

**Shrink Rap Radio #534, December 1, 2016, Your Mind Is Bigger
Than Your Brain with Daniel J. Siegel MD
David Van Nuys, Ph.D., aka “Dr. Dave”
interviews Daniel J. Siegel MD**

(transcribed from www.ShrinkRapRadio.com by Faizi Crofts)

Introduction: On today’s show, I’ll be speaking with return guest Dr. Dan Siegel about his new 2016 book: *Mind: A Journey to the Heart of Being Human*. He was previously my guest back in 2011 speaking about his book, *Mindsight*. For more information about Daniel J. Siegel MD, please see our show notes at Shrinkrapradio.com.

Dr. Dave: Dr. Dan Siegel, welcome back to Shrink Rap Radio

Dan Siegel: Thanks David, thanks for having me.

Dr. Dave: Well we last spoke in 2011, five years ago about your book *Mindsight* and it’s great to be able to speak to you again about your latest book. I have to say you have really been busy over the past five years. You’ve written several books and spoken tons of places and so on.

Dan Siegel: Yes, it’s been a busy couple of years, a wonderful couple of years for sure.

Dr. Dave: Yeah, that’s excellent. Well, your latest book which we’re going to be discussing (and I’m holding it up now for the camera for anybody who’s watching on camera) is titled *Mind, a Journey to the Heart of Being Human*.

Dan Siegel: Yes

Dr. Dave: That’s a modest project. (both laugh) I must say.

Dan Siegel: Yeah. Yeah well it was an exciting book to write and, you know the idea of a journey is that we all have our journeys that we are on. And this is just one particular journey but it’s also an invitation for the reader to go on a journey also into what the heart of the human being is for her or for him as we go together on this path to explore the mind.

Dr. Dave: Yeah, yeah and you’re braved to tackle this topic because “mind” is not a little topic. It’s a concept that philosophers and now scientists have struggled with for millennia.

Dan Siegel: It’s true.

Dr. Dave: And you’re reaching for a model of mind that can accommodate science and our subjective experience and I really resonate to that because I was very much drawn to humanistic

psychology and the human potential movement back in the day and I think that was largely because there was a sense that scientific psychology had kind of thrown out the baby with the bath and no attention was given to our subjective lives, which you really honor in this book.

Dan Siegel: Yeah, it's interesting one of the comments that was made by one of the reviewers that wasn't so supportive said, "Well Siegel is saying that subjective experience is important and didn't neurobiology prove that subjective experience doesn't exist?"

Dr. Dave: Really? I wasn't aware of that.

Dan Siegel: This is so beautiful to see in a review because um I knew when I wrote this book – thank you for saying it's brave, it certainly created a lot of anxiety once I turned the manuscript in because you know I think people have been saying, I mean not just since 1890 with William James but even since Socrates 2500 years ago that somehow mind was something reducible to the brain. It's an extremely common view that mind is what brain does and so the book is full of questions just to say well, well maybe that's a part of the story but maybe the story is actually bigger than that and maybe the whole story is worth trying to explore.

Dr. Dave: Yeah. One of the things you start with is noting that there is consensus definition of mind. We all sort of think we know what we're referring to but there's no sort of consensus scientific definition of mind. And you set out to remedy that. Why is important to have a definition. We all sort of know what we're talking about right?

Dan Siegel: Exactly. Well first of all the issue that's so intriguing is that you have this way in which you are simply using a word that has no definition right? So that you are saying that it's on my mind or his mind did that or her mind did that or I've lost my mind – all these kinds of things. So, when I entered the field of mental health I thought for sure there'd be some definition of mind that maybe each field like psychology of social work or psychiatry or nursing or educational therapy- these fields would likely have their own definition of mind. But what was fascinating was that actually no-one had a definition of mind. And so, it isn't even that there are no consensus definitions. There's literally no definition. Even the field of the philosophy of mind says you shouldn't define the mind. So, the first thing to say is that we have a field of mind-sciences and mental health that actually don't define what their doing. So that's kind of intriguing.

Dr. Dave: Yeah it is.

Dan Siegel: The next thing to say is, well if we use the word what do we mean by it? Well of course we mean feelings and thoughts and memories and hopes and dreams and subjective experience. The way we know we have subjective experience is consciousness. It's information processing even outside of consciousness. So, we know what we mean even as descriptions of the contents of mind, but why do we have a term for all those things? And some languages like French or Hebrew don't have a word, "mind" but many languages do so we say "Okay, well what is it?". So, I mean I can give away- it's kind of like a 'spoiler alert' if someone doesn't

want to hear about it. But I offer a definition of the mind that I offered back in 1992 to a group of forty scientists where it was the beginning of the decade of the brain. We asked one question. What is the connection between mind and brain? And there were anthropologists and sociologists and linguists in the room who did not accept the view that the neuroscientists in the room said which is: “Mind is simply brain activity” and they would say – “No way. We study mental processes like communication, thinking and memory that get passed within relationships.” So, it isn’t just the brain. They weren’t interested in the brain at the time and the brain people weren’t interested in you know, our cultures and our communities. But for me I was kind of inviting all these people to the party. I had to come up with some working definition at least that could make the relationality of anthropologists and sociologists and linguists fit with the neural processes of let’s say, a neuroscientist. How could there be one process called “mind” that was both within us in terms of the brain and between us. And that’s what the whole book is about – is the journey to explore that and see if this definition of mind that I offered back then has any validity.

