

**Trauma Informed
Community of Action**

Trauma in the Body

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Session Overview: Trauma in the Body

- Introduction, Working Definition and Core Hypotheses
- The Handless Maiden & T/trauma-based (Dis-)Embodiment
- Trauma & the Autonomic Nervous System
 - Window of Tolerance
 - Polyvagal Theory
- Trauma & Somatic Errors: Bottom-up meets Top-down
 - Active Inference Models of Interoception
 - Threat, Unsafety, Uncertainty
- Re-membering: Implications for Embodied Clinical Practice
- Clinical Vignettes, Questions & Discussion



My Background & Research

Interoception: Brain and Body Co-Create the Sense of Self in the World

Pain Perception
Vagus Stimulation in Chronic Pain
Episodic & Emotional Memory Formation

Yoga/Meditation
Mindfulness

Body in Grief
Embodiment and Art
Mindfulness UK/BAMBA
(Trauma-sensitive) Yoga

Interoception & Migraine
Uncertainty and Predictive Coding

Psychology/
Cognitive Neurosc

SELF

Counselling/
Psychotherapy

Body-Integrative Approaches

Psycho Treatment Development
Anxiety, Uncertainty Distress, EDs
...Really Trans-diagnostically



A Working Hypothesis for this Session...

- Trauma/traumatic event is defined as an event that causes a long-term dysregulation in the autonomic nervous system.
- Trauma is in the nervous system and body, and not in the event; an event that is very traumatic to one person may not be traumatic to another, as people differ very widely in their ability to handle various kinds of challenging situations due to different genetic makeup, early environmental challenges, and specific trauma and attachment histories.

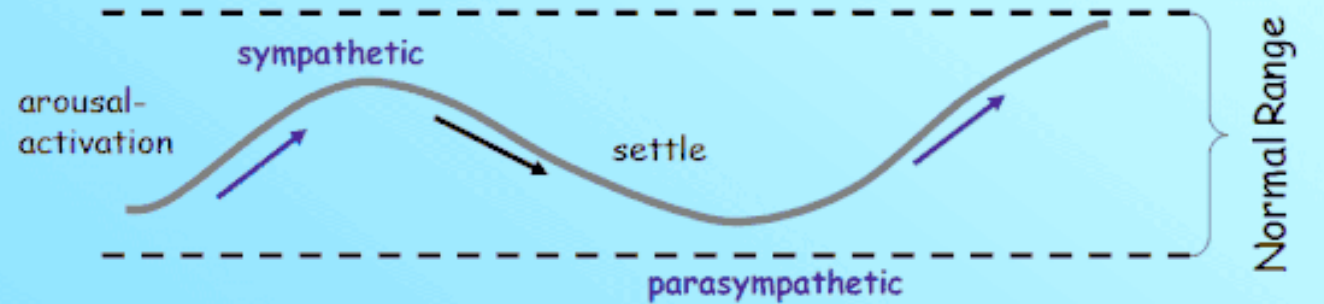
(Levine, 1997, Payne et al., 2015)



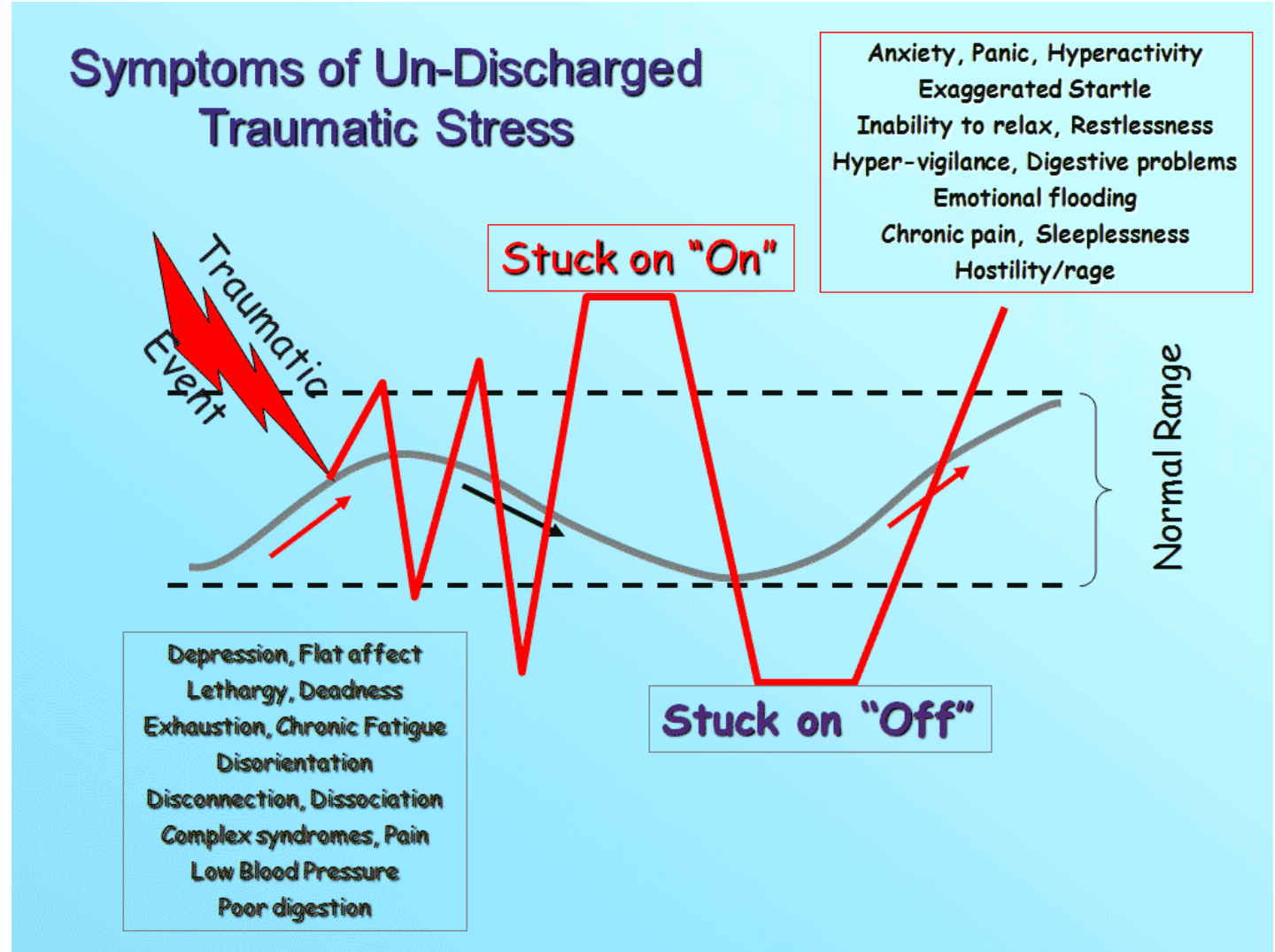
- (Dys-)Regulation = (Dis)Embodiment
- Interoception is basis for embodiment
- Sensing the internal world of the body
- Trauma causes neurophysiological imbalance
- The nervous system cannot accurately sense the state of body
- This impacts on the sense of self
- Reinforcing the felt sense of threat, or unsafety, or unease
- Reinforcing a disembodied sense of self

