

Trauma and the Autonomic Nervous System (ANS)

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You're driving home at night, paying attention and being careful, and suddenly red flashing lights show in your rear-view mirror. Your nervous system, more precisely your Autonomic Nervous System (ANS), is in hyperdrive (due to an infusion of adrenaline into the bloodstream) and ready to go. Your heart rate accelerates, your blood pressure goes up, your breathing gets shallow causing carbon dioxide levels to go up in your blood, and the liver dumps glycogen in to your blood for muscular metabolism, the immune system is suppressed, and the blood is shunted off, away from the organs, to the muscles preparing you for "fight or flight". All this happens in a split second. You pull over and the police car just drives by, how long does it take for your nervous system to recover.

Now, let's get out of that experience to the challenge at hand. In a perfect world, we are biologically designed to experience stress and let go once we pass through it. But, in a trauma situation, the "letting go" doesn't happen so easily. It's like there is an imprint on the nervous system that won't let the person forget. After all, it is the responsibility of the ANS to help us survive. A person suffering with chronic Post Traumatic Stress Disorder (PTSD) is in a vulnerable position, emotionally and physically, with potential risks for health problems and emotional well-being.

What I mean by "biologically designed to experience stress and let go once we pass through it" is based on the discoveries in the field of *Epigenetics*. The cell is at the helm, reading the environment created by our perception, and creating the chemistry of action. Epigenetics is revealing that we have more influence on our biology than is commonly accepted. In the current medical model DNA is considered dominant in our biology. Epigenetics debunks this idea and empowers the individual to be an active participant in the functions of the body.

Awareness of this idea came about in the mid to late 80s during the AIDS epidemic. The question that arose in the health profession was "why do some, infected by the HIV virus, fall ill and perish and others continue to live healthy lives?". What was discovered was the people who didn't fall ill held different perspectives about themselves and their world that supported a positive and empowered relationship with themselves. This attitude strengthened their immune system.

This is not a new idea. Ancient traditions from India, China, and Japan create a psycho-emotional format that empowers the individual to recognize a much larger perspective about life than the current medical perspective in Western culture. Only recently, through the research in Quantum Physics, has science began to realize that there is more going on here than previously understood. Out of this recent discovery arose Epigenetics. Our cellular community is imbued with the wisdom of survival that the cell has been building since the beginning of cellular life.

I have been a student of Neurology since the mid-70s. Particularly, how the individual responds to the world they are seeing. This study has taken me down numerous roads. Early in this study I submersed myself in the Eastern Spiritual Practices as revealed in the Vedic literature. I was fascinated by the concept Maya, the world we see is an illusion.

This was followed by Psychology, most particularly Biopsychology and the inner workings from perception to response, I found Perception fascinating. During my Master's Degree in Psychology studies, I was exposed to "Experiential" therapies and believe me I have beaten my fair share of pillows, screamed and yelled, and exhausted myself, not necessarily looking for resolution but allowing the experience wash over me.

Having experienced, facilitated, and witnessed others going through similar processes I was left with a sense that something was a bit off about this process, but I was unable to discern exactly what it was. No matter how many times a person went through a process it did little to resolve the emotional dilemma a person found themselves in related to their trauma.

The ANS is responsible for the management of homeostatic process and is the home for our survival mechanisms. Homeostasis is our body's ability to manage staying alive and being healthy. "Survival" is our body's intent to stay alive. To wrap your brain around these ideas you must see these processes from the cellular level. It is the cell membrane that guides survival and in order to do so the cell needs clear information.

Life is a persistent process. Its impulse is to continue, and all aspects express a reparative process. Cells die off and are replaced, illness, in most cases, is temporary, injury repairs, and muscle, tendon, bone, and ligament get stronger in response to the stress demands of the environment. Life's goal is to respond to now, not the past. The only way Life knows "what is" is through "the eyes of the beholder" and this is where trauma's indelible stamp plays its role. Perception is the guiding light.

Perception

Much has come to the foreground over the last 30 odd years related to trauma and the ANS. EMDR (Eye Movement Desensitization Reprocessing), DBT (Dialectical Borderline Therapy), NLP (Neuro Linguistic Programming), and EFT (Emotional Freedom Techniques) are fore runners in the arena to help individuals understand their experience and how to re-route their responses to the environment.

First things first we need to understand the nature of Perception. Perception Theory holds that we don't actually "see" the objects in front of us. We register information (shape, color, light gradients) that is communicated to the sight area of the brain. The brain then processes the information and the result is "our best guess". This processing happens through all aspects of sensing. "Trauma" represents an aversive imprint of some experience. Smells, sounds, tastes, and tactile sensation can stimulate a trauma response.



