Daniel J. Siegel: Interpersonal Neurobiology

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Daniel J. Siegel, MD is the author of the internationally acclaimed academic text, The Developing Mind, and is the Founding Editor for the Norton Professional Series on Interpersonal Neurobiology. He is also the co-author of Parenting from the Inside Out and author of the professionally-geared text, The Mindful Brain: Reflection and Attunement in the Cultivation of Well-Being. His first work for a general audience is Mindsight, a synthesis of science and story that provides a readily accessible exploration of the practical steps to apply the power of the mind to integrate the brain and promote well-being in everyday life. His latest book, The Mindful Therapist, explores the application of these ideas for the clinician's own development of mindsight and neural integration.

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For better or worse, this transcript retains the spontaneous, spoken-language quality of the podcast conversation.

S P: I'm with Dr. Dan Siegel. Hi, Dan.

Daniel Siegel: Hi there, Serge.

S P: This may be a broad question, but how did you get into all that stuff that you're famous for?

D S: What a funny question. I don't know about the "famous for." I can just tell you what I've been up to. I've been working trying to combine various fields of science into the field of psychotherapy and in the field of education so that we can understand how the mind develops, how we can perhaps even define the mind, and define what mental health is. In all those ways, what happened to me was I was very interested in staying very close to a scientific foundation for understanding the subjective nature of the mind, and that's really how things unfolded.

S P: So a scientific foundation for understanding the experience of the mind?

D S: That's right.

S P: And what did that lead you to?

D S: Well, it has led to so many different things. On one level, it has led me to draw on over a dozen different fields of science: from fields of, let's say, physics and complexity theory, to anthropology and linguistics, to studying psychology in its various forms, and neuroscience, as well as our field in psychotherapy, and combining those fields into something that we call "interpersonal neurobiology," where we now have a library of professional textbooks. We have organizations. I have a certificate program at my institute. We have a non-profit organization that exists. It's a wonderful flowering of a community of people, really around the planet, trying to think deeply about how to bring more health and compassion into the world.

S P: You said earlier that there was a definition of the mind. Do you want to share some of this?

D S: When I was a psychology trainee, I realized we had never talked about the mind. So in 1989, I became a research fellow looking into the nature of how the healthy mind develops, but I noticed that even in that field, in psychology, the mind was not defined. And so I ran a group in 1992, the beginning of the decade of the brain, where we were asking the basic question: what is the connection between the mind and the brain? The group was able to define the brain pretty easily, but actually of the 40 scientists, there was no agreement on what the mind was. And so to keep the group going, I had to come up with a definition of the mind that it turns out 100% of them, all 40 people, agreed with as a working place, and I've been using that for the last 18 years. It's really changed the way I understand the process of psychotherapy, and how we can understand how mental health develops.

S P: Maybe we can just take a few seconds before you give that definition to have people who are listening ask themselves what their own definition of the mind is, and then back to you.