The Window of Tolerance

A Healthy Nervous System



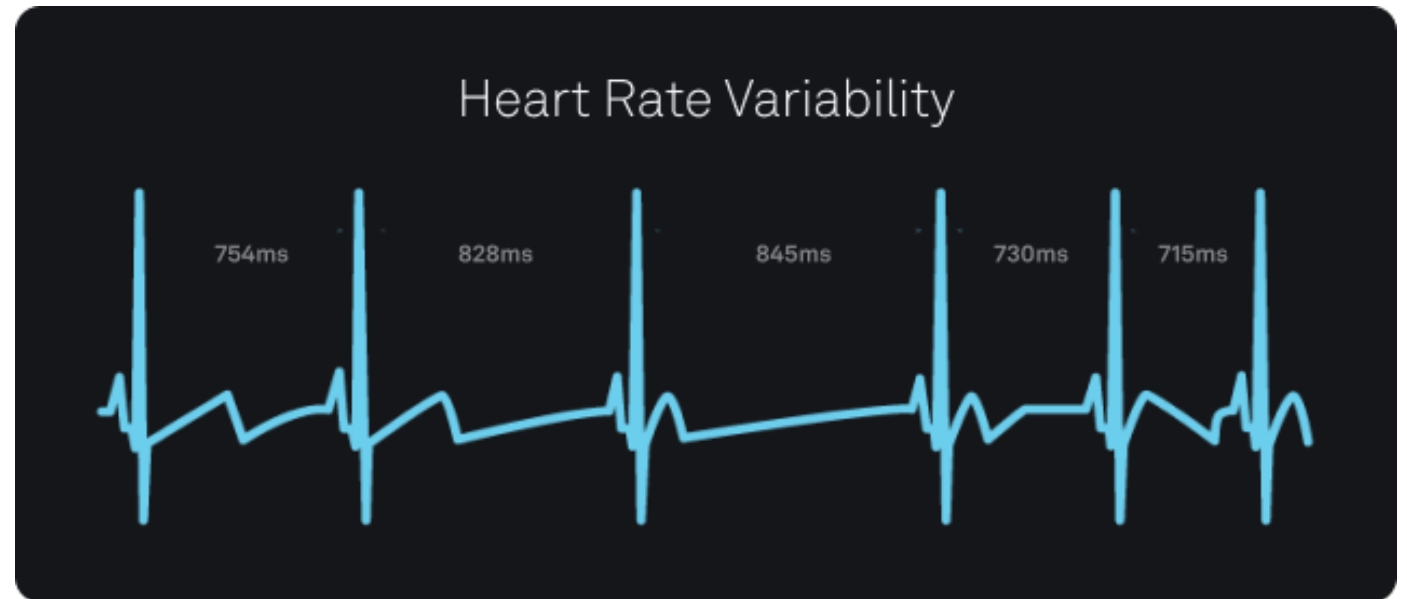
The Window of Tolerance



See e.g. Siegel, 1999; Odgen et al., 2006, Payne, Levine & Crane-Godreau, 2015

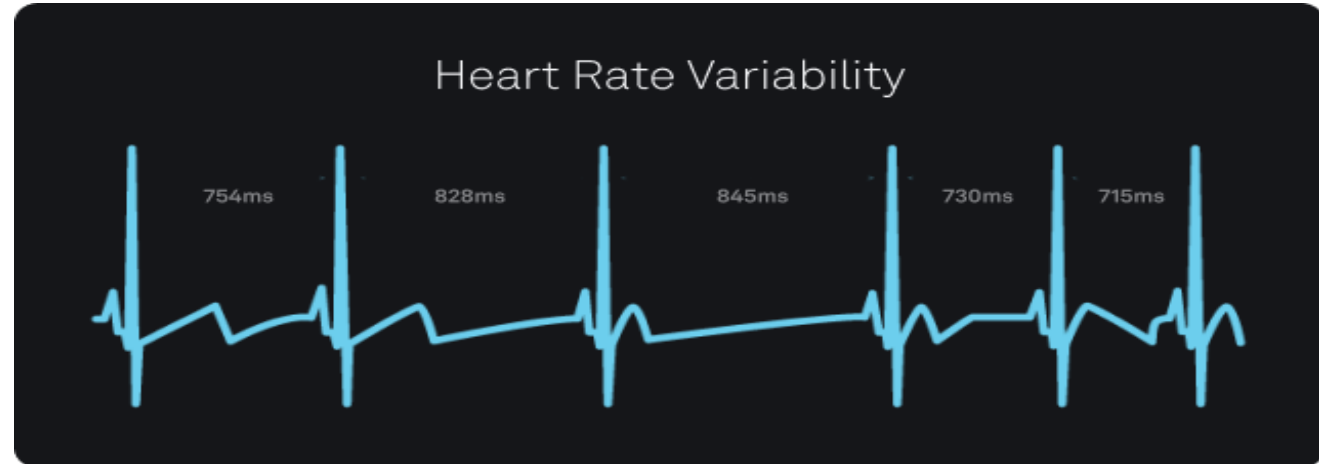
Fluctuations of Heart Rate as Indicator of Wellbeing

Physiological
Indicators
Of “Flow”



Reduced Heart Rate Variability in PTSD

Physiological
Indicators
Of “Flow”



Psychological Medicine

[cambridge.org/psm](https://www.cambridge.org/psm)

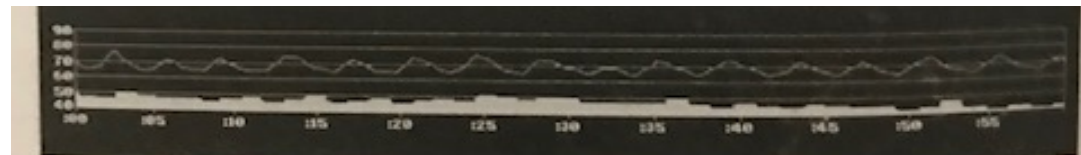
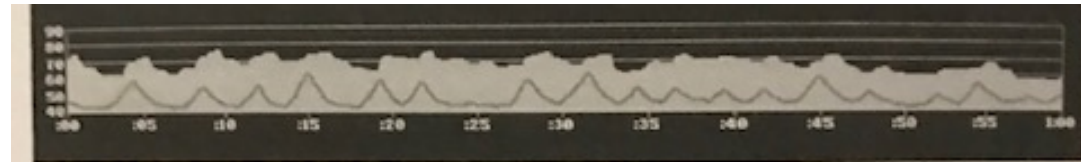
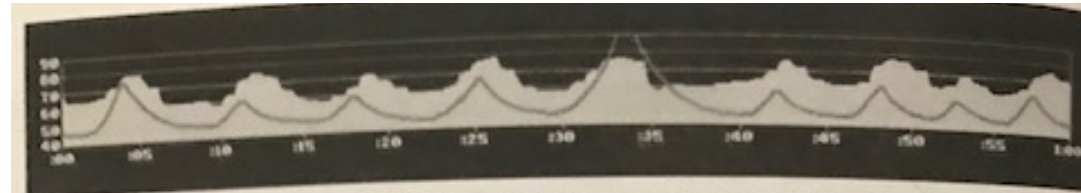
Review Article

Autonomic dysfunction in posttraumatic stress disorder indexed by heart rate variability: a meta-analysis

Martha Schneider  and Andreas Schwerdtfeger 

Coherence between Breathing Rates and Heart Rate Variability

Physiological
Indicators
Of “Flow”



Van der Kolk, 2014



Polyvagal Theory

Stephen Porges, Deb Dana

Red: Parasympathetic - dorsal vagal
Overwhelm - 'I can't'
Immobilisation, disconnection/ dissociation