The picture above is a classic example of how we can arrange and re-arrange what we see. So, when it comes to Post Traumatic Stress the "shell shocked" veteran jumps for cover when the car back fires, it doesn't matter what anyone else on the street thinks, he is back on the battle field.

Bruce Lipton sites a common experiment from cell biology in his book *The Biology of Belief*. A cell put in a petri dish, one side of dish has a caustic substance. In another dish one side has a nutritive substance. In the first, the cell moves as far away from the caustic substance, and the opposite occurs in

the dish with a nutritive substance, the cell moves toward it. This experiment demonstrates how we are cellularly programmed to survive. From the level of perception, we create the environment the cell is reading. If our perception, our best guess, is fraught with fear based on a traumatic experience, believing that “trauma” waits around every corner then the message we are giving to our cellular community is no different the messages we created during the original trauma.

One particularly difficult message, which has become a pat response in the “new age” is “we create our own reality”. Say this to a person with a trauma history and they are likely to take your head off. There really is no other way to define reality except to make it up from “our best guess”. This is where the whole apple cart gets turned over because perception is founded in our beliefs about ourselves and the world we have experienced in life.

As can be seen from the information above about the senses and perceptions, the information about the senses is stored in memory. If our perception is a “best guess” what does that say about the possibility of our response. It’s no wonder that the trauma response reigns dominant. It is the primary impulse for the organism to survive. Our community of cells (to take a phrase from Bruce Lipton) doesn’t know what we are looking at, they simply pick up the information after its been processed in the brain. It’s the neuro-hormonal recipe we create through what we believe that tells the cells what to do.

At some level this begins to resemble that game called “Operator”. You start a statement, whispering into your neighbor’s ears, then it goes around the circle and by the time it returns it’s something completely different. The body, the cellular community, doesn’t forget what is needed to survive. Our perception of the environment gives the cell what it needs to create the response. The cellular community doesn’t actually “know” the environment outside except for the neuro-hormonal recipe we create with our perception, our best guess. If we only know one response the cellular community is happy to cooperate. This begins to look like an addiction.

The only way this will change is if we question our perceptions which means when we feel the signal of our default response we stop and create another response. This is where the trauma therapies come into play; NLP, EMDR, DBT, and EFT. I would add my process De Mirer Sacrare (The Sacred Mirror) to this list.

The goal in the trauma therapies is to create an opportunity for the person to re-evaluate the environment they are in. Our ANS is trained a very young age, even pre-verbally, to navigate the environment we live in. If we take a moment and reflect on the environment we experienced pre-verbally it easy to see how confusion comes into play. The infant/toddler does not have the cognitive capability to “understand” what they are experiencing, they are pure experience, movement, and expression. The statement is poetically represented by a contemporary lyricist Jon Anderson “all senses open to discovery”. All those experiences are logged in by the cell membrane and the dominant neuro-hormonal recipe we cook up with our perception. I like to call these early experiences “background programs” waiting to be used when needed. Some of these “background programs” may not be applicable to now.

The Sacred Mirror

De Mirer Sacrare (The Sacred Mirror) was inspired by Bruce Lipton's discoveries in *the Biology of Belief*. The goal is to begin re-mapping the cell membrane away from the default response. Recognition of the response sensation is its foundation, a shift in the neuro-hormonal recipe is its result. It goes as follows:

De Mirer Sacrare

The ground is in our ability to be still.

- S Sensing – Feeling the sensation of stress related to a particular response.
This also applies to an experience related to perception.
- A Associate – Connecting the sensation with a perception. Words used to describe experience (i.e., self-belief or self-judgment).
- C Choose – Choosing to do something different. This distinguishes between a positively (+) charged emotion and a negatively (-) charged emotion
- R Release – After choosing a different behavior let go of previous behavior.

- A Accept – With compassion, accept choices, behaviors, and Self. Recognize your Innocence
- R Reintegrate – Reintegrate new choice and response into Self.

- E Essence – The result of moving through this process. Held in loving Compassion, the energy begins to move in streaming like fashion. This sensation is the nature of Essence. This is our true heritage.

One doesn't have to wait for a response or experience to pop up or be triggered. Words have the power to evoke experience. Even names have this power. In Joseph LeDoux's *The Synaptic Self* he speaks to the idea of how we "remember" who we are as a phenomenon of patterning in our nervous systems. When your name is stated all the experiences you've had are conjured up. Though I have never seen this written or stated about the process of Spiritual Naming, I believe it is the reasoning behind why Spiritual Teachers give their devotees Spiritual names; change the name, change the experience.