D S: If you're listening to this and wondering about the mind, you're not alone because of over 89,000 mental health practitioners I've surveyed directly, face-to-face, only 2 to 5% have ever been given even one lecture on the mind, and it turns out, unfortunately, that the same small percentage is true of being given a lecture on mental health. Now before we get too upset with ourselves as mental health practitioners, I should just say that even in the field of the philosophy of mind, many philosophers of mind say we should never define the mind because it will limit it. And even scientists who are actively studying the mind say that they don't have a definition of the mind because they don't know what it is. That's why they're studying it, which is a totally reasonable place for those academicians to be. But for those of us who are practitioners, who are bringing people into their office to try to help them develop a healthier mind, a stronger mind, for me it just didn't seem to make sense for us not to have a definition of mind. So I offered the following definition of mind to this group. There was 100% agreement, and I've been using it ever since for myself and my students, who study either here at the institute, in the online courses, seminars or lectures I give, and it's been a useful definition, and here's how the definition goes: This is a working definition, meaning we don't stick to it like it's the final say but it's an awfully useful place to begin, and it's a working definition of a core aspect of the mind, and that is that the mind can be defined as an embodied and relational process that regulates the flow of energy and information. When we unpack that, we see that "embodied" is a word meaning that whatever the mind is, we make sure that we don't limit it to the skull so that at least there's something going on in the whole of the body. And then the word "relational" means that this personal entity we call mind is actually quite dependent on our connections with other people, our relationship with others, and this part of the definition sometimes makes people nervous like "I want to own my own mind." But if you just study culture and relationships, you realize that our mental life is profoundly influenced not only by our bodies, but by our connections with other people. So this is where the "relational" aspect comes in. You say an "embodied and relational process." The word "process" means that the mind is not a noun, it's a verb; it's an action item. In science, we use a phrase called an "emergent property," which means that when elements of a system interact, there's a process that emerges from the interaction of those elements, and that "emergent property" is what we're saying the mind is. In this case, it's both relational and embodied. This emergent property does something very specific, and we're defining it as a process that regulates the flow of energy and information. Energy is a physics property of the capacity to do stuff, and information here is a word in science that's used to mean a

symbol, something that's used to represent something other than itself, like the word "Empire State Building." There is the building in New York, but the phrase "Empire State Building" is not the building, it's information that stands for, symbolizes, represents the building itself. So that's information. "Flow" just means something changing across time. And then we come to the central word in our definition, which is "regulation." This is a process that regulates the flow of energy and information, and to regulate, what we come to realize is that "regulation" implies you that, like when you regulate car, you're going to monitor that thing you're influencing and then you're going to modify it. In this case, you have to be able to sense energy and information flow and also shape it in a direction. If you're moving toward health, and we'll define in a few moments what mental health is…

S P: I want to just take it here, not to minimize any of the other points, but to just stick to the word "regulatory process" that by simply by putting the emphasis there, there is an implicit and explicit function for the role of psychotherapy; that if the mind is a process that is regulatory, then psychotherapy has the ability to correct the dysfunctions in the flow and to aim for optimal health and well being.

D S: Absolutely. That's right. That you can, by defining mental health as we can do in just a moment, you can actually strengthen the mind to move towards mental health. You can actually teach clients how to monitor their inner flow or their interpersonal flow with more stability; to monitor with more depth and clarity. Basically, you get a clearer picture of energy and information flow. That's a teachable skill.

S P: As a result, my sense of it is that you consider a lot of the DSM as symptoms that are related to these dysfunctions as opposed to something that, in and of itself, is a problem.

D S: That's exactly right and we can get to the DSM in a moment when we get to mental health. But just to finish the regulation part, you can have someone learn to modify, learn to modulate energy and information flow toward health as well, and so they can do that with more strength and specificity in what they're doing. In all these ways, what we have with this definition is a total shift in how, as mental health practitioners, we can approach our craft, our art, our science really, so that we say, "We are mental health practitioners. We are psychotherapists of the mind." Even though we are philosophers of the mind and scientists of the mind, or even in our past, we in mental health have not defined the mind, we can say that now, with absolute clarity, we in fact are in a position to break that trend and say, "Let's actually define the mind," and we can actually define mental health. And so we're in a position to really strengthen what we do as a community of mental health practitioners because there has never been a time on this planet when our human family has needed us more, as mental health practitioners, than in the unbelievably stressful, catastrophe-driven, day-to-day difficult lives we all lead, and we need to strengthen our minds to really cope with the kind of world we live in now.

S P: That would of course be a great segue for a definition of mental health.