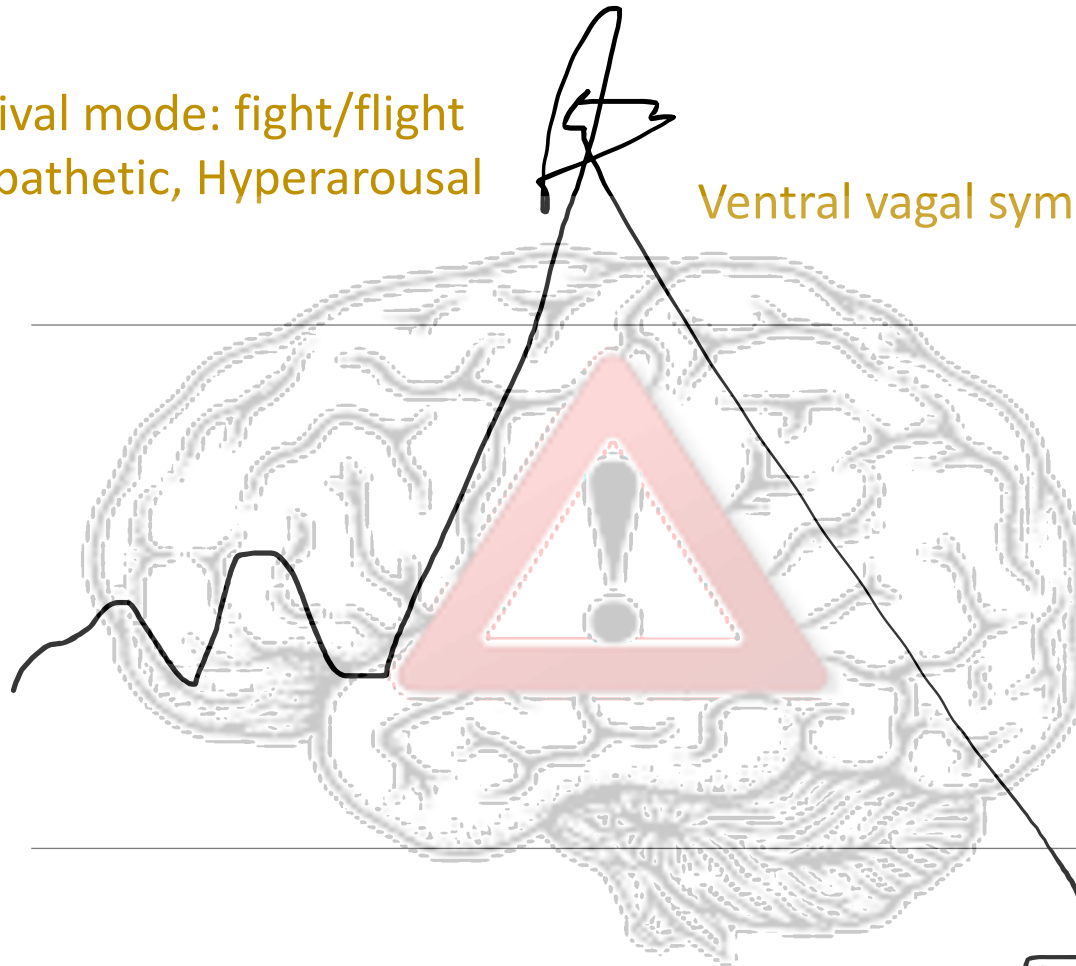
Yellow: Sympathetic
Flight/flight - 'I can'
Mobilisation, defensive orienting

Green: Parasympathetic - ventral vagal
Calm/connected - 'I am'
Being, exploratory orienting

Window of Tolerance & Polyvagal Theory

Survival mode: fight/flight
Sympathetic, Hyperarousal

Ventral vagal sympathetic overrides social engagement system



Window of tolerance
Enough safety/wellbeing to let life flow

Ventral vagus: Social engagement system active
Threat: Potential to regulate

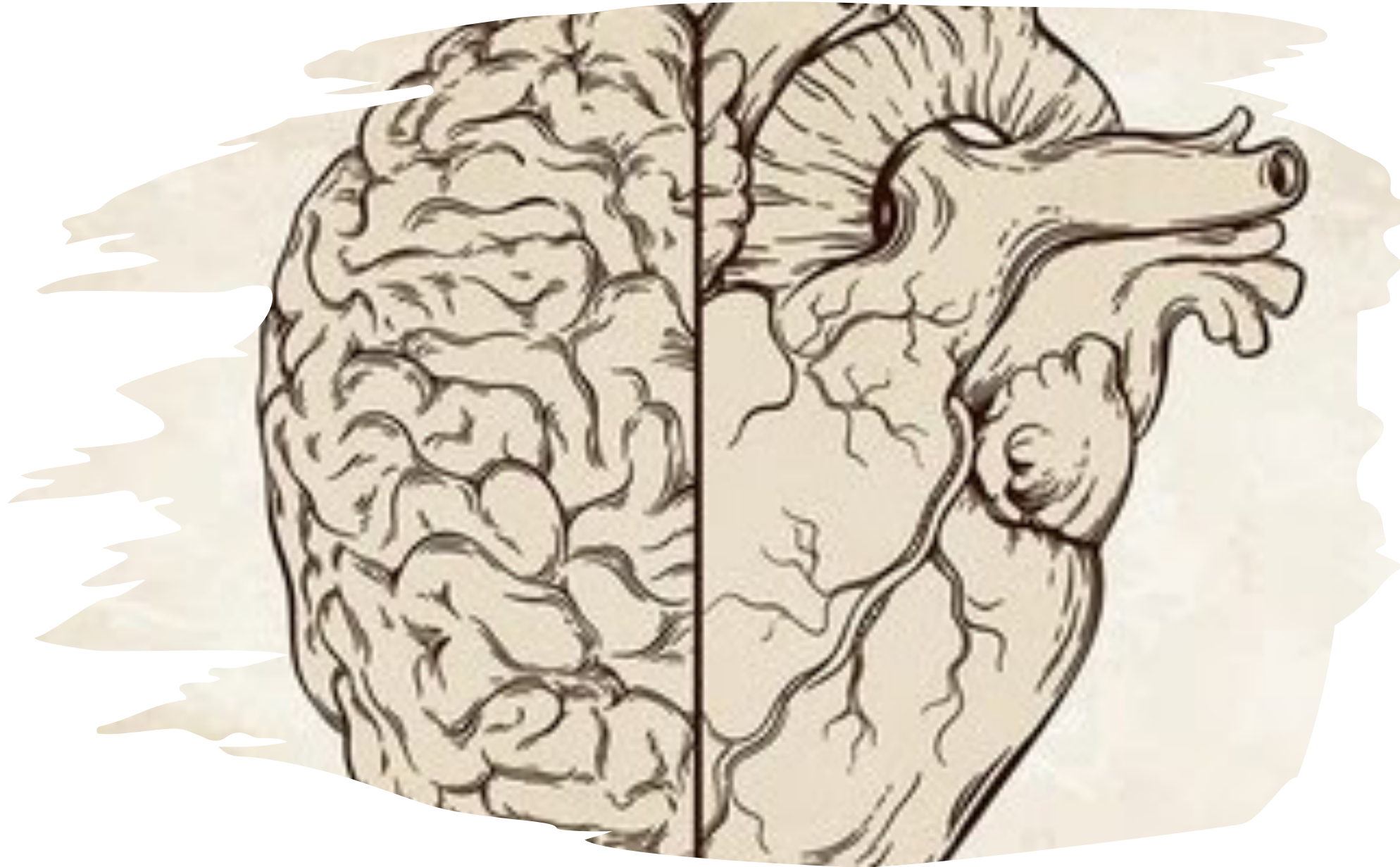
Survival mode: Freeze/Collapse
Parasympathetic, Hypoarousal
Dorsal Vagal System

