

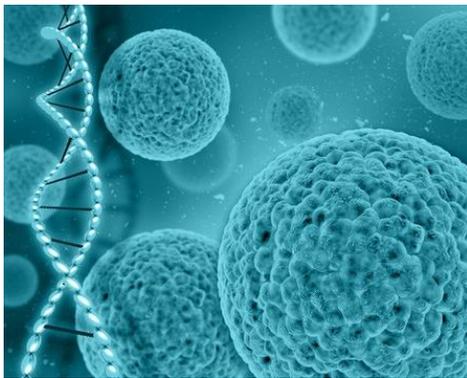
## How Epigenetics, Polyvagal Theory, Neuroscience and Attachment Theory are Changing Mental Health Practices

*Below is an excerpt of Dr. Marti Glenn's acceptance speech when she recently received the Thomas Verny Lifetime Achievement Award from the Association of Prenatal and Perinatal Psychology and Health.*

In the next few minutes I want to share with you the essence of four of the theories that are creating paradigm shifts in our culture and giving us scientific evidence of the most effective methods for our clinical work in mental health. As I've studied and applied these four distinct fields I was fascinated to discover that the take home message for us in psychology is the same from each discipline!



Whether we're looking at Epigenetics, Polyvagal Theory, Neuroscience or Attachment, turns out, the take-home message is the same. I'm going to give you three of the basic principles of each of these fields so that you can see how you can best apply them in your work.



Let's start with **behavioral epigenetics**, which has been in the popular press a lot so you may have heard about it already. In essence, epigenetics research tells us that it is not our DNA that controls our destiny but rather it's *experience* that determines the expression of our genes. For example, if our experience, from the beginning, is of being wanted, safe and cared for, our DNA begins to prepar

for curiosity, connection, creativity and love. If the environment and relationships are not perceived as consistently safe and nurturing, our nervous system sets us up to be unconsciously on guard and prepares us to be vigilant —whether that defense is pushing relationships away, or giving ourselves away to get our needs met. This lack of consistent connection also predisposes us to mental and physical illness throughout the lifespan.



“It is experience that determines our destiny; safety and connection help to create health.”

So our take-away principle from epigenetics is: It is experience that determines our destiny; safety and connection help to create health... and... the good news is, *it's never too late!* Research is showing us that we can change our epigenetics and our destiny at any time through experience. In fact, a very recent study conducted with experienced meditators showed that they changed their epigenetic markers in just 8 hours! There are some tricks to keeping that, which we engage in at Quest. The point is: *It's never too late!*

Now let's look at **Steven Porges' Polyvagal Theory**. How many of you are familiar with Polyvagal? Excellent! I think this is one of the most important pieces of research to emerge in decades. Basically, Polyvagal Theory states that, as humans we have not two but three branches of our nervous system. We were taught that we had two branches of the nervous system: fight/flight or freeze. Porges has demonstrated that, we humans have a third branch, a third way of staying safe, getting our needs met and calming our nervous system. That is the social engagement system that stems from the vagus nerve that begins developing in utero and becomes myelinated with our first contacts after birth. We're the only mammals who, at birth, can't crawl to our source of food and safety, so we have to signal our caregiver. It's just a good thing we're so cute! As the caregiver is emotionally present and responsive, these tiny nerves in the inner ear become myelinated which allows the baby to recognize a calming human voice. This continues as eye contact is made, and the heart settles and makes digestion possible. The child begins to develop a well myelinated vagus nerve, which is the foundation for our social engagement system. This is the body's preferred line of defense. First our body uses an unconscious mechanism that Porges calls neuroception to discern threat or safety. It's like this unconscious part of us is always asking, “Am I safe? Am I safe?” If our bodily sense detects safety, we're able to connect with “an other” to soothe our nervous system and digest our food and begin to trust that our needs will be met. In other words, our unconscious system of neuroception is always surveying the environment for safety, especially in relationship.

