MARGHERITA TISATO JULY 2021

EMBODIMENT, TRAUMA AND RESILIENCY

COMMUNITY AGREEMENTS

- Respect
  - Pay attention to your language (pronouns, names etc)
  - Try not to “correct” or “convince” each other
  - Mindful listening before chiming in
- Privacy
  - What’s told here stays here, what’s learnt here leaves here
- We are holding space for each other
  - This is not a therapeutic group
  - No fixing
- No judgement
  - Don’t make assumptions about people or stories
- Self-care: take ownership of your needs
  - Freedom to step back
- Accountability

TRAUMA : DEFINITIONS

- “An emotional response to a terrible event like an accident, rape or natural disaster.” From American Psychological Association
- “The lasting emotional response that often results from living through a distressing event.” From CAMH
- The physiological response to a real or perceived, direct, indirect or systemic/collective threat to one’s survival
- Trauma is a continued experience of no choice
- A lack of attunement to our present reality
- The somatic experience of living in the past
- An inability to complete our survival action
- An inability to integrate and make meaning of an event or a series of events
- A constant reactive state
- An experience of disconnection between psychological and physiological self

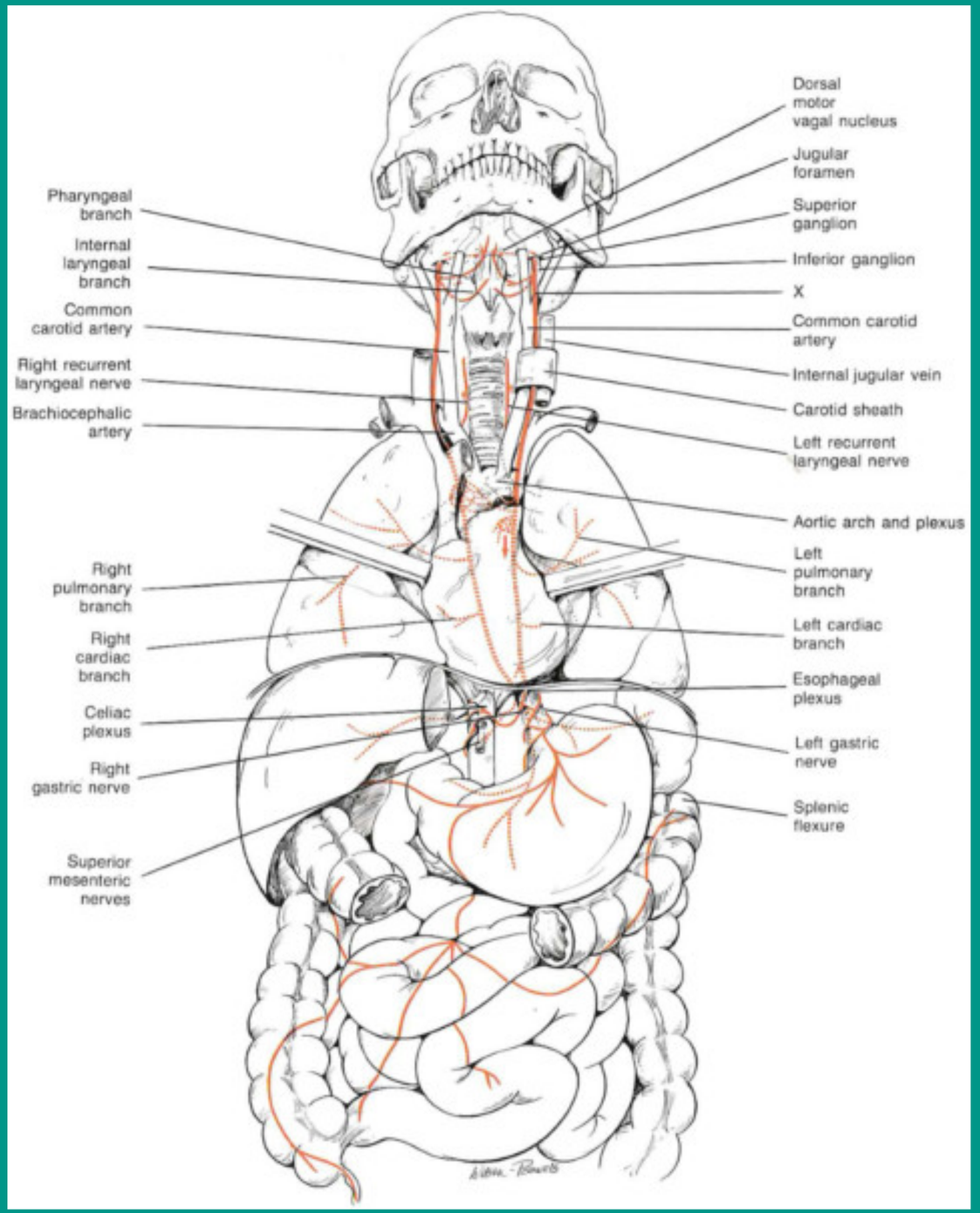
“WE CANNOT HATE, OR BE ANGRY WITHOUT AN ORGANISM THAT HATES AND IS ANGRY. WE CANNOT LOVE AND HOPE AND EXPECT WITHOUT ACTIVELY, MOVINGLY, PHYSIOLOGICALLY LOVING, HOPING AND EXPECTING. HATE, ANGER, LOVE AND HOPE ARE NOT PSYCHOLOGICAL STATES EXISTING IN SOME MENTAL VACUUM: THEY ARE SOMATIC STATES THAT EXIST IN THE ENTIRETY OF A LIVING ORGANISM”