Threat

Unsafety

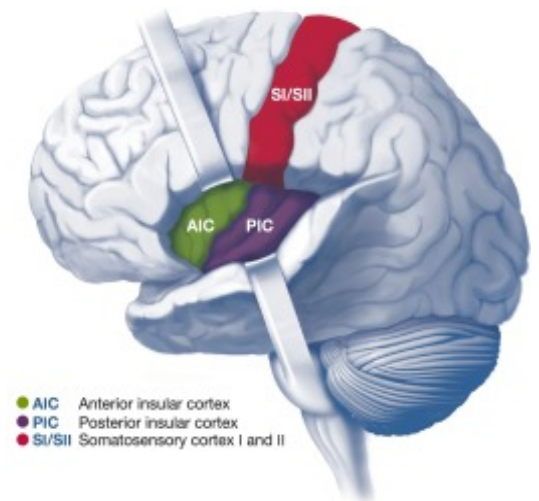
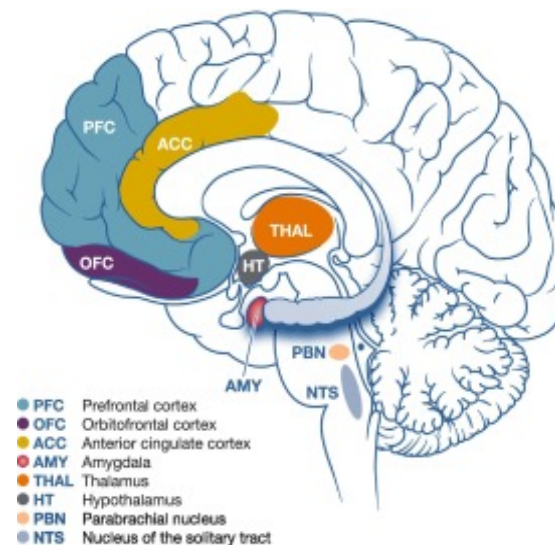
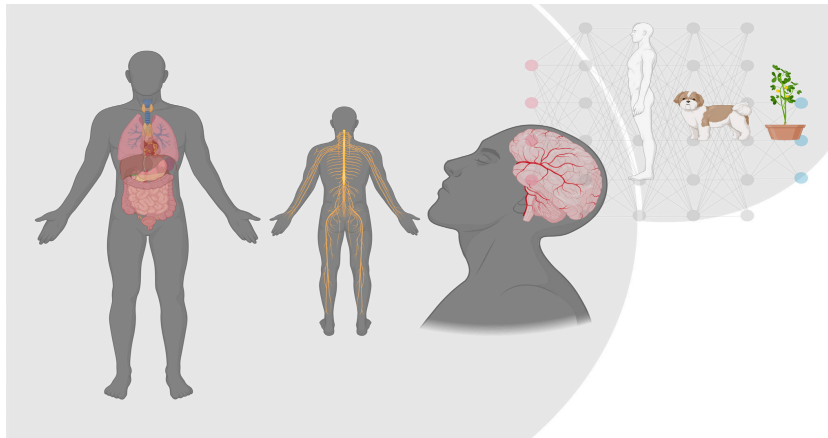
Uncertainty