If you have a repetitive response to a stressful situation all you need to do is re-call the response. The words you use to describe it will offer up the sensation you have when you're experiencing it, "The name evokes". Think of it like "how come I always feel scared when I meet new people or new situations". Generally, people have questions like this about themselves that don't get shared. These become "hidden stressors", what I like to call "Background Programs". This is the essence of visualizations, mantras, and prayers, the words we use brings the experience into view. For this exercise, if you need to visualize the situation that brought this experience on, then do so, but it is not necessary all you need is the words.

When you have the sensation, you begin the exercise by recognizing the associated emotion:

"I recognize this sensation to be associated with _____"

At this point stay with the sensation a bit to get a clear connection with the sensation. What follows is you making a new choice for the associated emotional and the new direction:

I choose to _____ and I choose to _____.

Let's insert "fear" or "anxiety" as an example:

S I recognize this sensation

A to be associated with fear.

C I choose to let go of fear and trust my capabilities.

R Repeat this affirmation, integrate the new choice, and breath it into your body as though you were sending it to every cell.

A While breathing it in, accept yourself as you are here and now with compassion and self-love.

Notice how the sensation changes. You might feel a letting down or relaxation settle in, just be with the changes. The settling you feel is you relaxing into yourself, a subtle streaming may be present. What you are experience is the state known as:

E Essence, your natural state of being unencumbered by preconceived ideas about you or the world.

Once you practice this a few times it will be natural to perform this exercise and you will develop a new relationship with your experience. Also, the new experience will also begin to re-map the cell membrane, receptors once used to activate the old way will be "pruned" from the cell membrane and the new responses will take their place. This will also occur in the brain and new pathways will begin to form and old ones will fall away, perceptions will change.

This is not to say the patterned responses will go away completely. The content of these responses are important bits of information, your relationship to them will be different. When I was in my master's Degree it was driven across to use yourself as a tool. As I settled into this idea I began to see how it worked. The intimations acquired in the dynamics of the therapeutic process were senses of events that had occurred during my formative years and were invaluable avenues into the struggles of my clientele. After all, those responses were born out of the intelligence of my body to help me survive the war zone I faced.

We experience stressful situations on a daily basis. In fact, "stress" is a necessary process to inform the body, to build the immune system to make muscles stronger, to build bone density, and to teach us about ourselves. The "world" is our blank canvas and perception is the pallet to paint the picture we would wish to see.

The Body Remembers

I've been practicing hands-on body therapy now since 1980. In fact, it was what I saw in the sessions of my clients that urged me to get my master's Degree in Psychology. As the emotional stress released from the body clients would share the event behind these experiences. Many times, it seemed these experiences would just appear in the midst of opening the fascia, I found this fascinating.

At other times, emotional expression would just bubble-up, with no particular content attached. I likened these experiences like bubbles rising from the bottom of a still pond, percolating if you will. In any case, the body seems to have its own idea on letting go of stresses held in the cellular matrix.

Depending on the severity of the trauma experience, activating trauma responses can be as simple as just mentioning the idea of "Body-work" or heavy pressure fascial release. The assessment protocol I use is Chinese Five Element Theory and the hands-on technique I call Soft Tissue Manipulation. The goal is to enhance fluid flow in the extra-cellular matrix. The protocol is gentle but deep and is effective at bringing experience to the foreground.

I like the perspective of Chinese Five Element Theory because its goal is oriented to 'now'. We Western oriented thinkers tend to analyze in the hopes of understanding. Chinese Five Element Theory states; "balance the elements and the being comes into order". The process of balancing the elements relaxes the body at such a deep level and allows the reparative mechanisms to do their job.

This idea, The Body Remembers, is more extensive than many imagine. It can reach back as far as in utero and any time forward. Stanislav Grof, the progenitor of *Holotropic Breathwork*, held that birth traumas followed us through life (birth coaxes) waiting for the opportunity to resolve. Osteopathy and Chinese Five Element Theory both hold the idea of an original event that sets the body in dynamic stress patterns that block the body's ability to self-repair. Osteopathy terms it as "the original injury" and Five Element Theory terms it "the Causative Factor". No matter how we look at it a stress so extreme can keep the organism in a holding pattern.