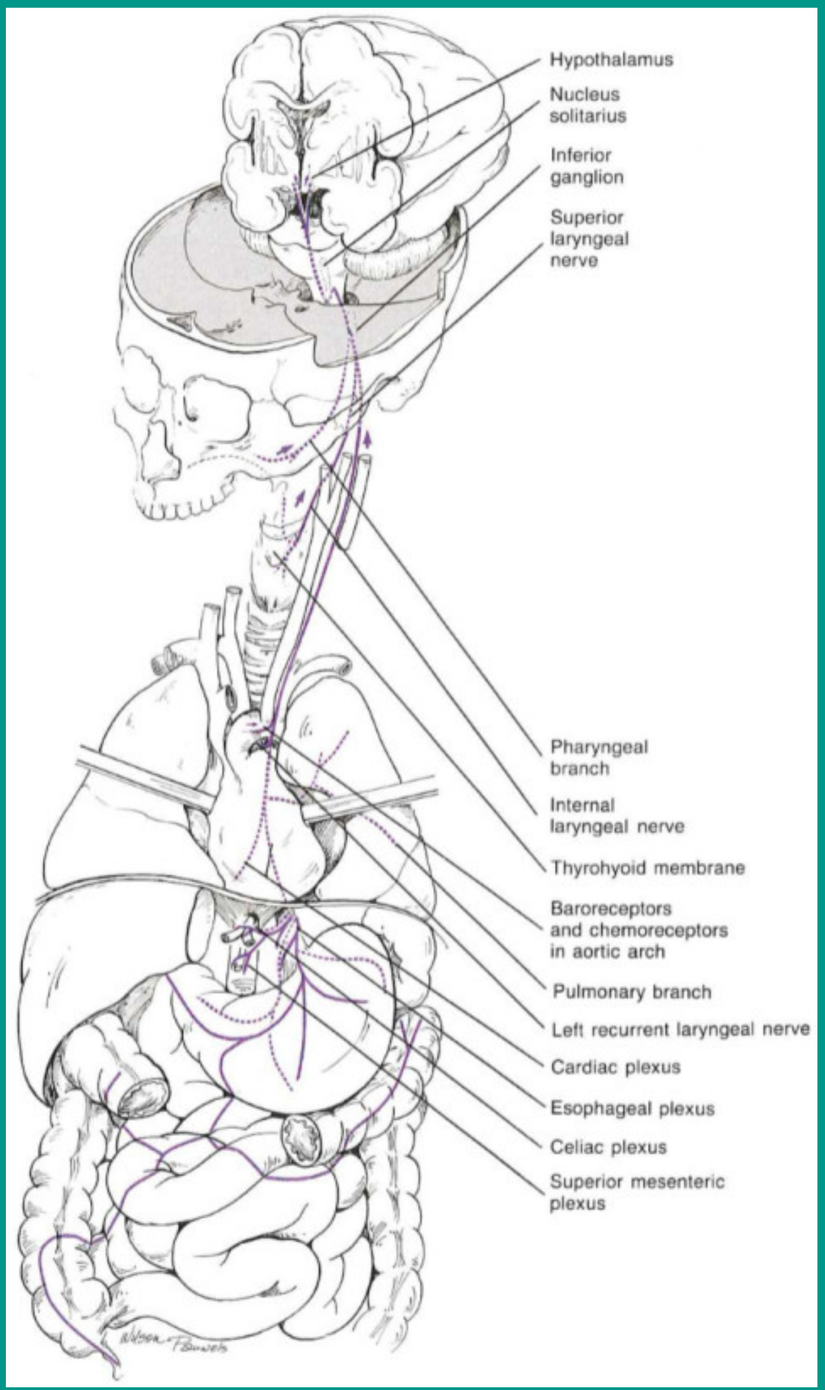
THOMAS HANNAH

PHYSIOLOGY OF TRAUMA

- Trauma is primarily “handled” by the Autonomic Nervous System
  - ANS has three branches: Enteric (belly brain), Sympathetic (Fight or Flight) and Parasympathetic (Rest and Digest or Collapse)
- Sympathetic innervates from the spine, T-1, L-2. Innervates more towards back of body
  - Involved in threat detection
  - Increased muscle tone, increased heart rate, increased rate of respiration
  - Increased stress hormones, blood sugar
  - Lowered immune function, lowered digestive function
- Parasympathetic system, whose main structure is the Vagus Nerve
  - Vagus Nerve is 10th cranial nerve
  - Innervates parts of the face, throat and the entirety of the thoracic and abdominal cavities and down to reproductive organs
  - Sensory functions include sensing some areas behind ears and on throat but mostly internal sensing of organs, most importantly lungs, heart and guts
  - Motor functions include larynx and pharynx, and most important, heart
  - It detects levels of stress trough gut and respiratory movements and signals change in heart rate, which participates in signaling change in hormonal production

- Polyvagal Theory, Stephen Porges, PhD. NOT endorsed by all neuroscientists
  - The Vagus Nerve organizes into Ventral Vagal (social engagement, mobilized) and Dorsal Vagal (freeze, collapse, immobilized)