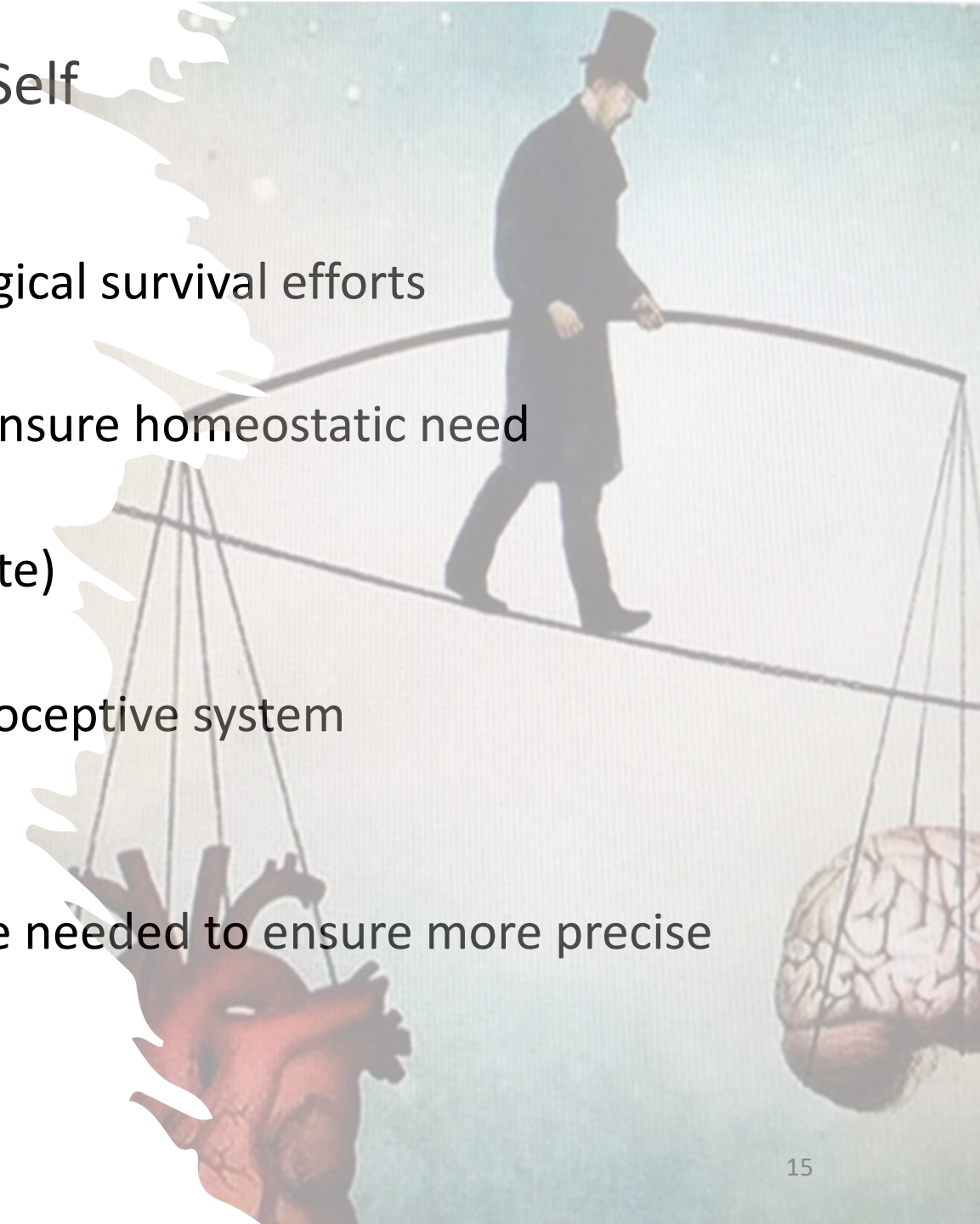
Interoception: Brain-Body-Communication

- Afference and Efference
- Vagus nerve (10th cranial nerve): 80% afferent, 20% efferent
- Brain Regions Involved in Processing of Interoceptive Signals (*Bernston & Khalsa, 2021*)
- Clinical Relevance: Transdiagnostic Feature (*Khalsa et al., 2017*)
- Interoceptive Psychopathology (*Paulus, Feinstein & Khalsa, 2019*)

