

Spirit Rock Meditation Center

June 9-11, 2017

Shift Happens: Learning to Bounce Back from Disappointment, Difficulty, even Disaster

Friday morning 9:30am - 12:30pm

[retreat/workshop; five factors; sharing kindness; group intro's; resilience, Paul Gilbert, NP, mechanisms, intelligences]

**S-1 Title**

**S-2 LG intro**

**S-3 image of woman in contemplation**

Welcome to these three days of inquiry and practice, sometimes sitting in silence, sometimes walking the land, sometimes in guided meditation or guided visualizations or guided movement, sometimes in small group discussions of 2-3 people, sometimes in my offering tools and techniques based on research findings from neuroscience or the behavioral sciences, sometimes my offering wisdom teachings from the vipassana style of BuddhaDharma, sometimes you asking questions or answering each other's questions, always in community, always in the

spiritual sanctuary and practice legacy of vipassana meditation of Spirit Rock, always with respectful intention to explore and experience and learn and grow, learning how to bounce back from disappointment, difficulty, even disaster, because that's so much of what we are asked as human beings to do.

#### **S-4        Q Keller**

All the world is full of suffering; it is also full of overcoming.

- Helen Keller

We will be exploring creating shift in our perceptions and perspectives and behaviors in the context of this quote from Helen Keller:

I'm aware of a few paradoxes on a non-residential retreat like this. Because a three day non-residential retreat is a kind of a hybrid. We get to unplug - somewhat - from responsibilities at home, from larger intentions and commitments, and focus our attention on whatever the experience is of the moment - even if that experience is the wise effort of an experiential exercise designed to help us develop more skillful patterns of coping and rewire our brain to become more flexible, more adept at creating shift - in perceptions, and reactions, and perspectives and behaviors, helping us make wise choices and recover our resilience and well-being.

In the Buddhist tradition, wise effort is learning to let go of the unwholesome and cultivate the wholesome, and on this retreat we learn what modern neuroscience might teach us about doing that, letting go of old habitual patterns of coping that maybe don't work so well any more, and cultivating new patterns of coping that work better, in ways that are safe, efficient, and effective.

This retreat/workshop format is also a dance between wise being and wise doing; finding both refuge and resourcing. They don't have to be antithetical. But sitting in this room for three days on chairs and cushions on land that is stunningly beautiful and beckoning, needing to move and stretch in weather that is conducive to the letting go part, maybe conducive to the cultivating the wholesome as well, I'm reminded of this poem by the Indian poet Rabindranath Tagore, the first non-Caucasian to be awarded the Nobel prize for literature, in 1913, different tradition; he is Brahmin in the Hindu tradition, but he also addressed this dance between devotion and social change/social justice. On the devotion side:

### **S-5 Q Tagore**

I ask for a moment's indulgence to sit by thy side. The works that I have in hand I will finish afterwards.

Away from the sight of thy face my heart knows no rest nor respite, and my work becomes an endless toil in a shoreless sea of toil.

Today the summer has come at my window with its sighs and murmurs, and the bees are plying their minstrelsy at the court of the flowering grove.

Now it is time to sit quiet, face to face with thee, and to sing dedication of life in this silent and overflowing leisure.

So we may have moments of dedication of life in this silent and overflowing leisure on this retreat/workshop as well.

### **S-6 Q E.B. White**

I'm reminded of this quote from E.B. White:

I arise in the morning torn between a desire to improve the world and a desire to enjoy the world. This makes it hard to plan the day.

- E. B. White

I would paraphrase that: I arise in the morning torn between a desire to save the world and a desire to savor the world. This makes it hard to plan the day.

On the savoring side, we get to unplug from email and phone calls and texts, if we choose. I will do a riff later in the retreat on the impact of the time we spend on our devices on our brain's capacities to focus and concentrate and pay attention and how mindfulness might be the quintessential practice that protects our brains from turning to distracted mush over time, but for this retreat, to create the sacred container of attention, an intention in this space, I ask that cell phones be left in your car, not brought into the hall, so that we stay as focused as possible on our intentions for these three days.

And there may be paradoxes or a seeming yin/yang even among our intentions for these three days. Some people may just need to chill and find refuge and re-group from stressors in life out there (or in here - in our own heads about out there.) Some people needing CEU's need to learn what was promised in their CEU objectives and hope for some substantial take-aways.

I do remember when I first started practicing at Spirit Rock I heard Howie Cohn teach that the practice was to let your heart and mind find the natural peace and ease that IS the natural peace and ease of the heart and mind, and stay there. Yes! And I also remember Guy Armstrong teaching that the Buddha taught

to practice as though your hair was on fire. And I thought, this Buddha means business!

This dance between wise being and wise doing, savoring and saving - our sense of self if not the world - is very relevant to our topic of resilience. And so many wisdom traditions teach this.

### **S-7 Q Iyengar, Niebuhr**

I was teaching at a Yoga Service Council conference three weeks ago and the Omega Institute campus is littered with pink signs that have pithy wisdom quotes from teachers of many lineages. One from BKS Iyengar says Yoga teaches us to cure the things that need not be endured, and to endure the things that cannot be cured.