  - These functions follow a specific hierarchy, where the freeze, collapse systems are activated only when the engagement functions fail
  - These neural pathways regulate autonomic state and the expression of emotional and social behavior.
  - Thus, physiological state dictates the range of behavior and psychological experience.
- Ventral Vagal involved in detecting safety externally + internally, prosocial behavior + social engagement
  - Links sensory states to outward expressivity (muscles in face, throat, middle ear, larynx... so voice, expression, ability to listen, calm, mirroring others)
- Dorsal Vagal complex activates with life-threatening fear (most primitive response to danger) the “freeze” or collapse response (with the SyNS)
  - Decreased muscle tone, cardiac output, metabolic demands
  - Disembodied/dissociated state


Dorsal motor vagal nucleus
Jugular foramen
Superior ganglion
Inferior ganglion
X
Common carotid artery
Internal jugular vein
Carotid sheath
Left recurrent laryngeal nerve
Aortic arch and plexus
Left pulmonary branch
Left cardiac branch
Esophageal plexus
Left gastric nerve
Splenic flexure
Pharyngeal branch
Internal laryngeal branch
Common carotid artery
Right recurrent laryngeal nerve
Brachiocephalic artery
Right pulmonary branch
Right cardiac branch
Celiac plexus
Right gastric nerve
Superior mesenteric nerves