D S: Yes, so you see descriptions of illness of course in the DSM, but you don't see an attempt to describe mental health. Now in positive psychology, you wonderfully see a movement to describe mental health, but there's also no definition there of a central mechanism that underlies things like flexibility and happiness, wisdom, joy, compassion, or kindness. All of these things we can know are part of leading a healthful life. There's no underlying mechanism. What I want to suggest to you, and

this a long line of reasoning that I describe in the mindsight book, is that there is, at its root, a process called "integration" that lies beneath mental health. And "integration" is not just a generalized term; it's a scientific term meaning the linkage of differentiated parts of a system. When this process of integration happens, the system moves, like a choir for example, toward harmony. You allow different elements of the choir to have different overtones as they're singing, let's say, "Amazing Grace." But then they sing together, and in that linkage of differentiated parts, you can feel the vitality of a harmonious flow, and that's what integration creates.

S P: Right. In other words, to use the analogy with the choir, what happens in integration is you don't have clones without personality, you don't have disharmony, chaos, but you have differences and you have integration of these differences into something that is harmonious.

D S: That's exactly right. In fact, those are the predictors when you look at complexity theory, though it doesn't use the term "integration" because for a mathematician, complexity is a form of probability theory, and it comes from mathematics. For them, "integration" means addition, like integrating 5 and 3 gives you 8, and the differences between 5 and 3 don't matter; they disappear. So that is why in the mathematics, they actually don't refer to the term "integration." In plain language, we can use the term "integration" as the linkage of differentiated parts, so in fact, the whole is greater than the sum of the parts. You maintain your differences while you achieve linkage.

S P: So the mathematician would be interested in 8, and we are interested in the 3, the 5, and the 8.

D S: Exactly. We're interested in that system. And so if you and I, Serge, are integrated, what it would mean is I honor the difference between me and you. I actually encourage you to actually find your own unique passions and your own unique interests, and you do the same in me. Then not only are we differentiated, but then we have compassionate communication with one another, so we link through the sharing of energy and information flow, which is what a relationship is.

S P: You mentioned the term "mindsight" in terms of cultivating that ability as "sight" as opposed to "blind." Do you want to talk a little more about that?

D S: When this definition of the mind became something that was very useful, and I reflected on the concepts that were emerging in my own inner world long before that period, when I was in medical school, I had professors who didn't see the mind, the inner subjective world of a person. I had experiences being a young psychotherapist where I felt that this ability to see the internal world, and my own closeted mind myself; had this concept of mindsight. I found that's what was missing in people's development with their parents and in the work we did and in therapy. That's what I had to try to cultivate within them, and so by the time this group came around in 1992, I was fascinated with the idea of what a scientist would do with the idea of mind. Finding they didn't have a definition of mind, it was like, "Woah!" So "mindsight" became a term that meant not only seeing the mind of yourself and others; it's like insight and empathy as a starting place, but beyond that, it allows you to track and transform energy and information flow inside yourself, your body, inside a relationship, this communication pattern, and it also helps you understand how the mind itself functions, and moving it toward integration because here's what became clear for me as a therapist: I noticed a pattern where my patients would come in with either rigid states or chaotic states. And if I could teach them to monitor their internal world with more clarity and modify it toward integration, that is, toward linking differentiated parts, the rigidity dissipated, the chaos became less frequent and often disappeared, and a harmonious state would emerge. This kept on happening

over and over and over again, so I kept on thinking, “Well maybe what’s at the heart of the DSM is not so much the differences across all those different syndromes, but maybe the DSM is a description of impaired integration. So when I first came across the concept of complexity theory and rigidity and chaos, I opened up the DSM, I think it was III at the time, and I looked at every symptom of every syndrome, just randomly kind of poking my finger around, and every single one was an example of rigidity, chaos, or both. Then I said, “Okay, so then when patients come to me no wonder they’re in states of rigidity, chaos, or both, and no wonder you can fit them generally in the DSM.” But maybe the bigger issue isn’t trying to confine them to a category and get insurance payment. Maybe the issue is really that integration is impaired, and my job is to seek out where differentiated systems don’t exist and allow them to differentiate, and then, once they’ve differentiated, link them together using the focus of attention. Using that model, people started getting better, and so I began teaching students who started to study with me and it wasn’t until they reported back to me that they could use this same technique that I felt bold enough to actually start teaching about it and writing about it because I wanted to make sure it wasn’t just some weird conviction I had like, I give a person a purple popsicle and they get better so I say, “Purple popsicles are the key to everything.” Once my seminar students, who are really very experienced therapists, some of them in practice 20, 30 years, started using this mindsight approach where you track energy and information flow and try to move it toward linking differentiated parts, they over and over would assure me again that this approach was revolutionizing what they as experienced therapists could do. And I felt like, “Okay, it’s not just some idiosyncratic thing that I was doing.” That’s why I wrote the mindsight book, to make this available to not only therapists, but to the general public.