Dr. Dave: Right. As you point out the closest that we had for a consensus of “mind” is that “mind” is what the brain does. But that was inadequate as you just explained and you know I think a lot of people give lip-service if you will, to being inter-disciplinary, but you really decided to go whole-hog and you called together forty of your closest scientific friends from across a wide swath of approaches. You’ve mentioned anthropology and neuroscience and linguistics and physics and mathematics and so on. And you met regularly starting what – ten years ago?

Dan Siegel: Well in 1992 – I don’t even want to think how long ago that is but I think that’s twenty-four years.

Dr. Dave: And are you guys still meeting?

Dan Siegel: No no no. There are lots of logistical reasons – after the first few meetings I thought the group was just going to dissolve. But with this definition of mind we went on to meet for four and a half years. So, it went into the middle of the nineties.

Dr. Dave: and that’s extraordinary. I mean when you think of busy professionals, and they were willing to get together on some regular basis to discuss these topics ...

Dan Siegel: It’s remarkable, yeah. And it’s taught me the importance of respecting very different strategies for understanding reality. And you know, they all have their strengths. It’s like the Indian fable of the blind man and the elephant, right? There is a whole elephant but as a scientist you know you study the tail or the ear or the trunk or the toe or whatever and you’re an expert at that part of the elephant. But if you take the stance: “my view of the toe is the whole.”, well you’ll miss the fact that this elephant has a tail. So, my feeling was, “could there be one field that was like a whole elephant approach” you know, that said, “let’s bring anthropology and sociology and linguistics and psychology and medicine in terms of psychiatry and then, you know biology as a whole, and then chemistry and physics and math.” Let’s bring all those fields

together and then the field that got called “inter-personal neurobiology”- meaning the “inter” was the between and the “personal” was the within. And also, the idea that neurobiology was just you know a hard science we could do so that within and between “the science of the within and the between” which sounds awkward so. Interpersonal neurobiology was born back in 92 with this idea that maybe we could all get along, contribute each other’s wise and hard-earned data-points from science- from studies; and build a new view that allowed the whole to be seen. That’s the whole idea of inter-personal neurobiology. I now edit a series of books we know. This would be book number 51.

Dr. Dave: Number 51?

Dan Siegel: This is book number 51 in the series. You know where a lot of different authors now contribute to it. But the idea for the field of mental health or education or parenting is, how you take in inter-personal neurobiology principles (which I review in the book: *Mind*) and see how you can apply them in your life.

Dr. Dave: Yeah, well you do give a lot of attention to inner and inter and how those two relate and sort of to kind of skip ahead a bit– you make a strong case that: whatever we think of as mind or even brain I guess. Well, no – not brain but that “consciousness” let’s say, extends beyond – you know first you say it extends beyond our skull because our body as a whole (we now understand that we’re talking about a system and that we can’t just think that it all happens in the brain per se but all of these systems) we’ve all sort of moved towards a more holistic viewpoint. But then you extend it even further – past the skin. And so, after fifty-one books, this is second-nature to you but...

Dan Siegel: Well those are books I’ve edited – I’ve written I ... can’t remember ...

Dr. Dave: O.K. Yeah, but help us get beyond the skin. Why should we believe that mind is something that doesn’t end at the skin?

Dan Siegel: Yeah – well it’s a great question David thank you. And it’s you know, probably THE most controversial point of the approach and of the book. And it comes from first of all, just experiential emersion so, you know as a person on the planet, let me ask you: Can you feel sometimes, let’s say in your relationship with family members when there’s something not quite going right – can you get that feeling?

Dr. Dave: Sure.

Dan Siegel: Yeah, so – a neuroscientist will say well, your brain is mirror-neurons and it’s picking up the disease of someone else and all that stuff and that could easily be. You could have the brain be the whole thing. But certainly, you would want to go to the whole body. But then in the room, you can feel certain things and when I became a psychiatry resident and did group therapy I could feel certain processes going on in very subtle ways that – yes were emanating of the bodies of the people in the group therapy, but you could feel their processes

kind of have their own texture to them. It's hard to describe. And then I started noticing when I became a researcher in attachment that you could study these patterns across many subjects. So not just my patients who I knew over many, many months but even people I would meet in a very short time in a ninety-minute interview let's say in my research paradigm with the adult attachment interview. And what I found there was that the narratives that arising in the adult attachment interviews had a quality that created a kind of – I call it like a “mind-sphere” like an atmosphere in the room, whether it was trauma or shame or things that I could feel inside of me that sometimes would happen even before a person would say something. I'd start getting images in my own mind about something that may have happened to them and then a minute later they'd say something very specific that was that exact image I'd had and then I started asking people (now I ask a lot of people – I've asked now – hundreds and hundreds – infect thousands of people) you know have you ever in the last year, have you ever had an experience where you got some sense of something very specific happening with a person close to you that when you later found out that thing WAS happening – a thought or an event, - it's specificity gave you the feeling like “this really could not have happened by coincidence”? Have you ever had that experience?

Dr. Dave: Oh sure. I've had – I've had runs of synchronicities that were mind-blowing at different periods in my life that I can't account for in any scientific way – but they were way too convincing to me at a subjective level to account for other than to say there's more going on than we're aware of. Of course, we know we're being impacted by, you know, particles and so on from remote parts of the universe. So, in that sense.