Hypothalamus
Nucleus solitarius
Inferior ganglion
Superior laryngeal nerve
Pharyngeal branch
Internal laryngeal nerve
Thyrohyoid membrane
Baroreceptors and chemoreceptors in aortic arch
Pulmonary branch
Left recurrent laryngeal nerve
Cardiac plexus
Esophageal plexus
Celiac plexus
Superior mesenteric plexus

VAGAL TONE

- Tone is the responsiveness of a tissue to stimuli. Vagal tone is the baseline parasympathetic action the Vegas nerve exercises
  - Vagal tone affects heart rate reduction, vasodilation/constriction of vessels, glandular activity in the heart, lungs, and digestive tract, liver, immune system regulation as well as control of gastrointestinal sensitivity, motility and inflammation
- Top-down (mind + brain change the body) interventions
  - mindfulness, attention regulation, meditation, psychotherapy, interpersonal relationships, medication, setting of intention, interoception
- Bottom-up (body changes mind + brain) interventions
  - breathing, humming and singing, interoception, movement (also helps HRV), cold or heat exposure, food (nutrition) and nourishment of belly brain, connective tissue self-massage techniques, dynamic rest (quiet wakefulness) through restorative postures, pleasure (Vagus Nerve connects to reward centers in the brain), electrical stimulation
- Heart Rate Variability is the range of variability the heart has in responding to stimuli.

TRIGGERED RESPONSES

- Hyperarousal: excessive or constant activation of “fight or flight” System.
  - Hypervigilance, anger, hard time focusing, restlessness
- Hypoarousal: excessive activation of Dorsovagal system.
  - Depressive or lethargic states, fear, submission
  - Dissociation: a disconnection from sensory experience, sense of self and personal history
  - Collapse: dorso-vagal and sympathetic freeze response
    - Structural dissociation is the process of “splitting” our sense of self in multiple parts each related to a specific moment in time or event and with its own personality
- Fawning is a clinging submissive response (“people pleasing” over self care)

EMBODIED CHECK-IN

- Take a moment to consider where you are
- Close your eyes if you want, and make your body comfortable
- Notice if you are IN your body and to what degree
- Feel the contact of your body with the surfaces supporting it
- Can you rely on the support of the ground/chair/wall?
- Move your attention to the breath: where is it? How is it?
- Following your breath, move you attention to the low belly.
- Can you soften it? Stay for a moment, notice the breath but also any sensation, perception, story
- Notice if you are in your body, and to what degree
- Open your eyes and see where you are: does anything look different?

SYMPTOMS

- Immunodeficiencies
- Gastro-intestinal issues
- Digestive issues
- Chronic pain/tension
- High blood pressure
- Inability to notice hunger/thirst (low interoception)
- Flash backs
- Intrusive memories
- Anxiety
- Depression
- Behavioral issues
- Relational challenges
- Sensory dysregulation
- Sleep disturbances

ACUTE VS COMPLEX

* Acute Trauma is a response often caused by one single event, like being victim of a crime, witnessing violence, the loss of a loved one, or a natural disaster

Most PTSD research was done on acute trauma, starting from veterans of the Vietnam war

The diagnosis of PTSD in the DSM-5 is still for acute trauma

* Complex Trauma is a response caused by prolonged exposure to violence, extreme poverty, neglect and dysfunction. Often involves Adverse Childhood Experiences - ACEs: potentially traumatic events that occur in childhood (0-17 years)

Research done on descendants of Holocaust survivors, contributed to the theory of trans-generational trauma and development of Epigenetics and Neuroplasticity

CPTSD SYMPTOMS

Complex Trauma presents all the same symptoms as PTSD but also

- Lack of emotional regulation
- Changes in consciousness
- Negative self-perception
- Loss of systems of meaning
- Distorted view of perpetrator
- Danger-seeking behaviors
- Problems with decision making
- Addiction
- Fawning

