers. The echo chambers are certainly massively influential, but there's multiple things going on. And so we have to kind of work on solutions that look at the web of causality, connect the dots, and try to implement things simultaneously. Because otherwise you're not gonna have the effects. You're not going to see the effects that you want. whether that be your sleep patterns, your health. global warming or whatever it is you care about, you know, homelessness, global warming, immigration, whatever it, is there's a web of causality. Like it doesn't matter whether you like this or don't like this. It's like this is true whether you like it or not.

**Speaker 2** [00:22:51] Yes, and I mean, just to just to pull it back out to a wider context, I mean one of the things we talk about a lot is one of the basics of system thinking is looking for webs of causality, not ignoring the interactions between and among things and aligning your thinking with reality. And the reality is the world is more nonlinear network, dynamical, the problems that are presented to us are those things.

**Speaker 1** [00:23:15] And we have actually done studies on webs of causality, and what we found was that the general public, when they're exposed to solutions that we know are accurate solutions, the general public will pick one. Yes. They won't see webs of casualty, they won't think in webs of causalty. the policy that they support will not be a web of causality. It'll be a single cause that it's like their pet cause. They'll be one of these green people over here. Yes. And they'll say, oh, it must be this one because that one's the one that resonates with me. Yes. So if they wanna stop school shootings, well, it's this one. This is the one matters. And then this person's gonna say, well, then this is the, no, no, this is one that matters. And the truth is they all matter.

**Speaker 2** [00:24:06] They all matter.

**Speaker 1** [00:24:07] and they're all in a web, an interactive web that is leading to the causing this effect.

**Speaker 2** [00:24:13] I guess to me, in some ways, just trying to get across a new approach to seeing how problems present themselves, which would then lead to, hopefully, a new way of thinking about how we solve them. In other words, you match the complexity of the problem with the complexity of the solution.

**Speaker 1** [00:24:34] Yeah, and it's interesting that we say how problems present themselves, because again, this is the problem. This is what we call the problem, right? This is the homelessness. This is immigration. This is school shootings. This is inflation. This is all the things we care about. Your lack of sleep. How does it present itself? It just shows up. It doesn't tell you anything about the story. It presents itself as, hey, I'm here. It's like a drunk uncle. It just shows up. It's at your party. Right? That's how it shows up it doesn't tell the whole story of how it came to the party. That's true. Right. So what we have to do when when we see it show up is we have, to say how does this thing show up? And that's going to take us back to unpacking this. And we've got to unpack that. And the way we unpack that is systems thinking. do is is not lists, we do zoom in, zoom outs, we do RDS, part party, and P circles. I mean, that's how you unpack that.

**Speaker 2** [00:25:43] You know, I was just picturing, when you said the drunk uncle, I'm always thinking, and my apologies to anybody named Billy, but just say you have like this drunk uncle Billy, and he shows up and he stumbles in the wedding. You can sort of backtrack this Forrest Gumpian crazy way that drunk uncle billy got into the wedding Thanks for watching!

**Speaker 3** [00:26:01] Yeah.

**Speaker 2** [00:26:02] in this whole web of funny events, like it'd be a great movie. Yeah. Yeah, OK. So I guess the real thing is just to remind ourselves to start thinking in ways that are more aligned with reality, see these networks, these non-linear things.

**Speaker 1** [00:26:17] easy to understand, hard to do. Yeah. Like these things that are hard to do are not complicated. I know that sounds, I mean this is, I think everybody understands why you have to think about webs of causality and connect the dots. Everybody understands when they hear it that these big effects have multiple causes. Everybody understands that in order to affect those causes, you have to affect them simultaneously because they're operating simultaneously, right? Those are not difficult concepts. they're easy to understand, they're hard to do. It's easier to have a knee-jerk reaction to things. It's easy to align with your political agenda. It is just easier to do that. It isn't because the concepts are hard, it's because the integrity of action takes effort. It is easy to say, well, my political views push me towards this solution. Even if it's not going to work, at least I'll feel good supporting my little pet.

**Speaker 2** [00:27:22] And they don't realize they're actually working against the solution by being so singularly focused. Which is interesting, because they all probably have great intentions.

**Speaker 1** [00:27:29] Yeah, everybody's got good intentions, I think, most of the time, but...

**Speaker 2** [00:27:33] Yeah, I think that's right. All right. So I want to talk about the conference for a minute.

**Speaker 1** [00:27:37] Okay

**Speaker 2** [00:27:38] All right, so we have this conference, May 1st and 2nd. The theme, as we said, is Connect the Dots. We have a great lineup of speakers. But what I want you to know is we have a great lineup speakers. And all of them, the common thread is that they're going to be looking at webs of causality in a specific domain, interest, or area. And so there's going to be a lot of really concrete, hard, research-based work around how certain types of problems. present themselves and these wonderful people have done the work to figure this part out.

**Speaker 1** [00:28:14] using different literature reviews of the research that's out there and what are called systemic literature reviews and meta-analyzes and they're looking at what are those webs of causality for a bunch of different problems, education, health, poverty, political polarization, PTSD, cyber security, I mean just like a lot of different topics. It's going to be a rager.

**Speaker 2** [00:28:42] it's going to be a party of all parties. Yeah. And you know, it's always really, really fun. And just as a side note, if people are wondering, well, how do I get started to start seeing these, think of some individual thing that you're struggling with, my sleep, my nutrition, getting my kids to school on time, and start to think about all the related parts and pieces that lead to this thing that, you think of as, you know this problem that you are trying to solve. Start small and then you'll start to be able to see it for the bigger stuff.

**Speaker 1** [00:29:15] Yeah, simple idea. Just and then it's do some zoom ins, zoom outs, part parties, RDS, barbells, P circles, is, is not less. Those are the main moves to unpack anything. So in this case, we're just unpacking the cause. Well, the cause is a big suitcase. You got to unpack it, find out all the things that are inside of it. Yeah, relatively simple to do. You just got to do it.

**Speaker 2** [00:29:41] Yeah, and start somewhere easy, somewhere small, and then work your way up.

**Speaker 1** [00:29:46] is a wrap.