Very similar to the serenity prayer of Reinhold Niebuhr, American theologian, God grant me the courage to change the things I can, the serenity to accept the things I cannot, and the wisdom to know the difference.

So resilience certainly is very much about responding to life events that are challenging, even catastrophic with some wisdom and some equanimity, and how we relate to our perceptions of those events, and how we relate to our reactions to those perceptions, and to our reactions to our reactions, and the

choices we make in terms of intentions and values and behavior, navigating what we can shift and also navigating what we must accept with grace and equanimity.

I will talk more about what resilience is in a moment and how definitions and perspectives are shifting in the field. And what equanimity is, meeting whatever is happening with clear eyes and an open heart, and how that relates to resilience, in a moment.

First, I've taught workshops similar to this retreat many times at Spirit Rock, all over the country and world now. And I've learned there are five factors which contribute to the possibility of strengthening both our resilience and our equanimity.

## **S-8 Five Factors that Foster the Strengthening of Resilience**

1. Safety
2. Safety in relationships
3. Positive emotions in relationships
4. Brain learns from experience
5. Little and often

I will say more about each of these as we move through the weekend.

## 1. Safety

The brain's neuroception of safety within itself, which can be at quite an unconscious level, that we are safe and not in danger or life threat, primes the neuroplasticity of the brain for learning and growth.

## 2. Safety in relationships

The safety and trust and resonance between us and another human being or from being part of a community, will activate the neuroplasticity of the brain to do what it does best - learn and grow and rewire in interactions with other brains.

Human beings are social beings. Human brains are social organs.

## **S-9      Q    Fosha**

The roots of resilience are to be found in the felt sense of existing in the mind and heart of an attuned, empathic, and self-possessed other.

Practice exercises to strengthen that sense of resilience that happens when we are seen and listened to and understood and believed and validated and accepted...

## **S-10 Fredrickson**

### 3. Positive emotions in relationships

Positive psychology pioneer Barbara Fredrickson found, in her book *Love 2.0*, that when two people are in physical proximity, making eye contact, sharing a positive emotional experience, sharing mutual care and concern, the neurochemistry of the brains of the two people begins to sync up and generate a sense of resonance that she calls love, that certainly is an experience of safety and trust.

Practice that in a moment.

### 4. Brain learns from experience

Any experience will cause neurons in the brain to fire, any experience, positive or negative. Repeat the experience, repeat the neural firing. The axiom in neuroscience is “Neurons that fire together wire together.” So when we repeat an experience

enough times we're creating circuits that will remember that pattern of firing and the brain will go there more easily.

So any time we cultivate a gratitude practice, or deepen our listening skills, or develop more mindfulness or practice self-compassion, we are creating new circuits in the brain that make those practices the new habits, the new go-to's of the brain.

We will learn mechanisms of brain change and how to harness that neuroplasticity in ways that are skillful and response-able.

## 5. Little and often.

Small experiences, repeated many times. Researchers have found it may be more beneficial to meditate 10 minutes a day, every day, than for one hour on the weekend. It may be more beneficial to write down things we are grateful for in a journal every evening that to save it up for the weekend.

Mindfulness and compassion practices have been shown to be two of the most powerful agents of brain change known to science. And they are so powerful because they happen moment by moment, just as the brain works best.

Do an exercise now to see if we can experience all five of these.

I talked with Jane Baraz shortly before coming on this retreat. We were discussing books we could recommend to students in our MSC course here at SRMC this fall. I had just received Tim Desmond's The Self-Compassion Skills Workbook - very good, yes, we'll recommend. Then Jane said, but I don't want students to get sidetracked off practice by reading a work book. Don't want them to try to learn to surf by watching surfing movies and never getting up on a board.

### **S-11      Q JKZ**

Since Jon Kabat-Zinn says, in terms of navigating life's ups and downs, You can't stop the waves but you can learn to surf, let's get up on our boards.

### **S-12      Q Rubin, Seligman**

*Kindness is more important than wisdom,  
And the recognition of that is the beginning of wisdom.*  
- Theodore Rubin

*Doing a kindness produces the single most reliable momentary increase in well-being of any exercise we have tested.*  
- Martin Seligman

This is one of my favorite exercises to do in a training or a workshop. Reflect on a moment of kindness you have received, earlier today, last week, back in the third grade. Jot down several examples. Choose one; find two other people to work with in a small group. Introduce yourselves, decide who's going first, and then each take a turn (two minutes) sharing some moment of kindness you have received from another human being, something that was helpful or useful. Then you go around the circle again, (one minute each) reflecting on what it was like to share your story and hear other people's stories.

## **Do exercise**

### Five Factors

Might have experienced:

1. Safety - social engagement system; operates unconsciously, outside of awareness

Openness, receptivity, trust, co-regulating revving up and shutting down of nervous system

Learn more this afternoon so we can come into natural peace and ease of mind and heart and stay there. Also known as our natural baseline physiological equilibrium, our range of resilience; our experience of equanimity

## 2. Safety in relationships

We use safety in relationships to evoke sense of safety and trust in our body and in our being.