INDIVIDUAL VS COLLECTIVE

- Individual Trauma, whether PTSD or CPTSD is the result of events happening to a specific person in the course of their life.
- All trauma is individual: the specific circumstances of each person will determine how we react to events, from stress to life threats
- While we know that networks of support are useful for resilience, there is much we don't know about why responses can be so varied
- Collective Trauma is a shared psychological reaction to a traumatic event or social construct that affects an entire group of people rather than one individual. It can be described as a shared experience of helplessness, disorientation and loss
- Natural disasters, prolonged wars, poverty, systemic oppression, inequalities, professional trauma (police and army, first responders, healthcare)
- Class trauma: poverty, segregation

- Vicarious Trauma is the emotional residue of exposure that folks have who have been working in direct contact with traumatized people
- Moral injury the residue left by doing something that goes against our moral compass, directly, or inter-generationally
- Because trauma can be experienced collectively, trans-generationally, and is fostered by structures of power and large scale disaster, trauma itself, especially acute and individual, is NOT an equalizer.

TRANS-GENERATIONAL TRAUMA

- Individual trauma and epigenetic transmission seem to be connected. Studies are from early 2000 but mentions are older
- Some of the genetic tags that attach to genes to turn them on or off escape the “clean up” that happens at conception, when most of the environmental tags fall, so children will carry some of the tags in their own genome even though their environment is different
    - Evolutionary useful tactic: this is how danger information is learnt through generation (experiment on mice and cherry wood smell, Ressler & Dias, 2013)
- Most studies are on Holocaust survivors and their offspring (Rachel Yehuda, 2015, Yael Danieli, PhD, 2016 et al.), found significant genetic tags passed on from parents.
    - Offspring of holocaust survivors found more vulnerable to anxiety, depression and even PTSD

BODY-BASED, COLLECTIVE, TRANSGENERATIONAL TRAUMA

- Race
- Resmaa Menakem on White Body Supremacy (My Grandmother's Hands, 2017)
    - White supremacy describes an ideology that we choose and see in devoted racists (KKK, Nazis etc). Talking about WS helps "good" people feel they're not part of the problem
    - White Body Supremacy speaks to the use of whiteness as the standard for humanity and in some cases, humanness.
    - White body supremacy has been around long enough to be internalized by Black folk too
- Gender
- Ability
- Age

- Time decontextualizes trauma
  - Becomes personality in an individual, family traits in a family, culture in a people
- In relationship to any collective trauma dynamic we need to look at the trauma itself or the traumatic responses in more than one context:
  - Historical (history of the concept and the building of hierarchies)
  - Intergenerational (how the history affected lineages and family groups)
  - Persistent/institutional (what is happening in society that is influenced by, upholds, or makes use of such ideas, biases and inherited responses, both on a governmental level and in popular culture)
  - Personal (this personal story of each individual, their ACEs scores and access to resources etc)*

*From Resmaa Menakem, Author “My Grandmother’s Hands”

PANDEMIC TRAUMA

- Isolation: hinders systems of support which are helpful to build resilience and Post Traumatic Growth.
    - Interoception helps with feeling less isolation when alone
- Grief and loss: are non-linear and unpredictable. Symptoms often occur long after the loss itself, once things settle and feelings can be felt.
- Fear (constant hyperarousal). So much metabolic energy goes into being constantly aware of the world around us that it’s harder to heal, process, make meaning, etc (see symptoms from CPTSD)
- Moral injury: especially for first responders and healthcare workers, who had to make decisions that went against their moral compass in select care or denying familial support to dying people
- Vicarious trauma: witnessing our loved ones lose people, struggle, become ill….