S P: Let’s talk a little bit about what “rigidity” and “chaos” versus “integration” look like as you’re dealing with a client. Obviously not all the cases from the DSM, but maybe one case or two that give some kind of a concrete flavor of how you notice that.

D S: An example of rigidity would be depression. Rigidity might also be the recurrent obsessions of someone with an obsessive-compulsive disorder. We can start with that one for example. You also see within the same disorder examples of chaos: the flood of panic in someone with OCD, with obsessive-compulsive disorder, of someone being chaotically intruded upon by memories or images of frightening things. What I found very helpful was to look at a model of the way the brain evolved over hundreds of millions of years to have a system that’s a circuit that can sometimes be excessively differentiated. It checks for danger. This checking system overlaps in a large part with a lot of the systems that Jeff Schwartz talks about, in that you have a system that looks for error detection. It’s a little bit different, but I think they share a lot in common. But in the approach that I do, it really is looking at integration and the fact that this circuit becomes excessively differentiated.

S P: So in that sense the mind, one of its key characteristics of its regulatory process is to be adaptive and you notice that when it’s rigid, it’s no longer capable of adapting, and that is when it’s chaotic, it’s simply overwhelmed and not able to properly function.

D S: Exactly. Serge, you got this, and it makes me feel so great inside because this approach is so new. When people really get it and get it as clearly as you do, it feels so deeply moving because it has been a lonely journey of thinking in ways that are science-based, but not shared by anyone. Sometimes I feel like I go out teaching so much just to try to, not only share this with people, but just to have a community of like-minded people rather than feeling so isolated. I really appreciate your reflections on that. But that’s exactly it. It’s exactly like you say, and I’d like to hear more from you.

S P: My question from there is that you're focusing on the mind not being able to function properly in being adaptive and so you're noticing that.

D S: Right. Exactly. So the mind, which is a relational, embodied process, it needs to adapt. That's what the function is because we are relational creatures and we are embodied creatures. We're both. When you see this in OCD, you want to look where this rigidity and chaos is coming from so you say in your mind, "Okay. If there's rigidity and chaos, I know there's impaired integration." That's step one. Number two you say, "If there's impaired integration, I know differentiation is likely blocked and/or linkage so then you go looking for it. In this case, with OCD, it's pretty clear there's this excessively differentiated circuit I call the "check circuit." It evolved over millions of years. It can sometimes get overactive from being exposed to the streptococcus bacteria because there are certain proteins on the membrane of that bacteria that mimic the proteins on the check circuit areas of the brain, including the caudate and the amygdala. That circuit gets overactive, and you start excessively looking for things that could endanger you. So what I do in the process of therapy, you'll see this in the chapter, I think it's chapter 12 on temporal integration, you can see where a person in this domain of integration has got to learn to allow this part to become more a part of their life rather than being a renegade circuit. You can see step-by-step approaches to linking this excessively differentiated circuit, and that's the approach. Amazingly, I've worked with kids as young as six years of age where you can take people with pretty significant obsessive-compulsive features and allow them to take this integrative approach using mindfulness, using teaching about the brain, using a way of integrating this circuit into a larger whole of the person's life, that they stop having this rigidity and chaos. It's quite remarkable actually because the principles are all there, and the foundation is so basic and yet it's so powerful.

S P: So is it fair to say that it's an extension, if you want, of the mindfulness practice? That is, if you notice an intruding thought, not to fight it and to notice it and accept it, and to, in that way, integrate it? And that you're applying that to dysfunctional circuits or loops of the mind?