Learn and practice a lot more tomorrow afternoon

Fusiform gyrus

## 3. Positive emotions in relationships

- Physical proximity
- Eye contact
- Shared positive emotions
- Mutual care and concern
- Neural synchrony
- Felt sense of resonance
  - Oxytocin

Barbara Fredrickson, *Love 2.0*

Learn more this afternoon and tomorrow morning

## 4. Brain learns from experience, our own or others,

**S-13      Q Davidson**

*The brain is shaped by experience. And based upon everything we know about the brain in neuroscience, change is not only possible, but is actually the rule rather than the exception. It's really just a question of which influences we're going to choose for the brain. And because we have a choice about what experiences we want to use to shape our brain, we have a responsibility to choose the experiences that will shape the brain toward the wise and the wholesome.*

*- Richard J. Davidson, PhD*

*Center for Investigating Healthy Minds*

*University of Wisconsin-Madison*

I want you to have a good time on this retreat. I will be asking you to take responsibility for the choices you make that will send your brain in one direction or another, creating more resilience and well-being, or not.

Especially novel or challenging experience

More this morning on neuroplasticity and mechanisms of brain change

5. Little and often

Small, small, repeated many times

And for now, it's incremental changes - little and often - that will do that the best. Research shows clients will retain the learning from a new experience better if they practice something in small doses and then repeat, repeat, repeat. Little and often creates the incremental changes in the brain's circuitry that leads to lasting changes in behavior. Baby steps in the right direction.

### **S-14      Take in the Good**

- Notice: in the moment or in memory
- Enrich: the felt sense in the body
- Absorb: savor 10-20-30 seconds, felt sense in body
- Repeat: 6 times a day, install in long-term memory
  - Rick Hanson – *Hardwiring Happiness*
  - *Foundations of Well-Being*

We've done this exercise at the beginning of the retreat, at the beginning of the day. Can re-evoked the good feelings of it and savor, and install. Create a permanent resource.

### **S-15      Group intro's**

You have your own intentions for this retreat/workshop. I ask that you introduce yourselves to the group, channeling those intentions toward calm, clarity, compassion, connection, curiosity, courage, creativity, competence

**S-16      image of head lowered, arms up in triumph**

This morning, go through didactic.

This training draws on a confluence of wisdom from many disciplines, many paradigms, behavioral science research on how people learn to be resilient, what's known as growth mindset evolving into post-traumatic growth, modern psychology and psychotherapy, especially relational psychology and attachment theory, how resilience develops in the psyche in the first place; discoveries of modern neuroscience about how resilience develops in the brain in the first place, practices from positive psychology, from Eastern spiritual traditions, from body-based trauma therapy, that increasingly synergize and interweave together in very practical ways to help us come into the equanimity, inner peace, contentment and well-being that is the practical outcome of resilience.

What resilience is and how definitions of resilience are evolving and shifting. How resilience develops in the first place and how it gets derailed. Placing that in larger context of our evolutionary biology, our genetic temperaments, our attachment conditioning, the expectations, support, or obstacles of our culture and society. A bit about neuroplasticity that allows us to change and cope with any of that. Specific mechanisms of brain change to harness that neuroplasticity, apply those mechanism to four intelligences: somatic, emotional, relations, reflective, what

we do the rest of our time together. A bit at the end on Sunday, how to take care of physical brain as a way of taking care of ourselves.

### **BREAK 10:45am-11am**

Notice what you're drawn to, no right or wrong. Lay down on a bench and savor the feeling of the sun on your body. Enjoy the vigor or walking up some steep hills (though don't go past the gate into the retreat area). Maybe you do have to check I with family or work; maybe enjoying letting go of that and have permission to not feel guilty.

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We've already noted, mindfulness and compassion are two of the most powerful agents of brain change known to science. Hold all of your experience in mindful awareness and a kind, caring, curious acceptance of yourself as a learner on this journey.

So we being with focus on resilience.

How do we cope with disappointments that happen every day, losing our wallet and car keys, discovering mold in the bathroom, missing three days at the office to care for a sick

child, difficulties that happen every day, disruptive, unwanted changes of the washing machine going on the fritz or the car needing a new transmission.

BIG disappointments and difficulties that are an inevitable part of being a human being that happen over a lifetime, infertility or infidelity, a diagnosis of pancreatic cancer, losing a job, a son wounded in combat overseas. Even with disasters that threaten to completely upset our life as we know it, or the lives of those we love and care about, meaning and purpose and values that we care about.

I've led these retreats and workshops enough now to know that everybody has or has had something really hard to face and deal with or knows somebody who is or has. We don't always talk about these things out loud, but simply respect they are there.

Sometimes too many things go disastrously wrong all at once: a daughter arrested for selling pot, a laptop left on a plane, finding out that the contractor repairing the roof is being sued for shoddy construction work, all in the same week they are placing an aging parent in a nursing home. We begin to feel like we are drinking from a fire hose and about to go under.