Dan Siegel: So would you say that the mind side of that, there's a person to person connection. You know, I would say about ninety-five percent raise their hand at the question I just raised. And you know I was teaching at the Royal Institute of Britain, and in that structure in London they have the Michael Faraday museum. And remember that Faraday – Michael Faraday was a scientist in the 1800's who postulated that there were these things that you could not see – but they were real, called: electro-magnetic waves. Now I'm sure his colleagues thought he was nuts. Because you couldn't see them, so how could they be real? Now basically all our electronic instruments – like our phones and stuff like that – are based on Faraday's fields. So, the idea that there could be a social field that's something that Peter Senge and Auto Shermer talk about and when they talk about something called “generative fields”, what we're talking about is: can you postulate - this is why I wrote the book as carefully as I did in terms of making it question – so not throwing absolute answers to the reader but not saying “let's go on this journey together. Let's look at these processes and you know, if the mind is, let's say – a product of the brain (let's just stay with that) only – let's say Hippocrates was right and everyone that followed in science who agreed with him including William James – let's say they're correct. Ultimately how does subjective experience emanate from brain processes? Brain processes are simply energy patterns of electro-chemical energy transformations. Some of them have symbolic value so we called it “information”. So even if you stay in the head. You say “Okay” even if Hippocrates was right that it's only the brain, you have this link between mental experience (part of it was subjectivity) and consciousness; and electro-chemical energy flow. So, then it's reasonable to say with Hippocrates and say, “well okay” so then somehow – mind is

an emergent property of energy-flow. Well once you say that which – to me is only scientifically logical way of perusing Hippocrates’ view and William James view and the 99% of scientists in academia say that “fine”. Then once you go there you say well then “hold on”, energy flow is not limited by the skull is it? You go – well, no. So, if mind comes from energy flow, well hold on. Why are you limiting it to the head, it’s the whole body? And this is where if you think about it – your experiences of synchronicity- and 95% of people I ask in a room of a thousand people you see 950 people’s hands go up – it’s remarkable. But here’s what you can say: If mind is an emergent property of energy flow – why would it or how could it be limited to the skull? Because energy flow isn’t constrained by skull or skin even. So, this is where you say well, okay – then if it’s the between, do we have data for that and that’s where I explore this in the book is that – I think we do have a lot of emerging data that for example allows you to say, “relationships between people” are energy in information flow patterns. Like right now between you and me and between the two of us and everyone listening. Then literally is energy and information flow – it’s not some weird, mystical, magical thing – it’s literally air molecules moving in a pattern that we call language, right? In language we can hear with our ears, or if we were reading a transcript – you read it with the photons over your eyes. So, I want to be really clear. One of the push-backs on these concepts of the book has been that talking about the mind should never evoke the word energy. And I say to these people, “why do you say that?”. They say because. this is what they are saying, “energy is not a scientific concept” and so “no, no no no, don’t talk about energy”. And so – when my interns and I who help me do the background research for this book and other books, we have never found anyone who writes about energy information patterns that are both embodied and relational. No-one talks like that. So, for me, it’s very lonely. But in addition to that, it’s very logical, and when I ask these people “why do you say it’s not scientific?” because physics is science.

Dr. Dave: Well, physics has formulas for energy and so on.

Dan Siegel: Yeah

Dr. Dave: So, that I find a little hard to understand that criticism. You draw upon systems theory as one of the disciplines that helps you to arrive at where you finally arrive at. And I think the idea of emergence – maybe even talk a little bit more about that because it’s an important concept in your thinking and I guess in modern thinking. But emergence kind of suggests “Oh suddenly something appears”, not necessarily in a cause and effect way, but because of how systems within systems are hapening. – talk to us about that.

Dan Siegel: Yes, exactly. Well thank you David you’re pointing out the most active points of the proposal that get people agitated so this is a great opportunity.

Dr. Dave: I’m not agitated but (laughs) I’m glad I’m asking good questions.

Dan Siegel: Your pointing out – here’s the idea: When we grow up and go to school, we’re taught to think in very linear ways. What that means is, you know if I raise a cup, I’m going to pour the water out, it will go down. And I know the raising of the cup and the turning of it led to

the water going down. That's linear thinking – that is A led to B led to C. That's what I mean by 'linear.'