If you, like me, didn't have that experience, (If your mother didn't have that experience, she can't give it to you!) you may not have been able to completely develop the vagus nerve. When this happens we often experience anxiety, digestive problems, inability to accurately read social cues, either missing cues of others or misinterpreting other's cues. The good news is, *it's never too late*. What we know now is that as we perceive a safe environment, in the presence of a caring other we can have an experience that myelinates the vagus nerve. This helps us calm the nervous system and experience ourselves, and the world in different ways. This is one of our main goals at Quest. Our facilitators are trained to help participants have experiences of feeling safe, being met and feeling seen.

In looking at this, I think about my very earliest experience. My mother was incredibly anxious and stressed. My parents had a volatile relationship and separated when my brother was an infant. They really loved each other, they just couldn't make it work. On Christmas day they got back together for the afternoon and, later found out I was on the way. Just before this, my mother's sister and her baby died in childbirth. So, you can imagine, my mother was filled with turmoil, anxiety, and a lot of grief. In some work I had done, I experienced her anxiety and thought I needed to take care of her. Since that wasn't possible, I decided I must not be smart and dedicated myself to doing my best to take care of others, often at my own expense. Also, at birth my mother had too much anesthesia and I felt like some part of me died at that point.

Even if we didn't get the benefit of parents who were able to be calm and emotionally present for us as infants, we know now that in an environment of perceived safety, with a caring other, we can repair and strengthen those vagal connections. My most memorable experience of this was sometime in the early '90's when I was working with a therapist in a group intensive. Ray was incredibly present, as was the entire room, and I found myself, curled up in a fetal position cradled on his chest. In that sweet stillness and safety, I heard his heart beat. I took a deep breath and felt, inside my body, "It didn't matter if they didn't want me, I wanted to be here!" I continued to feel the moment and listening to Ray's heartbeat, I felt a surge of aliveness in my body. I looked into Ray's eyes and exclaimed, "I didn't die!" He smiled and calmly said, "No, you didn't die. You're right here, with us."

As strange as that may seem, it was a life changing experience for me as I had a bodily sense of who I really am, not what I had come to believe about myself. As I said, this is our main goal at Quest Retreats: Having experiences of my "True" self in a safe environment, with a caring other, can rewire the nervous system. Safety. Experience. With someone who's authentic, present and caring.



["Having experiences of my 'True Self' in a safe environment, with a caring other, can rewire the nervous system."](#)

The next body of research that informs all of us in psychotherapy, and especially what we do at Quest, is neuroscience and more specifically, **affective neuroscience**. Dr. Daniel Siegel, along with Dr. Allan Schore, brought together neuroscience and attachment theory. Their research helped us apply the basics of neuroscience to the work we do with adults. We know that neurons that fire together wire together, meaning that with repeated experience our neurons wire together and create neural nets. Metaphorically, inside the neural nets is our mental model or model of who we are and how we have to be in the

world to survive. This is the unconscious programming that runs our lives, the lenses through which we view the world. This mental model most often begins at conception and continues in utero and especially at birth. So, these earliest experiences, long before we have conscious memory, set the foundation for what we believe about ourselves and how we have to be in the world to survive.



Our Mental Model, the lenses through which we see the world.



“One positive experience with a caring other can open that neural net, allowing us to consciously work with the mental model”

We each have a mental model. I mentioned my mental model: I’m not smart and I have to take care of everyone else. You may have uncovered your mental model in some of the work you’ve done. Those are the messages that keep us from being who we want to be, making us hypervigilant, and dissatisfied with our lives. Dan Siegel reminds us that one experience can open that neural net, allowing us to consciously work with the mental model. Having an experience, in the body, in the presence of a caring other, can help us begin a new set of neuronal connections, new neural nets and a new mental model. That was certainly my experience with Ray.

Some recent research has demonstrated that following the “aha” moment, there is an uncoupling of the neurons and we literally have about 5 hours to create a more appropriate experience, in the presence of a caring other, to begin to create new neural nets and a new mental model.

We capitalize on this research at Quest by helping participants have meaningful experiences of themselves as authentic, lovable and capable. Then, because we are in a retreat setting, we continue to help the participant reinforce the experience, thereby helping them to, literally, change their brains and create a new model of themselves and how they can be in the world.