If we or someone we care about loses a job, or loses a relationship, or loses our home, or our health, or our hope, how do we bounce back from the challenges, even disasters inevitable in the human condition?

Why DO some people cope with potentially traumatizing events better than others, what are the factors that help people cope more resiliently?

### **S-17      Resilience used to be trait, shifting to perception**

Resilience used to be thought of as inborn traits of hardiness, grit, determination, the will to endure and survive. That is shifting to the role our own perceptions and choices play in strengthening our resilience. How we choose to perceive the event and how we perceive ourselves in relationship to the event.

Parenthetically, I heard Richie Davidson in an interview and read Sheryl Sandberg in her book *Option B: Facing Adversity, Building Resilience and Finding Joy*, that resilience is the speed at which we recover from adversity, how we bounce back physically, mentally, emotionally, spiritually.

I agree with bouncing back, but I don't agree that resilience is about speed. And I don't even completely agree with bouncing back, even though that's the title of my book. Sometimes we can bounce back, recover a baseline, maybe be even stronger than we were before, but as post-traumatic growth researchers are increasingly informing us, sometimes there is no "back" to

return to. People may bounce forward, from friend Michaela Haas' book *Bouncing Forward: Transforming Bad Breaks into Breakthroughs*. And that process could take years. So I don't think resilience is about speed. It's about skills and intention and integrity and lessons learned along the way and sometimes just coming to terms with what must be endured because it cannot be cured.

And not living in fear of what life may bring. There is wisdom in knowing there are storms and there is suffering and developing a sense of equanimity about riding those waves anyway.

### **S-18      Q Serenity, Alcott**

Serenity is not freedom from the storm, but peace amidst the storm. - anon.

I am no longer afraid of storms, for I am learning how to sail my ship.

- Louisa May Alcott

That is what equanimity is.

This may be a good place to distinguish stress and stressors. Stressor, external event like everything we've mentioned above, or internal message about that event triggers stress response in body. The familiar fight-flight-freeze to get us moving out of danger, or the numbing out-collapsing to hide from danger.

Resilience is managing our own stress response to an external event, or to an internal message about that event, or about ourselves in relationship to that event, so that we have the strength and clarity and choice to cope with the event itself.

So resilience is developing adaptive responses to stressors, whatever those external events or internal messages about those events might be, and skillful management of our internal stress response. Which we learn to do this afternoon.

What is emerging in the field of resilience research is that the key capacity for resilience is the capacity of response flexibility. The capacity to shift gears, shift perspectives, to shift our attitude and our approach to whatever is happening that we wish wasn't happening, to whatever is disturbing or distressing to us, whatever seems potentially tragic or traumatizing to us.

We've probably seen for ourselves that different people can respond differently to the same event; one person loses a job and gets derailed in their career for six months; another person loses a job and within two months has found a new career path. Even the same person can experience the same event at different times in their life, a car accident or a health diagnosis, and depending

on how resourced they are in their lives at the time, can respond differently, in trauma or as an opportunity, to the same issue.

I experienced this myself, many years ago, when I was diagnosed with osteoporosis. At first I simply fell apart, I couldn't believe, with as athletic and healthy with my nutrition as I had been all my life, that I could have osteoporosis. But my friend Erin, who was a nurse, said, "Linda, if you do what you have to do to strengthen your bones now, even with the osteoporosis, you'll be healthier in a few years than you are now." She was right, and I did, and I am. That diagnosis, which could have been traumatizing, became a growth opportunity for me.

This perspective shifts the responsibility for coping with a trauma to someone's perception of the event and to their perceptions of themselves in response to the event.

### **S-19      New Yorker, Q Bonano, Perez, Friedman-Hill**

There was a wonderful article in the February 11, 2016 issue of the New Yorker last winter: "How People Learn to Become Resilient." that summarized a lot of the recent research about resilience.

In that article was this quote from George Bonano, director of the loss, trauma, and emotion lab at Columbia University:

*Do you conceptualize an event as traumatizing or as an opportunity to grow.”*

Similar wisdom expressed by Frankie Perez:

How you respond to the issue...is the issue.

And to...

Catch the moment; make a choice. - Janet Friedman

Every moment has a choice, and every choice has an impact.

- Julia Butterfly Hill

## **S-20      Q Darwin**

It is not the strongest of the species that survives,  
nor the most intelligent that survives.

It is the one that is the most adaptive to change.

- Charles Darwin

**S-21      Q Frankl**

Between a stimulus and response there is a space. In that space is our power to choose our response. In our response lies our growth and our freedom. The last of human freedoms is to choose one's attitude in any given set of circumstances.

- Viktor Frankl, Austrian psychiatrist,  
survivor of Auschwitz

**Shoes in wet cement story**

Here's a story from my own experience that perhaps illustrates how we can bounce back from difficulties and take responsibility for shifting how we cope with challenges, overcome suffering and learn to sail our own ship.