Dr. Dave: Sure

Dan Siegel: So, we're very used to thinking in linear terms. It's – you know you get in your car, you turn the key, you press on the gas pedal or the electric pedal in my case. My electric car – and boom, and boy electric cars have amazing torque. So, you just go so fast. Anyway, so these things are linear things. They're causal. That is: A led to B, led to C, led to D. That's why we call them linear. Okay – fine. We live in a world like that. We're taught about that. We live it. Our bodies function that way. But here's the issue that is challenging with the idea of emergence – is that when you think in not linear terms, but in systems terms, a system that has three qualities. It's open influences from outside of itself like a cloud. It's capable of being chaotic like the air molecules and in a cloud – and it's called non-linear, which means: small inputs lead to large and very difficult (at least on the surface) very difficult to predict outcomes. Okay. So, this system is called a complex system. Now, to understand complex systems if you apply your linear thinking, you'll be baffled, you'll be irritated. You get extremely annoyed, and if someone writes a book about it you'll probably write something like: "Oh, he's talking about emergence." Like it's some weird mystical thing. But if you get comfortable with the mathematics of non-linearity – which I try to do very gradually, gently in the book to let a reader not familiar with math feel the excitement of it – what you find is this: If you look in the sky at a cloud, a cloud is a complex system. A system is something made up of elements. In the cloud's case, it's water and air molecules. In the case of the mind we're saying, the mind is part of a complex system. Of what? Energy and information flow that's both in your head and in your whole body. And it's not only within you – it's between you. That's the proposal. So, just like a cloud is the fundamental elements are air molecules and water molecules – a mind – the fundamental elements are energy and the subset of energy that is symbolic value called information and how these energy information patterns flow or change. Okay – fine. So, I'm going to compare these two systems. Yet when you go out in the sky and you see a cloud having these beautiful shapes that are constantly emerging from the individual parts, nothing is a programmer. Nothing is Bill Gates, the cloud formation programmer that's up there having an app to do that – no. It is a complex system that's having emergent properties and in this case – one of the emergent properties (emergent just means, the interaction of the elements of the system) gives rise naturally to something. In this case, the particular something is called "self-organization". Now self-organization is this amazing emergent property of complex systems, proven in the universe – not a hypothesis, not some cute, California term but, you know a solid scientifically proven process – property of complex systems. In this case it's a process called self-organization. Because it's emergent it means the interaction of the elements of the water molecules and air molecules give rise to a shape. But it turns back and it regulates the very place from which it arose, so it's counter-intuitive. Emergence is counter-intuitive, self-organization is counter-intuitive. A lot of people throw up their arms and say, "It doesn't make sense" because their using linear thinking and we can respect that. But the universe is not comprised only of linearity. So, with non-linear thinking you go "I see" – if the mind is the self-organizing emergent, embodied and relational process that is regulating energy and information, well those are from

1992, 24 years ago, then what you say is “How do you optimize self-organization?”. And then you come up with some amazing scientifically proven finding of self-organization and scientifically testable hypotheses. Optimal self-organization creates this fluid or flexible, adaptive, coherent – (means it’s resilient over time) energizes stable flow. That spells F.A.C.E.S: Flexible, Adaptive, Coherent, Energizes, Stable – is the flow that goes between chaos on one side and rigidity on the other. So amazingly – those qualities are the best description for me I’ve ever seen of mental health. And it comes from optimal self-organization. And every disorder of the mind can be seen as symptoms of chaos or rigidity – so that’s interesting. So, then you can ask the question – so this gets back to your original question: “Why should we define the mind?” Defining the mind allows you to say what it is, and no one is saying that. And number two – it allows you to say what is a healthy mind. And a healthy mind would be a mind in this definition that is optimizing self-organization. So, you say: “Well, how do you do that?” Very, simple scientific finding. You differentiate elements of the cloud and you link them. You differentiate elements of your relationship and you link with compassion and communication. Or you differentiate different parts of the body, including the brain and you link them. So, let’s just name that – science, math doesn’t have a name for that. We’re going to name that “integration”. Integration, we’re defining as the differentiation of parts of a system and their linkage. And the proposal is that optimal self-organization science tells us – comes from integration. Therefore, A (here’s our proposal) a healthy mind is a mind that creates integration between, and integration within. And when you don’t do that, you get chaos or rigidity. And that was the proposal from 1992 and now there’s a ton of science, two dozen years later to support that proposal. I wouldn’t say “prove it” at all but every disorder that’s ever been studied has impaired integration in the brain. Every disorder has its symptoms as chaos or rigidity. And now a study in 2015 from the *Human Connectome Project* showed every measure of well-being they could determine was best predicted by how integrated the brain was – how interconnected the ‘connectome’ is how the differentiated regions of the brain are linked.

Dr. Dave: You covered a lot of ground there. Take a breath (laughs)

Dan Siegel: Yeah, and that’s to say why it’s important to give a definition of the mind, and not just a definition but you know, without a definition of mind you can’t say what a healthy mind is.

Dr. Dave: Yeah well, it’s interesting that you go from where you started out all the way finally bridging to psychiatry, psychotherapy, personal growth – all of that type of thing, yeah.

Dan Siegel: look – education – parenting and client change.

Dr. Dave: Yeah, yeah. But what was that thing you just referenced – you said the “something” project?

Dan Siegel: Oh, it’s the “*International, Human, Connectome, Project*” – C-O-N-N-E-C-T – “connect” and then “ome” –O – M – E. What that is, is we’ve developed new capacities technologically to look in very subtle differentiate areas in the brain and show their linkages. We couldn’t do this before. And that’s called “the Connectome” project.

Dr. Dave: Now is that a neuro-science project or who is behind that?

Dan Siegel: Yes – a neuroscience project and you know one of our, you know we have a big – what’s it called – “internet education program” – one of our students called and said: “Oh my God, here at the institute, did you see this study. We hadn’t seen it yet, she sent it to us yet – she sent it to us: the link. And there it was, the best predictor of well-being is how interconnected the connectome is in every measure of well-being they could find. In every way of measuring the brain – essentially the best predictor of health is how integrated your brain is.

Dr. Dave: So, if somebody wanted to look this up they would – what would they do?

