Louis Cozolino

Dr. Cozolino is a Los Angeles clinical psychologist, a Professor of Psychology at Pepperdine University and an Adjunct Professor of Psychiatry at UCLA. He is the author of four books, *The Neuroscience of Psychotherapy* (with the second edition released in 2010), *The Making of a Therapist*, *The Neuroscience of Human Relationships,* and *The Healthy Aging Brain,* all published by W.W. Norton. He has authored and co-authored articles and book chapters on topics from child abuse and schizophrenia, to language and cognition. Currently, he is working on a book that will about what education would be like if we had attachment-based classrooms.

The GAINS Anniversary Interviews: Lou Cozolino
Interviewed by Lauren Culp

Lauren: Thanks, Lou, for taking the time to talk with us. Where do you see interpersonal neurobiology going in the next five years?

Lou: All right. Should I just free associate?

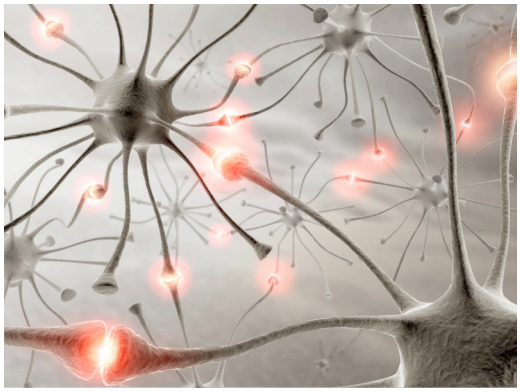
Lauren: Sure!

Lou: All right [laughing]. One of the challenges that I see, from my position of being in academia, is how do we help interpersonal neurobiology penetrate into more academic environments. I think probably the old axiom is true—it's the older generation that has to pass on. Most of the people who are running psychology programs now were trained in the 70s and the 80s, and that was before neuroscience was in everyone's mind's eye. I think that my students now are seeing the natural integration between neuroscience and psychology and psychotherapy, but I know the people that I work with, the other faculty at the university, don't see it. They still see it as a specialty subcategory of neuropsychology, which couldn't be farther from the truth. I think that we're going to push slowly over the next five years in different academic settings, as some of our students start to get promoted through the academic ranks. So that's one thing I want to see.

I have two other special interests, and the first one is the application of interpersonal neurobiology to aging. I think I heard the announcement that the baby boomers are turning 65 at a rate of 10,000 a day. Right now, all of the neuroscience that is popularized around healthy aging has to do with cognitive stimulation. There's almost no attention to the interpersonal variable related to healthy aging. There's plenty of literature on the subject, and I tried to summarize it in the book I wrote, *The Healthy Aging Brain*, applying interpersonal neurobiology to the issues of aging. We know that the brain changes over time during our life span, and there are many systems that falter, such as new learning and those sorts of things, because historically there wasn't much new to learn after we were twenty or thirty years old. This means that there are brain systems that start to decay after the golden year of twenty-five. But the networks that are sustained, and that don't seem to falter in any way, are the networks of attachment. If we look at societies over time, we can see the importance of grandparenting to the healthy raising and survival of grandchildren**.** So I'm hoping that there's going to be more penetration of interpersonal neurobiology into the whole aging literature, connecting healthy aging with secure attachment, not just with doing crossword puzzles and avoiding french fries, those sorts of things.

My other area of interest is education, thinking in terms of applying social neuroscience and interpersonal neurobiology to the classroom. We can really make a case for the importance of attachment in learning, because we know now how much brain stimulation is involved in healthy attachment, and how trauma and negative forms of attachment inhibit one's brain plasticity and influence neurochemistry. So the underlying foundation of new learning really is positive relationships. Throughout evolutionary history, we've learned from caring others about things that are significant in our lives. The crisis is growing in education because there's more emphasis on tests with less emphasis on the individual student, the quality of the teacher-student relationships, and the quality of the classroom environment. I think we're actually moving farther away, structurally. The educational system has almost become an oxymoron.