When I had an office in the Sunset neighborhood of San Francisco, I would park my car in Golden Gate Park and walk the two blocks to my office, something I could do on automatic pilot.

One day, more distracted than usual mulling over something I was worried about, I wasn't paying enough attention to where I was walking and blithely stepped into a sidewalk of freshly laid wet cement - up to my ankles.

The cascade of critical thoughts erupted immediately, “You stupid klutz! Look what you’ve done! You’ve ruined your shoes! Now you’ll be late to work; you’ll have to cancel clients today; you’ll probably lose clients over this. How could you!” The whole deep slide into the rabbit hole of shaming-blaming-catastrophizing.

Fortunately, by then I had enough mindfulness and self-compassion practices under my belt to catch up to myself. “Whoa! Wait a minute! I need to shift my entire approach here! I’m not the only person on the planet who made a mistake today just because they weren’t paying attention. This is probably not the only mistake I’m going to make today. I need to slow down here, collect myself, try to be a little kinder to myself right here, right now, step out of this sidewalk, and deal.”

With that shift in attitude and shift in response, I did pick my feet up out of my shoes and pick my shoes up out of the cement.

There happened to be an apartment building with an outdoor water faucet just a few steps away. As I began to wash off my shoes, I began to think a little more clearly. “This happened. Other than my own embarrassment and my own inner critic wailing the hide out of me, there’s no catastrophe here. Shit happens. This happened. I’m dealing with it as best as I can. This is going to be okay.

As an on-site construction worker came over to me with some paper towels to wipe off my shoes (I'm grateful to this day for his kindness - no teasing or taunting, no further embarrassment) I began to have some hope that I could save my shoes (I did). I also began to have a little pride and a lot of gratitude that I was coping as well as I was.

Then came the big shift. "Yeah, shit happens, but shift happens, too. If I can shift my attitude in these circumstances, I can shift my attitude in any circumstances." That's the big shift.

## **S-22      Shit Happens. Shift Happens**

Shit happens. Shift happens. If I can shift my response in this moment, I can shift my response in any moment. That's the big shift. And modern neuroscience helps us understand the neuroplasticity that supports our capacities to respond flexibly to challenges and crises in life that make that shift possible.

**Exercise** Individual reflection, journaling, groups of three:

Any place where you did shift perspectives? Shift response? Don't even have to label it resilience. You may have experienced some equanimity that preceded the shift. We'll keep learning about that this afternoon and tomorrow morning.

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## **S-23      image of brain**

Beginning to pull in some of the neuroscience to help us recover our resilience:

Resilience IS a capacity innate in the brain; it is a capacity of the pre-frontal cortex (the area in red on the slide) - the brain's center of executive functioning that gives us the capacity for response flexibility - to shift gears, shift perspectives, see options that we couldn't see before. The response flexibility - innate in our brains - to shift out of very automatic, habitual reactivity of our survival responses into a more skillful, flexible responsiveness to whatever is happening that we wish wasn't happening, to whatever is disturbing or distressing to us to whatever seems potentially tragic or traumatizing to us. That capacity to create shift can be learned, cultivated and strengthened, and we can do that by strengthening the functioning of the pre-frontal cortex. Strengthening the pre-frontal cortex is what will allow us to create new patterns of response and rewire old ones.

We know the pre-frontal cortex as the center of executive functions like planning, judgment, decision making, etc. But it is much more than that.

## **S-24      Functions of Pre-Frontal Cortex**

The full maturation of the pre-frontal cortex (the area you see in red on your screen) is what allows our brain to regulate the body and the nervous system, to keep it in a baseline physiological equilibrium or equanimity known as the “window of tolerance”, not too revved up, not too shut down, able to be relaxed, relational, and resilient, the range of resilience. The pre-frontal cortex is what manages a broad range of emotions - joy and sadness, shame and guilt, love and trust, and it especially down-regulates the survival fear and anger responses of the amygdala.

When the pre-frontal cortex is fully developed and fully functional, meaning it can integrate input from many, many different parts of the brain and create coherent responses to those inputs, we can attune to our own physical and emotional experience in response to a dangerous, toxic or life-threatening situation, and we can attune to the physical and emotional responses of other people as well. We can empathize with - understand, accept, and make sense of - our own responses and understand, make sense of, other people’s response, too, even if we don’t agree with them.

We can use all of these functions working together to make all kinds of executive decisions, plans, analyses, judgment and discernments. The pre-frontal cortex is also essential to developing an ongoing self-awareness, knowing who we are and how we fit in with other people around us, as we move through

time and evolving phases of our life. PFC most integrative structure of brain.

And, the pre-frontal cortex IS the structure in the brain we rely on the most to utilize our innate capacity for response flexibility.