Dan Siegel: October 2015 – the *Human Connectome Project* – I mean the reference is in the *Mind* book. I don’t remember – of course – all of it. But if you just search “International Human Connectome Project, 2013” you’ll find it.

Dr. Dave: Okay, so a few reflections that come to mind. First of all, the idea of emergence: it seems to me that’s a property of life perhaps. Particularly the self-organizing – it seems like life is a good example of that – just life. And the emergence – the universe (laughs), the big universe. And we’ve struggled so long well, you know what causes that. Where did that come from. You know maybe emergence is the closest we can come to. It – it just emerged. (laughs)

Dan Siegel: Well it’s really fascinating you know by the end of the book, you know because the book is done in part with the interrogatives you know. Who are we? What are we? How does the mind work, and wellness and un-wellness, you know? Where is the mind within and between? And then it gets to two questions that I never thought in my life I’d be having discussions with people about or rapping about or anything like that. It’s like: “WHEN are we?” And “WHY are we?” So, with the main question, one of the startling things in my own journey to write the book was to make sure that I dove in deeply into the contemporary discussions mostly from physics and math of time. And it became clear that for some of these writers – some of these academicians the idea of time as something that flows is not true. So, we say “Oh time is flying by” or “I don’t have enough time” – all this kind of stuff. So, I talk a lot about this in the book but the bottom line of it is, there is a directionality of change, that is if you and I were cracking an egg open David we couldn’t un-crack it. So, there’s a directionality that things change. But there’s nothing that’s flowing called time. Maybe probably the awareness of change is what we call time. So, I used the word time but I defined it as “awareness of change”, not something that flows. Now, the arrow of time is a scientific term for the directionality of change. And interestingly it only exists in what’s called the Newtonian classical physics state. These are macro-states where the egg is an accumulation of lots of molecules (which by the way are accumulations of very condensed energy) and this collection called an egg is a macro-state. Now macro-states operate by the principle of Newtonian classical physics. And in that level of reality of driving a car or flying an airplane you do have an arrow of time. You have a directionality of change. You can’t un-crack the egg. Those are macro-states.

Dr. Dave: Right.

Dan Siegel: But what I talk about in the mind discussion I'll ask you David: in your own personal experience, have you ever noticed that some parts of what you're aware of – yes, have a sense that things keep on changing and can't be brought back and there's a kind of directionality to them; but in other states you have what we would call timelessness or – things are just seen without the boundaries of what we would "time".

Dr. Dave: Well I'm not sure. I think one place where I have it is- (and this probably comes from meditative experiences) the sense of the observing witness if you will. That part of my consciousness that feels relatively unchanging.

Dan Siegel: Uh huh, and does that have a timelessness to it?

Dr. Dave: Yeah, I think so.

Dan Siegel: Yeah, well what happened for me and. Since I was eleven I always noticed there would make these two very distinct qualities of mental life. One was the more common one which is – things are always changing, changing, changing. You can't get it back, there will be an existential angst about it. I'm like "Oh my God, Oh my God, life is going to go on. And Dying is the end of it." But then there was another state I would get into walking in nature or you know, reflecting on things that now I have a practice called the wheel of awareness that I do where the hub of the wheel is the knowing of consciousness and the rim of the wheel is the metaphoric place of putting the knowns. And the knowns would have this quality of an arrow of time. Things are always changing and unfolding – you can't get it back. But in the hub, I would get this sense of eternity – this sense of timelessness, this sense that things were not just you know a river that was flowing. You know, in the book what I talk about is the possibility when you look at what the mind is as an emergent property of energy that you can make a proposal – you can talk about it an hour later if you want to. The bottom line is – the mind may have macro-states – it experiences a thought or a memory – something like that that have an arrow of time – a directionality of change. But that consciousness itself – awareness itself – that awareness state of knowing that we call awareness maybe actually could be a micro-state and in that micro-state.

Dr. Dave: You're like going into quantum physics?

Dan Siegel: Yeah well when you look at the quantum level of things – deals with microstates like an electron – micro-states have no arrow of time. They have no directionality of change, so this for me was such a revelation when looking at the science because it helped me understand what I was struggling with since I was eleven that I could have both this directionality of change called an arrow of time; but also have no directionality of change – timelessness. And I could never make sense of it in the book – in the in the when part it really goes into it like: "wow" – so if the mind is an emergent property of energy, then energy is thought of as the movement from possibility to actuality for a series of probabilities. It's called a probability distribution curve and

I finished this study of ten thousand individuals that I published in the book you will read the findings where, when they go to this hub – it's almost like their dropping down to the zero or near zero position of this property distribution curve you know which is this sea of potential (what physicists call it). And the proposal that seems to naturally arise from this study is that awareness itself maybe when energy and a probability curve position has moved to this open plain and in doing so it's achieved a micro-state condition that is "infinity is infinity" that is – one state of infinity, you know, openness like that. It's a really interesting thing and then you know the part that gets to the why – what happens from an existential point of view in the book is – really wrestling with this idea. Like wow, there may be a reason we're here and how we can kind of rest in a more comfortable place about this view of time – the when of mind and we look at the why of mind, you get into that if we are self-organizing emergent processes the why of mind is to allow integration to be free to naturally arise which ultimately is about being kind and compassionate. And within us it's about self-understanding – the capacity to have this deep connection with our authentic experience as it's happened.