“HISTORY IS NOT IN THE PAST, IT IS THE PRESENT.
WE CARRY OUR HISTORY WITH US.
WE ARE OUR HISTORY”

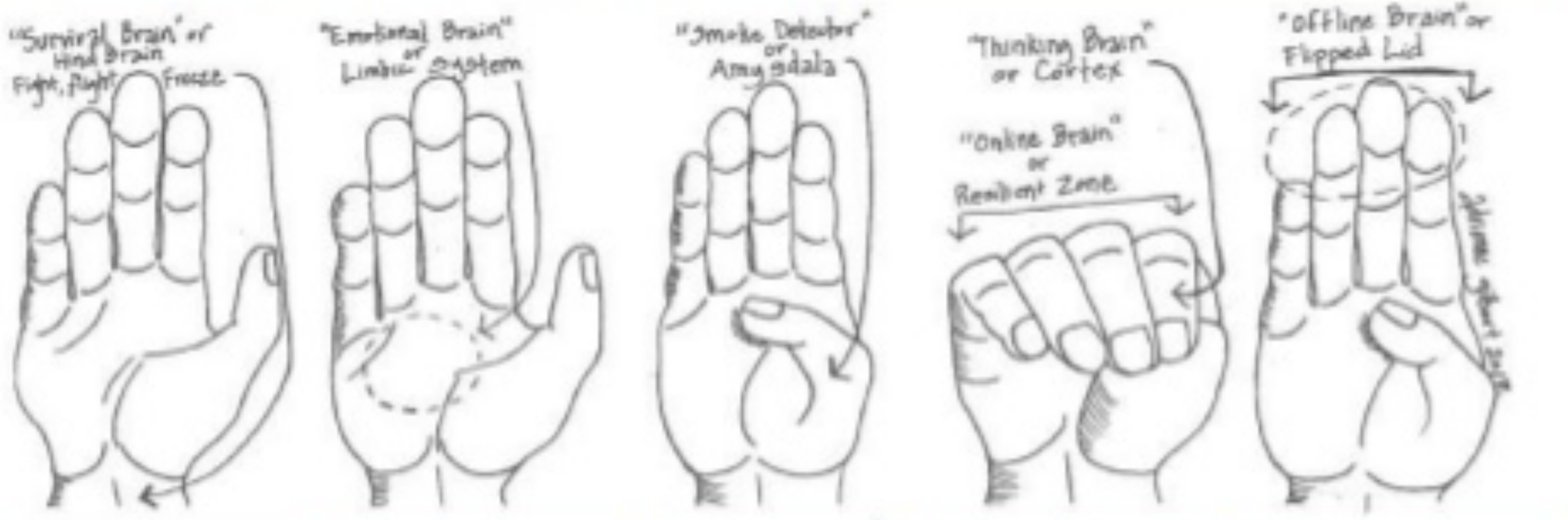
JAMES BALDWIN

EPIGENETIC & NEUROPLASTICITY

- Epigenetics is the study of changes in organisms caused by modification of gene expression rather than alteration of the genetic code itself. (Oxford dictionary)
- Genes can be active or potential. Influences from context can turn them on or off. The chemical tags can be passed down to other generations, without the genes themselves changing or being damaged (CPTSD, Systemic oppression, culture)
- Epigenetics is reversible because it’s not only nature, but nurture based too
- Neuroplasticity is the ability of the brain to create structural and functional changes throughout our lives. Learning promotes neuroplasticity.
- Neuroplasticity can occur in brains affected by CPTSD. Neural pathways that did not develop in infancy and childhood can be created in adulthood.

Understanding the Brain

Hand Brain Model, Dr. Dan Siegal



Survival Brain
Sensation
Autonomic functions
Survival strategies:
fight, flight,
freeze, submit,
& collapse

Emotional Brain
Expression/
regulation of
feeling
Memories
relationships/
attachment

Amygdala
Smoke alarm

Thinking Brain
Critical thinking
Problem solving,
planning,
creativity,
beliefs, impulse
control

Offline Brain
Survival brain in control
Not able to access the thinking brain.