It IS the CEO of resilience, to perceive our own perceptions, catch our own filters and beliefs, or blocking beliefs, about our circumstances, and to use all the tools and techniques that allow us to shift those perceptions and beliefs when necessary

## **S-25 Attachment Kindles Maturation of Pre-Frontal Cortex**

What helps kindle the maturation of the capacity of response flexibility in the brain, and ANY function of the pre-frontal cortex, is the experiences the developing baby-infant-toddler-child's brain has in interactions with their earliest caregivers. The developing brain learns how to regulate the body and the nervous system by that regulation happening from the caregiver early on. The brain learns to manage emotions and empathize with ourselves and others by emotions being managed by the caregiver, by our experiencing ourselves being attuned to and empathized with. The brain learns patterns and cultivating self-awareness and self-acceptance, and responding to life events by those experiences being modeled for us by caregivers. Our response flexibility matures as caregivers model for us

responding to us flexibly. When that goes well, the developing baby's developing brain develops secure attachment and that develops the inner secure base of resilience in the developing child, and is the brain's best buffer we have against stress, trauma and later psychopathology.

I wrote my book *Bouncing Back:; Rewiring Your Brain for Maximum Resilience and Well-Being* to help readers deal primarily with attachment trauma - the derailling that happens when interactions with people around us, especially early on, don't foster the capacities in our brains and psyches to regulate our nervous system, our emotions very well, don't gel the inner secure base of relational trust and resilience that we need to cope with the disappointments, difficulties, even disasters of life.

So many of the exercises we will be practicing and tools we will be learning will be strengthening and even rewiring the circuitry in the pre-frontal cortex we need to regulate the nervous system, attune to emotions and empathize with people and ourselves, and deepen our self awareness and acceptance to strengthen the circuitry in our pre-frontal cortex that supports our resilience.

## **S-26      Gilbert [one slide]**

We can do that because of the brain's also innate neuroplasticity. I'll link resilience and neuroplasticity and how we can begin to rewire less than secure attachment styles in this framework of

Paul Gilbert, psychologist in the UK and author of *The Compassionate Mind*, because I have found his framework very useful with people who are caught in coping strategies that are less than resilient, that are maladaptive in some way, or stuck in shame or guilt because of those behaviors. People get this framework pretty quickly, and it shifts the work of recovering resilience into a pro-active approach to change, growth, and healing from the very beginning.

Paul says:

Given the evolutionary development of the human brain over hundreds of millions of years, and...[meaning unless there is organic impairment, we are all hard-wired with the same automatic survival responses of autonomic nervous system, the same negativity bias of the right hemisphere of the cortex, the same vulnerabilities to stress hormones killing brain cells in the structures that encode experience into long-term memory]

Given the genetic templates any of us have inherited from generations of ancestors, and...[can be multi-generational transmission of trauma]

Given the conditioning of our attachment experiences in our family of origin, optimal or less-than-optimal, and...[we just learned: we depend on being regulated by other people early on to learn how to regulate ourselves, and the development of the

pre-frontal cortex, the center of executive functioning, is kindled and shaped in our earliest attachment relationships]

Given the norms and expectations of our culture and our society... [whether we learn to have realistic expectations of our capacities or not] And there can be intergenerational transmission of trauma.

Who we are...and how we cope...is not our fault.

This kernel of wisdom can be a tremendous relief to anyone who feels stuck and feels badly about feeling stuck. There are so many forces that converge and shape who we have become as an individual human being. No matter how dysfunctional our client's behaviors or how stuck they feel in them, everything they think and do and feel has a reason that is fundamentally understandable, and as we shall see, fundamentally workable.

Then Paul goes on to say...

Given neuroplasticity, and especially given the power of our choices of self-directed neuroplasticity, who we are and how we cope becomes our responsibility.

Through knowing how to harness our neuroplasticity, we can strengthen the functioning of certain brain structures when we

know how to, we can protect the telomeres that protect our genes (talk about that on Sunday), can rewire patterns learned in family of origin conditioning, can rewire patterns learned from our culture and society. We choose experiences that strengthen the functioning of the PFC, strengthen capacity of response flexibility, recover and strengthen our resilience.

## **S-27      Neuroplasticity Research**

Broadly speaking, neuroplasticity means the brain can change and grow lifelong. This was not obvious for the first 150 years of modern neuroscience. Genetic determinism held sway for a long time in modern neuroscience - that the brain developed according to genetic blueprints on a pre-determined timetable and that the environment did not -could not- influence that development.

Last fall I had the opportunity to watch a documentary “My Love Affair with the Brain” about Dr. Marion Diamond, professor of neuroanatomy at U.C. Berkeley for 55 years (she retired at age 85) and her research that began the shattering of that paradigm of genetic determinism. Dr. Diamond’s research on the impact of an enriched environment on the growth of cortical brain cells in and the decrease in the cortical brain cells in an impoverished environment, published in 1964, was the first replicable scientific evidence of neuroplasticity in mammalian brains. Her research began the irrevocable shift of the entire brain science paradigm.

At the time, Dr. Diamond found that the best tools to increase cell volume in the brain were: environment, exercise, novelty, challenge, and love. Learn Sunday exercise very best thing to grow new neurons, learning something new and complex best way to get new cells to connect with each other in dense circuits possible to process more complex information. We are learning.