Dr. Dave: Well I wonder – some people might be suspicious that you might end up in a place that all the great spiritual traditions have advocated of things like kindness and gratitude and what were some of the others?

Dan Siegel: compassion

Dr. Dave: Compassion, yes.

Dan Siegel: When you say suspicious, suspicious of what?

Dr. Dave: I'm not saying I'm suspicious but there's enough suspiciousness I guess for this thought to occur to me. That you start off in this science realm, and you end up in what one would have to say is a spiritual realm.

Dan Siegel: Well it's really interesting first of all that you have raised all of these incredible points but for me what's been fascinating is to try and stay trained as a scientist. And these are fundamental science principles. So, the first book I wrote – *the Developing Mind* you know is just summarizing the science. This one extends the summary into more proposals than any book I've ever written. But here's the idea. I have no background in spirituality training as a youth or an adolescent – none basically. I have been trained as a clinician so moving from pure science training which I started at to view clinician was itself kind of a move to learn more about connection rather than intellectual comprehension. And those connections had and have a deep sense of meaning and purpose. And as I went forward ultimately as a clinician and scientist and it became an educator – I would be out in the world in the workshops and people would come to me from different traditions like I was once in northern Alaska and the head of the Inuit tribes came to me and she said – "You know, everything that you have been talking about are what we've been teaching through the oral tradition for five thousand years. And then I would teach somewhere else and someone from the Buddhist tradition would say you know for 2600 years this is what the Buddhist tradition has arrived. Teaching in the mid-west United States – the

Lakota tradition or I would be teaching in the South Pacific and people from the Polynesian tradition would say “this is what we’ve been teaching for thousands of years. So, for me it was like as a scientist, clinician educator it was like “wow”. And then the strange thing that happened was – (and this is I think why I had to write the book in the way I did because epochs of time) the strange thing that happened as I started getting these invitations to speak at spirituality education conferences, spirituality and science conferences and I had no background in spirituality so I’d say: Okay I think you’ve made a mistake you know. I don’t know anything about spirituality – zero. In fact, I was going to raise, not to even use that word which is true you know. So, then I asked people in the workshop I was in “what is spirituality” and they said “Oh”, and they went around the room. And everyone was saying the same thing – they said it’s being beyond survival and connection beyond a separate self. And I said “is that what spirituality is? Meaning and connection” and they said “Yeah, that’s basically it.” I said, “Oh my God, sign me up.” And so, when you say just now “Oh you’ve moved from science to spirituality”, you know I find if it’s about meaning and connection that’s exactly what the mind-journey is all about – it’s defined about meaning and connection. And you know just a few months ago Andy Simon introduced me as the only scientist there speaking at the Eckhart Tolle event on (I forgot what the formal thing is) “Living a Life of presence. I think we put this up on our website so you can watch this you know two and three-quarter hour journey and [unintelligible] gets up there which sounds true about spiritual wisdom. And she says well we need someone to bridge the field of science and spirituality so we asked Dan to come do it. And I was very nervous because you know Eckhart Tolle had all these spiritual teachers there. And I was the only science person and it was like “wow”. You know first of all I’m going to put everybody to sleep. And it’s just going to be so boring and secondly what a task you know to try to make this bridge. But you’ll see how it unfolds. Over a thousand people in the room and you’ll get a feeling. I think you’ll feel the texture of joining they have. So, for me I feel like this interpersonal neurobiological approach does dissolve the boundaries between the field of science and the field of spirituality in ways that I never even thought could be done or should be done or I never had the intention of that happening. But it seems to have happened.

Dr. Dave: You know I’m struck by the fact that you’ve referenced eleven years old. And my memory’s not very good. I can’t tell you anything about when I was eleven. What is it that you experienced at eleven that still stays with you and is so – it seems to be really important for this journey that you’ve gone on?

Dan Siegel: You know there was a moment right before I was turning twelve actually I remember the specific moment when I was with my friend Tommy and we were cleaning out a pop tent my father had from the military and cleaning it out you know and getting it ready to go taking it on this camping trip were going with this group of teenagers in this Summer camp you know. And I said to Tom (I’m friends with him now and I call him Tom) – back then he was “Tommy”. I said to Tommy “look, we’re going to clean out this tent now and you know just like that we’re going to be up in the sequoias in this tent with our sleeping bags, just enjoying the delicious smell of the pine trees. I’m telling you guys it’s going to be great.” And I go – I remember looking at him going, “but you know just like that we’re going to be back here cleaning out the tent again, folding it up so that next Summer when we go camping again we’re

going to have it ready to go.” He goes “Oh that’s going to be great.” I said, “and just like that we’re probably going to be in high school and maybe we’ll go camping as high school students.” He goes “Yeah that’s great.” And I said, “and like that, maybe we’ll get married and we’ll go out with our families like that.” He goes “Okay that’s great.” And just like that, we’re going to be dead.

Dr. Dave: I’ve had that same experience. I’ve used the same metaphor in relation to death and from a very young age maybe eleven, I was thinking about death and trying to grasp it and had this sense that you know, that it would be like this (snaps fingers) when I look back.

Dan Siegel: Well that’s the feeling. I never stop thinking about it every day of my life sense then before I turned twelve so, eleven. And you know for me what’s so strange about this *Mind* book is that writing this book, having to articulate all these things changed my relationship for the first time with death.