- One common physiological change in CPTSD cases with ACE is stunted development of the Pre-frontal cortex, our Executive Brain, that doesn’t fully develop until our early 20’s
- Executive functions focus on controlling short-sighted, reflexive behaviors to take part in things like planning, decision-making, problem- solving, self-control, and acting with long-term goals in mind
- In a triggered responsive state, for anybody, the PFC is the first thing to go off-line. In states of emergency we rely on reptilian brain for quicker responses. Good strategy, if relevant to the current situation

EMBODIED CHECK-IN

- Take a moment to consider where you are
- Close your eyes if you want, and make your body comfortable
- Notice if you are IN your body and to what degree
- Feel the contact of your body with the surfaces supporting it
- Can you rely on the support of the ground/chair/wall?
- Move your attention to the breath: where is it? How is it?
- Following your breath, move you attention to the low belly.
- Can you soften it? Stay for a moment, notice the breath but also any sensation, perception, story
- Think about “history”: where and how do you feel your history in your body?
- What is your relationship to it, outside of cognitive explanations?
- Can you move or change the sensation you are experiencing?
- Notice if you are in your body, and to what degree
- Open your eyes and see where you are

THE BIOPSYCHOSOCIAL MODEL

- The psychological and social aspects of a persons life are just as important as the biological, in terms of the aetiology of disease and experience of (chronic) pain
- Study of CPTSD, epigenetic and the effects of ACEs show that folks directly or ancestrally affected by poverty, oppression, neglect, extended (systemic) abuse, disenfranchisement, social exclusion are much more likely to develop symptoms of CPTSD, which puts them at higher risk of immune deficiencies, addiction, learning dysfunctions, emotional dysregulation, poor interception and embodiment.
- We are all Affected and Accountable

"WE SHOULDN'T START MAKING DISTINCTIONS BETWEEN THE BRAIN AND THE BODY. THIS PARTICULAR BIOLOGICAL ENTITY WITH ITS PROPRIOCEPTIVE NETWORKS AND SPINAL CORD AND MUSCLES, IT'S THE TOTAL KINESTHETIC ORIENTATION IN THE WORLD, IT'S THE BODY'S MOBILITY WHICH CONTRIBUTES TOWARDS CURIOSITY. THE DESIRE TO ISOLATE THE BRAIN IS THE RESULT OF A CARTESIAN DUALISM."

STELARC

RESILIENCE, WINDOW OF TOLERANCE & INTEROCEPTION

- Resilience is the ability to bounce back from challenging events, make meaning and integrate them in our responses to stimuli
  - It implies good dynamic interchange between the three NS responses and is interconnected with brain neuroplasticity
  - Often more present in folks with some form of support system, including emotional or spiritual.
- Post-traumatic Growth is what can happen when someone who has a hard time bouncing back experiences a traumatic event and ultimately finds a sense of personal growth.
  - Include aspects such as appreciation of life, relationships with others, new possibilities in life, personal strength and spiritual change
- Window of Tolerance is the zone of arousal where an individual can function with relative comfort and efficacy
  - Within the WoT people are able to receive, process and integrate information and to take effective action without much difficulty.
  - Traumatized individuals have narrower WoT
  - Increasing sensory repertory can help with increasing WoT

- Interoception is our ability to detect and interpret afferent messages regarding our current internal state
  - Lots of them come through the Vagus Nerve, PNS
  - In traumatic events afferent pathways of the PNS become secondary. SNS takes over to facilitate survival strategies
  - Use it or lose it: CPTSD can create a constant state of sympathetic activation and higher chances of “flipping the lid” and overtime, interoceptive (vagal) pathways lose importance and tone
  - Understanding our current internal state can help us discern present moment experience from the traumatic memory

THERAPEUTIC SUPPORT

- Trauma Informed therapies:
  - Hakomi
  - Sensory-motor psychotherapy
  - EMDR
  - Psychedelic assisted therapy
- Trauma Informed practices
  - Based on interoception
  - Empower choice-making and agency
  - Based on present-moment experience
  - Increase sensory repertoire and WoT
- Strengthen relationship with self and others
- Foster social and individual embodiment

EMBODIMENT

- Embodiment is our direct and personal experience of any stimuli on all levels of psycho-physiological awareness.
- EMBODIMENT is a word describing our ability to attend to our bodily sensations, or our ability to feel into our bodies to notice its messages, and to use them as a resource for action. It can be interpreted in many different ways, but it generally involves a quality of implicit presence, of being aware of ourselves on a physical level, but it often blends into awareness of our emotional responses as well as psychological factors.