It still took more than a generation of further research to completely shift that paradigm. The wisdom of the previous scientific tradition still held that once a brain fully matured, about 25 years of age, that the brain couldn't change much after that. You couldn't teach an old dog new tricks.

But about 25 years ago the technologies that could scan living human brains - fMRI's, PET scans, EEG's - became sophisticated enough to actually map the firing of individual neurons, to map the pathways of communication across synapses and to trace the networks that cause various structures of the brain to communicate with each other, and to measure increases or decreases in brain cell volume based on activities or experience. They could see what structures of the brain were lighting up and communicating with each other as we watch the evening news or play a musical instrument or mourn the loss of a pet. Does a particular practice like meditation strengthen brain functioning or not?

And neuroscientists like Norman Doidge began making those emerging discoveries available to us in books like *The Brain that Changes Itself* and *The Brain's Way of Healing*. Now we know that the brain changes, develops, and repairs itself lifelong.

## **S-28      Neuroplasticity**

That the brain can grow new neurons lifelong; (150 types of neurons, most diverse cells in body) that the brain can strengthen the connections among those neuron across the synaptic gap lifelong; (which is what we learn to do in this workshop to create new patterns of response and new habits of behavior), that the brain can myelinate the pathways connecting one neuron to another, making the processing of information up to 1,000 times faster; that the brain can create and alter neural circuitry, even re-organize the functioning of brain structures lifelong. And that is, without doubt, the greatest discovery of modern neuroscience.

Neuroscientists are now researching the large-scale mapping of patterns, rules, models of behavior, memories and meanings of events, held in broad reaching networks, what they call the human connectome, like scientists mapped the human genome or studied the human microbiome.

Example: how we find our car in a parking garage

Visual-spatial, car in relationship to other objects, path we walked to leave car.

We'll use what we're learning from neuroscience about neuroplasticity to begin to sculpt our neural circuitry in ways that strengthen our resilience, equanimity, and well-being.

## **S-29 Four Mechanisms of Brain Change**

We can look briefly here at four mechanism of brain change - conditioning, new conditioning, re-conditioning, de-conditioning, that *will* shape the brain toward the wise and the wholesome. People love to learn how their brains work. It gives them a sense of empowerment and mastery and efficacy that is very helpful to them in recovering resilience and resolving their traumas and moving into post-traumatic growth.

## **S-30 Conditioning**

First, oversimplified: **conditioning** which is what the brain does all the time on its own when we're not directing it to do something else. When we're not guiding the installing of new patterns of coping in the brain, or rewiring old patterns, the brain does its own learning and automatically encodes responses to experience in its neural circuitry.

Any experience, any experience at all, positive or negative, will cause neurons in the brain to fire. When we repeat the experience, we repeat the neural firing. When we repeat the experience enough, and the pattern of neural firing is repeated enough, “neurons that fire together wire together,” the neurons strengthen the synaptic connections between them, meaning the brain is now likely to fire in exactly the same way when the same or similar experience is repeated. These synaptic connections stabilize into new neural pathways, generating new, stable habits of response.

A metaphor that is often given for conditioning is that of rain falling down a hillside. When rain first starts falling down the hillside, it can run down the hillside any way that it wants. But eventually the falling rain starts to develop little grooves and ruts, then bigger gullies. Eventually the rain can only fall down the hillside in those grooves and gullies. That’s a metaphor for how our brain develops pathways and habitual patterns of response so that, without intervention, we automatically respond to a stressor in ways that we have responded before.

Conditioning is what shapes our earliest attachment styles and early automatic patterns of coping, long before there is any conscious choice in the matter. So very often we see these old habitual patterns coming up out of implicit memory and derailing the client’s capacities to cope flexibly and adaptively now.

When we want to rewire old patterns of coping, ever rewire trauma responses themselves, we can use three mechanisms of brain change to create new experiences, new wiring.

Again, over simplified:

### **S-31      New Conditioning**

**New Conditioning** is simply deliberately intentionally choosing to cultivate a new experience, a new practice, to shift the functioning of the brain, and the habits of the brain, in a new direction. Any time we help clients cultivate a gratitude practice, or deepen their listening skills, or strengthen the focus of their attention, or cultivate more self-compassion or self-acceptance, we are using the repetition of those experiences to create new learning, new circuitry, new habits of responding to life events, even potentially or previously traumatize events. We are helping them create new wiring in the brain, new memories, new ways of being.

New conditioning does not rewire the old conditioning. When we're stressed out or tired, our brain will default to the old pattern; it's easier, more efficient for the brain to do what it already knows how to do. But with enough repetition, we create a choice point in the brain, and with reconditioning, we actually can rewire the old circuits.

## S-32      **Reconditioning**

**Reconditioning:** The technical name for reconditioning is memory deconsolidation-reconsolidation. Neuroscientists have only been able to see this mechanism operate in the brain through their scanners in the last five to seven years, but it has been the basis of all trauma therapy for decades.

The best reference about reconditioning is Bruce Ecker's book *Unlocking the Emotional Brain: Eliminating Symptoms at their Roots Using Memory Reconsolidation*.