Dr. Dave: How so?

Dan Siegel: Well, when I dove deeply into the wild mind it gave me a certain peacefulness that you know – all we can do is try to release this natural push for integration. That’s kind of – it sort of took away the existential angst about why are we here. But then the existential angst of “Oh my God we’re not here for an unlimited time” when I dove into the time part of the “WHEN am I” there was this incredible peacefulness that came – I don’t even know – it’s so, just, I feel it. Where if you think about it this way and I used to- I have a friend named John O’Donohue whose body died, you know, almost ten years ago now. And John and I – he was a former Catholic priest and a poet and a mystic. But he and I were writing a book together and never got finished but we were teaching a lot together. And one of the things we would talk about would be death. And I said to John I said (and this is what I’ll say to you David) is (and this is what I talk about in the book) is “there’s a, some way of thinking about it where – think about an ant that walks on a ruler from inch three to four and then this little ant walks from inch four to five and then the little ant walks to inch six. We’ll from the ant’s perspective, once this ant is at inch six, all the other inches have disappeared, right? The only thing that exists for that little ant is inch six. So, I said to John, and I’ll say to you David, what if what we call time is actually like a ruler that we get about a hundred what we call “years” – a hundred inches if you will, to live on this ruler of life. And from our ant-like perspective here we are in the date that it is today and we think that everything that happened before has disappeared. I said – but it is very possible that actually this space-time stuff is more like a ruler and that we’re crawling along this block-universe (is sometimes what it’s called) and so of course, in these bodies you know we have the perspective that we’re only at inch six, and that’s the only thing that exists. But the fact is whatever you’ve ever had – people you’ve loved, discoveries you’ve made about the meaning of life – connections you’ve established. That can never be taken away. Now you could say “Oh, he’s just rationalizing” but I can tell you from – even if it is just rationalization, the feeling I have from the science is that life may be more like that and we have this very strange reality that John and I would talk about in a certain way and I with I could have him along with us right now and he could join us in the conversation. That, we were born into that Newtonian classical body but

we have a mind that both has these macro-state thoughts but this micro-state consciousness that lives at that quantum level. So that in viewing things that way there's just this incredible peacefulness that comes to me and I've said this in other, you know settings. I didn't put this in the book but I'll just tell you here David, you know the most direct issue about death that came to me was: my father died about four years ago now- four and a half years ago. And when he was dying he was a strict mechanical engineer, science guy – never, never, never spoke about anything related to- anything being these mechanical engineering ideas he had. But when he was getting near death and he was asking: what's going on – was he dying and I looked at his vital signs that said he was very sick and I said, "Yeah dad, you're getting close to dying." He goes "What's going to happen to me?" and I said, "I don't know and I don't know if anyone knows." He says, "Well, what do you think?" I said, "Well I have my thoughts but I don't know if they are right but I'll share them with you if you want." He goes "Yeah, what do you think?" I said you know, there was this time when you didn't exist, and I never had any patient come to me worried about where they were before they were conceived you know.

Dr. Dave: Yeah, I've thought about that, yeah, yeah.

Dan Siegel: Right? So, I said you come here to see your potential. And you're born into a body because there's that one sperm and one egg of the infinite numbers of combinations that make the wonderful you that you are. You know, you've had this time of about a hundred years in a body, but it may be that this movement from this sea of potential to these actualities that we call our life and body is simply as the body dies, going to melt back into the sea of potential where you were before you were conceived. I was holding his hand and he looked into my eyes, and he got this beautiful, peaceful smile on his face. He said, "that makes me feel so peaceful."

Dr. Dave: Oh- that's great. Yeah.

Dan Siegel: And it was the last conversation I ever had with my dad. He died right after that. And, you know I guess for me it wasn't just something I was saying to him. Who knows if it's right or not – I have a feeling it might be right. The feeling inside of me is just a shift in how I approach the idea that we're here in these bodies. You know, so anyway I think it's part of why I wrote the book mind was to say to the reader, look – come with me on this journey, let's see how it connects to your own experience. Because in the book I'm constantly asking people to reflect back on their own experience, not just take what I say is my experience as something that is valid for them. But in doing the joining, and through questions- what people who have read the book have shared with me is that, it really does transform your sense of what it's like to be a person on the planet. So that's been incredibly rewarding to get from people.

Dr. Dave: You know it's been five years but I sense a difference in you in the conversation that we're having now.

Dan Siegel: Really? What do you see?

Dr. Dave: Yeah, you seem to me maybe more present – more you know, just the level of experience that you’re sharing I think is a difference that I think maybe I find you more relatable. Not that you weren’t relatable then. But there’s something here that feels, that gives evidence to what you’ve been talking about in terms of feeling like your life has been impacted and changed. And I’m particularly interested in this meditative – you call it “a reflective practice” of the wheel of awareness, and evidently, you’ve done research on that you say? You’ve got it on-line or something and you’ve gathered data from ten thousand people?