If we follow the theories of Epigenetics and the work of Bruce Lipton, Candice Pert, and Gregory Braden we will need to adjust our perspective. It is not "the body remembers" but the cell that is tracking the environment. Where is this "environment" the cell is tracking? The environment is within us, created by our beliefs of ourselves and the world, sparked by perception.

At this point we need to ask how long has our particular cellular make up been evolving? Since each person is made up of cellular information from both parents we need to include the belief formats of both parents and the previous generations as far back as we can track them and beyond. We can see this evolution in the lineage of a person and in the beliefs of a culture. At its very roots its not about the individuals, its about the cell.

Where from here?

What is. If we step back and look at life, the environment we live in, the planet, the Solar System, the Milky Way, and the Universe beyond we are struck with the consummate miracle we are participating in.

The Late May-Wan Ho, a Physicist and major contributor to the Global Warming Literature, states in her book *The Rainbow and the Worm* that the reason life appears as it does here on Earth is due to the unique interaction of molecular dynamics contained by the atmosphere. Molecular dynamics are the foundation of all things in the Universe so to grasp the depth of life lets drop into this level of our existence.

The number of cells in a human body vs. stars in Milky Way galaxy as stated by Wikipedia and Encarta Encyclopedia is quite daunting. It is stated "The Milky Way is a barred spiral galaxy 100,000–120,000 light-years in diameter containing 200–400 billion stars. The human body ... consists of an estimated 20 to 30 trillion cells. This means there are approximately 75 times more cells in a human body than stars in the Milky Way galaxy". Now this is just cells. When it comes to Molecules "the body consists of about 2×10^{25} molecules, and more than 99 % of them are water!". That's 2×10^{25} with 25 zeros. "The observable Universe contains approximately 300 sextillion (3×10^{23}) stars and more than 100 billion (10^{11}) galaxies. Typical galaxies range from dwarfs with as few as **ten million (10^7)** stars up to giants with **one trillion (10^{12})** stars". What this shows to us is that our tiny little human body is a veritable universe.

Take a moment to visualize this; start at the surface, the skin, make a note of the sensations you feel then drop below the skin into the tissues infused with blood vessels and nerves interwoven through the muscles and tendons, bone, and ligaments. All this creating a structure for the organs.

The next level deeper is the extra-cellular matrix, a microscopic webbing made up of hollow microtubules filled with fluid appearing like spider webs covered with dew. In this webbing the trillions of cells that create the possibility of our Life are held, pulsing, breathing, and in communication.

Then we take another step beyond what we like to call physical, into the realm of molecules. Atoms, electron, neutrons, and protons bonding to form the necessary components for form to exist. Imagine, standing on the surface of the nucleus of one of these atoms and looking out into the dark field it occupies and we see something that looks much like the dark night sky filled with stars. This is the deepest reality. Nothing in this Universe is "solid", we are but mere clouds of energy, unified with the whole, not separate from the stars we gaze upon at night. To see this, experience this, and own our place in it, facilitates the deepest healing we could ever ask for.

Paradigm Shift

This perspective is a quantum leap from where a majority of the people on this planet tend to operate from. The challenge becomes listening to the teachings of the Ancients and the foundation of their reverence. Bowing, praying, supplication, meditation, and ceremonial honoring are practices taught throughout the ages intended to avert our attention to something greater than ourselves. Ancient cultures characteristically perceive our presence in the world as a gift to be honored. Modern cultures put Humanity at the top level as a life form and the Ancients honored all forms of life equally.

In his DVD *The Biology of Perception* Bruce Lipton says, when it comes to survival, it is not about the survival of humanity, it's about the survival of the cell, the cell will survive. Life is a wondrous event. Can we recognize the gift we are living with and honor ourselves and the world we live in. Eckhart Tolle says it so clearly in *the Power of Now*, "don't identify with the pain body". Another way is from *The Course in Miracles* author Marianna Williamson; there are only two choices, Love and Fear, choose Love.

The Flower of Self

The flower of Self Love was planted in your Heart when you came to this place.

Like any flower, as it opens row of petals after row of petals, it needs to push through things that might impede its blossom in its opening to its fullest bloom.

As each row opens it pushes to the foreground the things we need to let go of;

If fear is there, let it go

If any feelings of separation appear, let them go

If doubt appears, let it go

What we call fear is our Heart asking us to simply pay attention, breathe into the moment and listen, The Heart will guide you.

Separation is a false state, breathe into the Heart and come home.

If doubt appears know that the brain will follow the bidding of the Heart and breathe.

In the Garden of your Heart you are safe,

Tend to it,

Nurture it,

It is the safest place for you to be.