If we can “light up” the neural networks constellating a negative memory - meaning we can evoke a visual image of an event, the emotions associated with that event, locating those emotions in our body, and bring to mind negative beliefs about the self triggered by that event - and then deliberately evoke a positive memory or experience or even new positive memory that will strongly contradict or disconfirm the original negative memory, and hold those two memories, negative and positive in awareness at the same time, or toggle back and forth between the two, the juxtaposition itself will cause the neurons to fall apart and instantly rewire a fraction of a second later. When the positive is strong enough, it will trump the old memory and rewire it.

This mechanism doesn't change what originally happened, but it does change our relationship to what happened. It doesn't re-write history, but it does rewire the brain.

### **S-33      Modes of Processing**

Now, both new conditioning and reconditioning use a focused mode of processing in the brain. We are deliberately guiding the focus of the attention of the brain to a particular task, a particular exercise.

When neuroscientists first began scanning the brains of research subjects in their fMRI's, they assumed that when they weren't asking the brain to do something, name a color or solve a puzzle, that the brain would be quiet.

No.

They learned that the brain "at rest" was more active than ever and all over the brain. This has come to be known as the default network of the brain, what the brain defaults to on its own when we're not consciously focusing attention on a task, and we use it for what I call deconditioning.

### **S-34      De-Conditioning**

The de-focused attention of the default network, when we're not guiding the attention of the brain's processing, allows the brain to "play" on its own, creating its own associations and links. We can use that mode of processing in the brain to create random change, and use the insights from that meandering and playing of the brain to create new behaviors.

We can experience the default network anytime we're experiencing a sense of reverie or in our daydreams, the brain just meandering where it wants to. We can use the default network in deconditioning exercises using our imagination, in guided visualizations and guided meditations, to open the brain into what Dan Siegel at UCLA calls "the plane of open possibilities." It's true that the default network sometimes has a bad rap, from meditators who notice the brain's wandering into a thousand thoughts when we're trying to concentrate on the breath or on a mantra. That's what the brain does. And we can drop into worry and rumination in the default network if ongoing concerns about our social self drops us into thoughts - do they like me? Do I belong? Did I just do something stupid in front of other people? What do they think?

Any time we fall into that worry mode of the default network, and we can go there easily if they are carrying a sense of shame about any potentially or previously traumatizing event, we can help shift our focus again to being in the present moment, being in our body, noticing the sensations in their body or the rhythm

of their breathing. Coming into focused attention in the present moment to pull out of the defocused mode of worry and rumination, shaming and blaming. But we can also use the positive aspect of the default network, the imagination and free association, to create new insights, new behaviors, from our own deep intuitive wisdom.

Important. Meditators can be especially accomplished at toggling back and forth between focused (follow the breath) and default (open spacious awareness.) Which we learn about on Sunday. Davidson does say mindfulness is key to resilience and I would agree with that. I disagree about resilience being speed, but perhaps if we are more mindful we can see what's happening and our reactions to what is happening more quickly, shift our perspectives more quickly, make conscious wise choices more quickly. I would agree with that.

There's an intuitive wisdom in teaching the mechanisms of brain change in the above order.

### **Four Mechanisms of Brain Change**

Conditioning - awareness of implicit patterns of coping so don't get hijacked. When aware....

New Conditioning - cultivating practices to create new habits/circuitry. When functioning of higher brain is stably online....

Re-conditioning - deliberately rewiring old patterns from memory deconsolidation-reconsolidation. When able to focus and safe to de-focus....

De-conditioning - relaxing the brain into its own default network, trusting the arising of deep intuitive wisdom.

At a meta-level, we begin to develop a sense of ourselves as someone who *can* use these mechanisms to effectively create brain change. We see ourselves as someone who *can* learn tools to cope with difficulty, disappointment, even disaster. We can become more resilient; we can move into thriving and flourishing.

### **S-35      Four Intelligences**

As we proceed through this training we will be applying these four mechanisms of brain change to four intelligences:

**Somatic Intelligence** - responding to stressful events from the bottom up using body-based tools to return the body-brain to a baseline physiological equilibrium, to settle the nervous system and prime the neuroplasticity of the brain.

**Emotional intelligence** - to perceive, regulate, manage the information coming from their own emotions and to attune to, empathize, and understand the information coming from other people's emotions; to use emotional expression to shift the functioning of the brain

**Relational intelligence** - using regulation and resonance in the relational field, strengthening the capacities of our brains to cultivate connections with other people, social or intimate, as resources for our own resilience and well-being to move through challenges into growth.

**Reflective intelligence** - using mindful awareness to perceive patterns clearly, strengthening the capacities of our brains to monitor and modify our own perceptions of life events and our reactions to those perceptions of those events, so we can discern options and choose wisely.

Q&A

LUNCH

Homework

Notice your own mind shifting between focused attention and de-focused attention. If your mind wanders and goes into a

reverie or rehearsal, is there any useful wisdom that came out of it.