Dan Siegel: Well we have it online, we give it away and you know we’ve had over – well – close to a million people download it. But the ten-thousand-person study is in person in workshops. I did wheel, reported the results and then had people you know, who were upward either write down their experiences or share them through a microphone and we reported them and literally did it around the world. So, you know I’ve done it throughout north America, throughout Europe, Africa, Asia, Australia and the results are the same. A person can run a monetary in South Korea or can never have meditated before and be a Microsoft engineer who just retired. They could be someone with tremendous interest in therapy or someone who just got dragged by his spouse into the workshop you know. And what is absolutely amazing is the results are basically universal, that is – it doesn’t matter the person’s background. It doesn’t matter their educational experiences. It doesn’t matter their profession, it doesn’t matter their age, it doesn’t matter the culture, religion. All these things, gender issues – I mean. So, then the question was when I finished the ten thousand people gathering of the data you know, of those who decided to speak and those who wrote things down. It’s not that everyone had these experiences but why would the results be so universal, because I didn’t publish any of that stuff? None of it was anywhere, right? About what it might do and what happened was – well a number of things: One, the practice the wheel of awareness practice was started in the 90’s by combining two thoughts. Consciousness is needed for change. Integration is needed for well-being. What if you integrated consciousness? And then you say “well how would you do that? Well integration is differentiation of linkage so consciousness is simply defined as a sense of knowing that allows you to have the knowing of a known, like a thought or what you see or what you feel in your body. So, then there’s a table just through this wall here that’s in the shape of a wheel. Basically, its got a central hub and outer rim. And I would say “OK, let’s, put the knowing in the hub, and the known on the rim, and let’s have this thing that holds up the table it’s like a stand thing. Let’s call that a spoke of attention, move it around metaphorically.” So, they wouldn’t differentiate the different knowns like seeing, from hearing, from smelling, from tasting, touching. That’s one segment of the rim. Then the interior of the body, you know muscles, bones, organs. Then we go to feelings, thoughts and memories and mental activities like that as the third segment on the rim. Then we go to a fourth segments are relational sense of connection of people on the planet. And then I added a more advanced set which was to bend the spoke of attention around and aim it right back into the hub. And there’s a lot to say about the whole thing and I report the results in the book *Mind*. That’s the first place it’s reported. And so, you’ll see that’s where it’s published. You’ll see what the results were. But the bottom line is when people for example would turn the spoke of attention around into the hub or withdraw the spoke of attention into the hub they would experience this expansiveness. Many people would experience this dissolution of a sense of time. So, they feel eternity. They would

feel it would be infinite- this experience of boundaryless space. Somebody would say they felt God, felt love, felt safe, felt incredible peacefulness, joy elation, this sense of connection to things that they never felt connected to before. And I put the quotes in the book. So, then the issue is, you know from a scientific point of view you know, what could that be? I talk about the – if you see the mind as an emergent property of energy flow. “energy flow” – “flow” means change. One way of viewing energy flow is a movement along this probability distribution curve we talked about so that that’s where the idea or proposal comes from the idea of consciousness. The knowing, receptive awareness of consciousness. Maybe when energy is in this plane of possibility – and if that’s true then your plane David and my plane and everyone listening on this program’s plane – our planes are all the same. We’ve become differentiated – what are called plateaus and peaks and that’s fine. We want to honor our differences but realize that when we drop in to this thing which – I do the wheel every day – I get that deep experience, you do get this feeling of profound presence, profound openness. You start to see other people as simply, really manifestations of your same essence. That is – there’s a word I use called “mwe”.

Dr. Dave: That’s spelled M W E.

Dan Siegel: M W E, yeah. You know what’s amazing is I go around to different workshops and different schools and different parenting programs and I say “Look, part of the issue I think we’re struggling with in modern society is we place the mind in the head which may be part of a much bigger story, and if the self comes from the mind, that means the mind comes from your head or at least from your body and that means you’re a solo-self.” That may be part of the truth as a me but we have a larger “we” and I’m working with some people from South Africa who work with this thing called Umutu (?). Anyway, there’s a – one way of looking at other cultures that maybe embrace this better than we do in modern society but here’s the bottom line: A separate self-mind coming from brain alone- self coming from mind – this separate self, may be a lie. And it may be a lie that is lethal. So, a part of what drives me so much in terms of my educational efforts these days is to work with people and organizations, people in government, people in parenting programs, people in schools, individuals – to say look, we’ve been living a lie that’s killing us. It’s killing our planet. Because when you are separate, you treat the earth like a trash can. And when you are separate you don’t have a median connection so what people call “spiritual” is really from an interpersonal or maybe a morality point of view – it’s really about integration. Can you be truly integrated in your life and realize that your life – that phrase is not limited to the life of your body?

Dr. Dave: Wow, you really- you’ve come from the science and you’ve gone all the way around the circle and you are this- going into this kind of spiritual truths and insights. Is there a website where people can go to find out how to do this wheel of awareness?

Dan Siegel: Yeah, so the website is drdansiegel.com. Go to the resources tab and you’ll see a number of wheels that is the beginning wheel, intermediate wheel, and advanced wheel. So, depending on your background and how comfortable you feel you could do a breath awareness training for a little while to stabilize your attention. And then dive into some wheels. You know, it’s something you can try and just give it a go and see how you feel doing it.

Dr. Dave: Well Dr. Dan I think that we have covered a lot of the essence in your book and of course there's a lot more detail there than we were able to get at. But I want to thank you for being my guest again today on Shrink Rap Radio.

Dan Siegel: Thank you David, it's been an honor and I look forward to connecting more in the future.