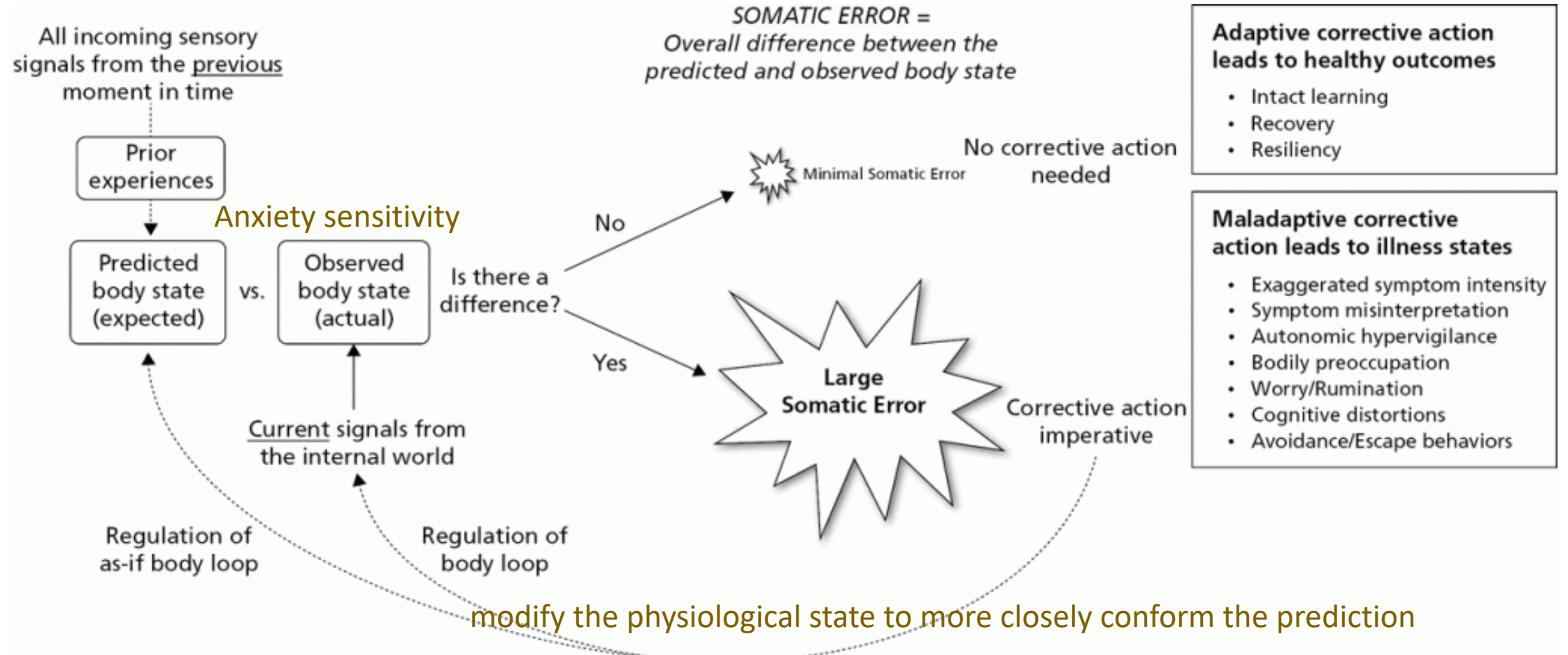


Active Inference & Predictive Coding of the Self

- Psychological Basis of the Self rooted in physiological survival efforts
- Brain attempts prediction of reality in order to ensure homeostatic need
 - Top-down/metacognitive representation
(anticipated, but habitually-based body state)
- This representation imposed upon sensory/interoceptive system
 - Bottom-up signaling (actual state)
- Mismatches (prediction errors/discrepancies) are needed to ensure more precise predictions
 - adjust according to bodily signal
 - adjust according to belief



The Somatic Error Hypothesis of Anxiety: Self-models fail due to Overreliance on priors (habitual) Predictions across changing Contexts



Adjust the predictions to match the current physiological state