I think that interpersonal neurobiology has a lot to contribute to that perspective, and I think we see the germ of that in Dan Siegel and Mary Hartzell's book *Parenting From the Inside Out* (2003). Many of the principles required to raise a child also apply to the classroom. What I'm working on now is a book called *The Social Neuroscience of Education: A Case for an Attachment-Based Classroom* [forthcoming from W.W. Norton & Sons]. It takes some of the ideas Dan used looking at very early childhood, and tries to apply them more to public education, especially in inner city situations or where schools are really failing.



Those are the directions I believe we should be moving in and we are moving in. I think some of them are going to be slower than others, especially academia, because academia moves in geological time, like the speed of tectonic plates. It seems like it's always about twenty or thirty years behind the science. We just have to make trouble and create a parallel institution and keep exerting energy and effort and force on that.

Lauren: Great! I have a teaching background also, and I was wondering what you think about using technology like iPads in classrooms. Also, how do you think teaching in person compares to taking classes on Skype where the teacher isn't physically present. Do students feel a relationship to a teacher on Skype?

Lou: I think the important thing is that a child's brain has to be stimulated to learn. The social brain evolved so that we learn in moderate states of arousal. One of the key features of secure attachment is the ability for relationships to regulate arousal. I think good teachers challenge and excite students, but don't push them too far and don't scare them. They develop a kind of scaffolding where they keep their students' brains in that sweet spot of neuroplasticity, which is in a moderate state of arousal, sort of enthusiastic. An enthusiastic state and just a little bit of stress. All of the research around stress supports that mild stress is the best. That's what enhances plasticity and learning.

Going back to your question about the technology—Skype, iPads, anything you're using in the classroom. There's nothing magic about having a smartboard in the classroom. That doesn't make brains learn any better than having a blackboard. Right? What really matters is the quality of the environment. If people are using Skype, it's how they feel, how they're connected, and how much their family supports education. How much do they feel they're in a tribe where the tribe supports what they're doing and rewards them for what they're doing? Is it a place where things are given to them, fed to them, where they're challenged in a way that they can handle, without too much fear and without being shamed. Does that make sense?

Lauren: Yes, it does. I was thinking about your classes, and people I've known who have really enjoyed being at Pepperdine because of your classes. How do you enhance learning in your classrooms?

Lou: I think my main tool in the classroom is being enthusiastic about very interesting information. That's the key tool. The only adjuncts I use in the classroom are films. I always try to find films where we can see patients, or where the students can hear other professors, other researchers talking about neuroscience or neurobiology. But, even with that, I think the main tool really is trying to get them caught up in my enthusiasm about it. It works with some and it doesn't work with others. Probably the people that you're talking to are the people that

it worked with, the ones who are open to neuroscience.

The course I teach in physiological psychology is a core course. It's mandatory. Everybody has to go through it because they see that as a core set of knowledge. In the old standard course, they study sensation, perception, and pharmacology along with talking about some diagnosis. Years ago I replaced all of those standard physiological-psych books with the books that we use to study the interpersonal neurobiology, the ones from the Norton series. So what I've tried to do is skew the course as much as I can to clinical phenomena and to practical application in the class itself. Really it's about seamlessly integrating the neuroscience into clinical practice. The course is always evolving in that way. I'm always looking for really stimulating and interesting phenomena from science that open students' eyes to how important it is to integrate the science into our understanding of the humanity inherent in the practice of the social sciences.

Lauren: Is there anything else you'd like to add?

Lou: Of course, after we stop talking, it will all come to me, but these are three areas where I would like to see interpersonal neurobiology have more of a role—the whole notion of academic psychology, along with the application both in gerontology and education. For me, these are the really important additions or spokes in the wheel for us. So far, I think, most of our work is really pushed into clinical practice with the addition of mindfulness, through Dan Siegel's work. We need to move outward from there.

People are always asking me, "How can I learn more about the science?" I want to encourage everyone to read Stephen Porges' new book, *The Polyvagal Theory: Neurophysiological Foundations of Emotions, Attachment, Communication, and Self-Regulation*. It's coming out this year from Norton. Steve and his book outline the whole history of his work and how he came to understand affect regulation and mind-body connections. That book is just a treasure chest of science and information applicable to psychological development, attachment, psychotherapy—a great place to start.

Lauren: Lou, thank you so much for this, particularly giving us a sense of your passions within this field.

Lou: You're very welcome!

Grow old with me!

The best is yet to be.