- SOMATIC is a term used to describe what pertains strictly to the body, especially as distinct from the mind.

- Bonnie Bainbridge-Cohen describes embodiment as the final step of a three steps process, that I consider more akin to a how-to of embodiment:
  - Visualization: the process of “imagining”something to inform the body of its existence
  - Somatization: the process of integrating kinesthetic, proprioceptive and tactile sensations to experience the object in the body
    - Can be expanded to interception for more subtle explorations such as emotional states, social and systemic constructs etc
  - Embodiment: the process of letting go of conscious mapping to allow the cells to experience themselves
    - Seen as neuroplastic growth or even epigenetic change, once the change becomes “second nature”

“OUR ABILITY TO NOTICE AND TOLERATE THE SENSATIONS OF GUILT, SHAME, OVERWHELM, DISCOMFORT, ETC. THAT WE FEEL WHEN ACKNOWLEDGING OUR PRIVILEGE AND THE ANCESTRAL TRAUMA OF OTHERS IS PART OF BUILDING RESILIENCE, PART OF OUR SOCIAL CONNECTIVITY, KEY TO THE HEALTH OF OUR SOCIAL BODY, WHICH INFLUENCES OUR PERSONAL BODY, AND ESSENTIAL FOR LIBERATION”

BO FORBES

SOCIAL EMBODIMENT

- Bo Forbes describes embodiment as composed by 5 “pillars”:
  - 1. The senses, for outer processing
  - 2. Proprioception and interoception, for inner processing
  - 3. Body agency, the ability to move in a way that matches our intentions
  - 4. Body ownership*, the sense that the body belongs to us, we belong to it in return (me-ness, we-ness)
  - 5. Body resonance, or our attunement to others
- An “embodied” practice should present all these markers

CHANGE-MAKING

- Changing the individual to change the collective and vice-versa
- Increasing window of tolerance of emotional and somatic states to support The Work
  - Visceral resilience can create emotional resilience, increasing sensory resilience can increase understanding and compassion
  - Body work: yoga, mindful movement, deep tissue and myofascial release, intense and subtle practices like restorative, yin, somatics
  - Emotional resilience: exploring uncomfortable spaces, therapy, being a minority, listening and discussing uncomfortable topics
  - Key to all of these in interoception/self-regulation
- Epigenetic tells us not all that we carry is OURS, but we are responsible for all of it
- Learning is key to neuroplasticity, which is one key to change and improve interpersonal relationships
  - Tracing new neuropathways, so that choices become second nature as "embodied learning” per Bonnie Bainbridge Cohen
  - Social learning
- Acknowledging is the first step, Being-with is second, Changing is third.

4 THINGS TO REMEMBER ABOUT

SOCIAL IDENTITIES

Social Identities are...

1. DYNAMIC

May be chosen or born into, visible or invisible, stable, or shifting.

2. MULTIPLE

Everyone has multiple social identities, & different combinations impact individuals' lived experience.

3. SOCIOLOGICAL

Society determines which identities are flagged, & which differences matter.

4. SALIENT

Certain social identities feel more prominent in certain situations & contexts.

Center for Creative Leadership®

IMPACT & SALIENT IDENTITY

- Responsibility of our impact as artists
  - What is the aim of art work when it is presented?
  - What is the possible impact, from a biopsychosocial perspective?
  - Does it contain obvious common triggers?
  - What is the context it's presented in, and are there cultural considerations to be taken?
- Centering the body in creating and presenting work
  - How can embodiment be used in the creative process?
  - How can other bodies be considered in the presentation of work?
- The difference in education and art: Salient identity
  - Responsibilities and duties of educators
  - Responsibilities and duties of artists
  - What salient identity are we using at the moment, and what are the implications?

"LOVE AND JUSTICE ARE NOT TWO. WITHOUT INNER CHANGE, THERE CAN BE NO OUTER CHANGE. WITHOUT COLLECTIVE CHANGE, NO CHANGE MATTERS."

REV. ANGEL KYODO WILLIAMS