Trauma & Embodied Unsafety and/or Uncertainty

“...one strategy to reduce or explain the disconcerting feeling associated with uncertainty signaled by the body, is to identify threats.

Threats can be located and often addressed, usually through avoidance or escape. Inevitably, perhaps, when facing the not (yet) known, reliance on top-down inferences constitute the ‘go to’ or preferred strategy for people who have not (yet) learned to meet the fluctuations of their internal state across location and time in order to form a flexible yet stable, ‘safe enough’, representation of themselves in the world.

The world people may inhabit may often be uncertain, sometimes it may be unsafe, but it is not always dangerous.

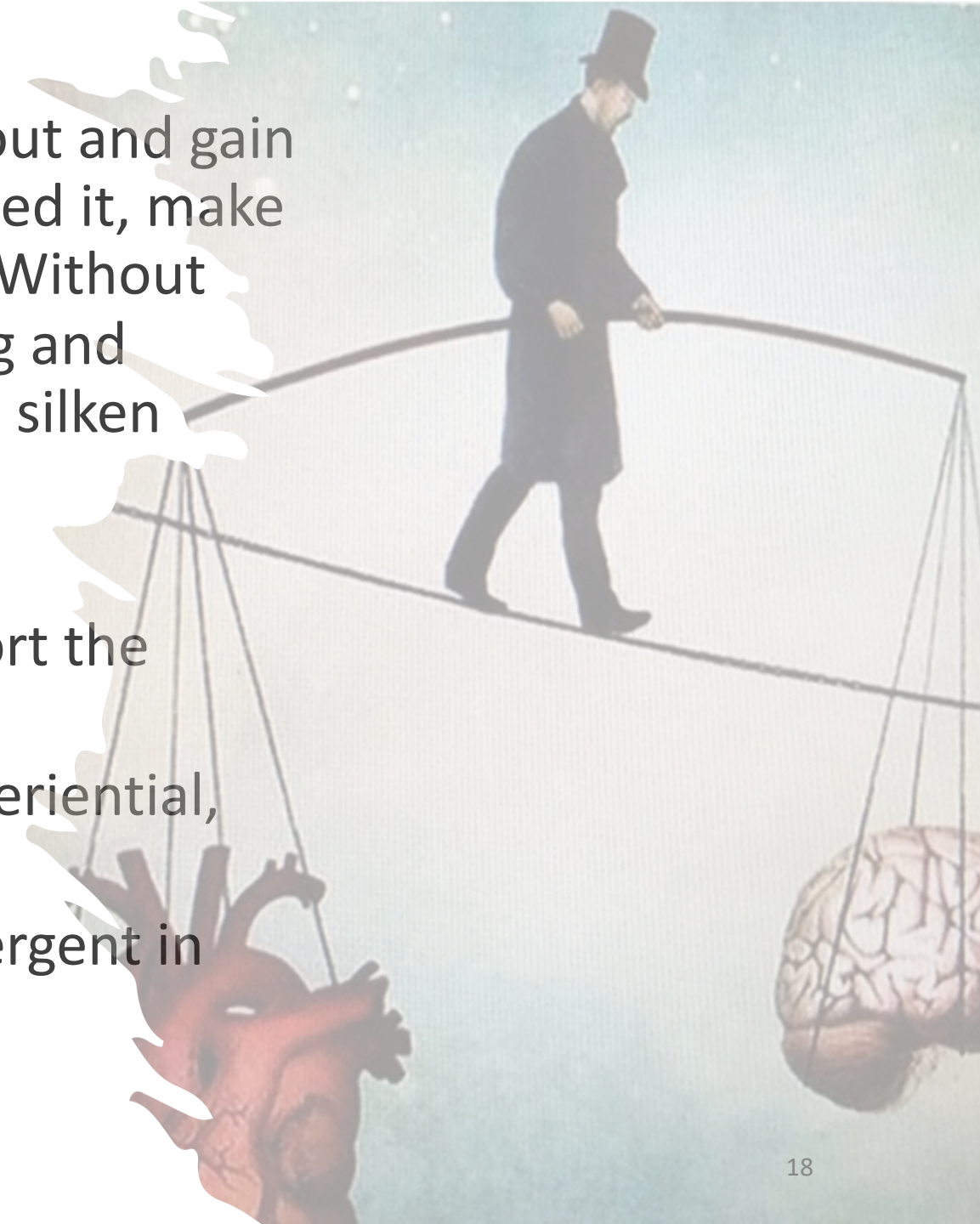
(Freeston & Komes, 2023 p. 4).