D S: I think that's a nice way of saying it. I myself only learned about mindfulness about five years ago, which was way after developing this approach to OCD and integration and all that stuff. But mindfulness fits it beautifully as I think an integrative process, as you're saying, and that's the beautiful thing about the world I work in. It's called "interpersonal neurobiology" and we try to take what's called a consilient approach so you want to be totally grounded in science and take in different disciplines of science. Then when new things emerge, like for us new mindfulness even though its been around for thousands of years, for us it's new, you can see where you stay grounded in science and don't play favorites with any one disciple or other, but look for the universal findings, then you can invite other perspectives in. And suddenly all sorts of clarity happens, and you can see why mindfulness is so useful in the process of helping people develop mental health.

S P: You have talked about how there is a relationship between mindfulness and mindfulness practice, attachment, attunement, resonance, and well-being so do you want to talk a little bit more about that?

D S: Absolutely. In the mindsight book I talk a lot about this, how it applies to clients, to patients and in the latest book, *The Mindful Therapist*, which just came out this month, you'll find a way for therapists themselves to develop integration and mindsight in their own lives. And I felt that was an important next step to do because in many ways I think, it's called *The Mindful Therapist* book

because mindfulness is an overarching construct. Being creative with what you do and being contemplative in what you do, in many ways interpreting the word “mindfulness” and being a mindful therapist, I think it helps promote this capacity for you to integrate your own life. In the book, what we do is go step-by-step together, me and the reader, together we walk through these steps of understanding how you can have that in your own life because I think that’s an important place to start in any therapeutic endeavor; that the therapist herself/himself have these internal ways of promoting mindsight to see the mind, to promote energy and information flow toward integration. And there’s a lot to say about it, but in the time here I just want to say that it’s an incredible moment of bringing all of these useful ways of helping ourselves and helping our clients, our patients, all into the same tent so we’re speaking the same language about attunement, integration, promoting mindsight, about looking at mental health as an outcome of this harmonious, adaptive flow. It allows us to really embrace the importance of relationships while also embracing the importance of understanding the body and the nervous system in the body and in particular the brain as a fundamental shaping structure of the nervous system. I think it’s just an amazing moment to be a mental health practitioner, to be a therapist, and to come together as a community of different therapists literally integrating as we honor our own differences, and then link together in helping bring healing to all the suffering that exists in our communities.

S P: That sounds so beautiful as it’s said. It sounds like a closing statement of hope and vision for the future, so I’m wondering if we should leave it at that or if you feel that you would want to add something for this conversation.

D S: The only thing I would add is a big “thank you very much” and a gesture of gratitude. If I were there, I’d give you a hug and just say, “Look we’re in this together.” This is a moment in our work, in mental health, that we realize also that we move from helping individuals and couples and families in therapy to realizing we’re all a part of an extended community; that social action, and really social advocacy, is a part of the next step for us as therapists: to bring people from suffering to healing, and then to bring them into full interconnection in the communities in which we live, which includes the planet, which is waiting for us to take care of it.

S P: As you talk, I have this vision of the therapist as an enzyme, as an agent of integration, facilitating this integration into a larger whole, but the differences of course, not people losing themselves, but remaining individuals and integrating into a larger whole, and of the therapist as having this very active role in the beautiful process.

D S: That’s fantastically said, Serge, I couldn’t say it better. That’s why I think integration, because it holds on to our differentiated parts and honors that and cherishes it and you can take joy in who you are, and simultaneously you encourage that in other people and you encourage the linkage and the realization of the fact that we are all interconnected, and how you can promote that. Ultimately, the end result of integration is not only health; it’s compassion and kindness. So that’s where we can really wait until the next installment and talk more, we can meet in person or whatever and it’s an important place for us to reflect all together.

S P: Thanks, Dan.

This conversation was transcribed by Astrid Burke.

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