So the take home message from neuroscience is, again, perceived safety, having a physiological experience, with a caring other. Again, The good news is: It’s never too late!

I want to come back to my experience with Ray. The healing part of that experience was not about re-living a trauma or something that happened. It’s not about re-experiencing the feelings or shedding light on the event. Knowing our early story is interesting and may help us create a coherent narrative of our lives, making sense of what happened, but the thing

that creates lasting change is the experience of feeling safe, an experience of myself as different from what I may have believed and having that witnessed by someone who is right there with me all the way. *That* is what shifts the mental model.

Now, let's quickly look at some of the principles of attachment theory. Many of you are familiar with the work of John Bowlby, Mary Ainsworth, and Mary Main who looked at the effects of our earliest relationships. Bowlby defined attachment as "an enduring emotional tie with a significant other." Attachment speaks to our earliest needs for safety, security and connection. We know that our earliest experiences with our caregivers lay the foundation for our capacity to regulate our nervous system, our ability to form meaningful relationships, our self-esteem, and our resiliency throughout life.



*"Attachment speaks to our earliest needs for safety, security and connection."*

If we consistently experience that safety, security and connection, we create a secure attachment. If not, our attachment is insecure and either dismissing of relationship or preoccupied with relationship. And, for sure, we have difficulty creating and maintaining lasting, meaningful relationship as well as mental and emotional problems. And if you didn't have a secure attachment, what's the good news? *It's never too late!*

When we distill the principles of Epigenetics, Polyvagal Theory, neuroscience and attachment, we get the same things: When our nervous system perceives safety, when we can have an embodied experience, in the moment, with someone who is authentically present, really "gets" us, and is caring, we can change our epigenetics, strengthen our vagus nerve, calm our nervous system, create meaningful relationships, change our brain and change our lives. All this creates the possibility for the experience of more presence, deeper love, greater satisfaction, connection and creativity. The end result is the ability to live the life you want, touch each person you meet and make a greater difference in the world.

And, incidentally, this is the science behind what we do at Quest. Our staff has decades of experience in helping individuals from 18 to 80 move from where they are to where they want to be in their lives. With the felt experience of entering a very safe environment, exploring areas of their lives they want to shift, we help each participant find their own path, create their own toolbox which ultimately helps them change the expression of their DNA, change their brain and change their lives. These experiences at Quest increase each participant's capacity for authentic presence, happiness, and love as well as giving them a specific sense of direction and a personal toolbox to help them continue their Quest when they go home. This is pretty exciting stuff! As a staff, we gain so much from seeing the amazing results as our participants get ready to go home and as we stay in touch with them

afterwards. We often hear things like, “I finally have my life back.” I know what I want, now, and how I’m going to get it.” “I’m going home a totally different person.”

So, I hope this will be helpful to you as you move along your path in helping others. These are exciting times as many sciences are coming together to show us what creates lasting change, not just a temporary fix. You know that, as a professional, you are the instrument, you are the medicine, you are in the perfect place to help your clients make lasting change in their lives.

Please let me know if I you have questions or if I can support your work in any way. It does take a village! Thank You!



Marti is Clinical Director of Quest Institute, offering professional trainings and intensive retreats to help adults heal adverse childhood experiences and trauma. A pioneering psychotherapist and educator for over 30 years, Marti is founding President of Santa Barbara Graduate Institute, known for its graduate degrees in prenatal and perinatal psychology, somatic psychology and clinical psychology. In her role as professor of clinical psychology, and trainer of mental health professionals, Marti emphasizes the integration of the latest research in behavioral epigenetics, Polyvagal Theory and affective neuroscience with attachment, early development, and trauma theory and clinical applications. She has served on the boards of a number of organizations and has chaired numerous professional conferences. Marti co-produced the broadcast quality documentary, *Trauma, Brain and Relationship: Helping Children Heal* with Daniel Siegel and Bruce Perry and has appeared in a number of documentary films relating to the importance of our earliest development. Marti conducts training programs for mental health professionals and is a frequent speaker at conferences worldwide.