Working with the Felt Sense to address New Ways of Being

If I have tangled, knotted hair, I can talk about and gain insight about how it got knotted, who tangled it, make meaning and eventually come to accept it. Without careful, sensitive combing, gentle stretching and attending, it will not transform into smooth silken strands” (Holland, 2013, p. 223).

- Embodied approaches organically support the emergence of a new narrative
- Encompassing (neuro)physiological, experiential, and situational aspects
- Self as dynamic, relational and ever emergent in nature (see also Freeston & Komes, 2023)

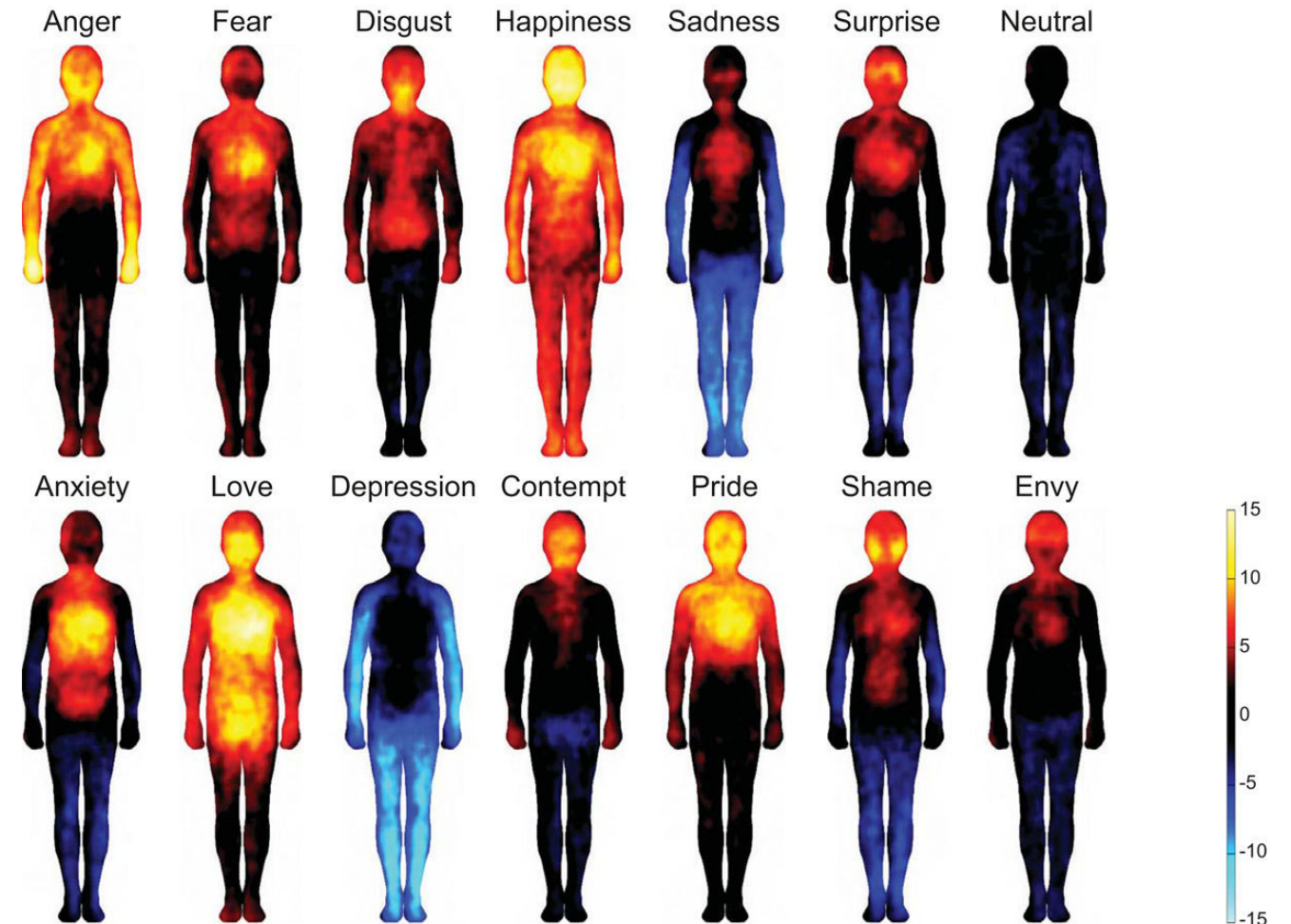


A grayscale image of many hands stacked together, forming a brain-like shape. The hands are arranged in a way that their fingers and palms create a complex, layered structure that resembles the folds and gyri of a human brain. The lighting is soft, highlighting the texture of the skin and the interlocking of the fingers.

And what does this mean for
the trauma-informed
practitioner/community???

Embodied Presence and other Interoception-based Professional Skills

- Behind every human experience lies a tapestry of embodied sensations
- May be noticed or not, but attention can be directed
(*e.g. Farb et al, 2013, Gibson, 2019*)
- Interoceptive literacy needed for client and practitioner (*Price & Hooven, 2018, Price & Wang, 2021*)
- Exploration of felt sense & somatic inquiry, bringing the symptom alive
(*Freeston & Komes, 2023*)
- Indicative of a change in 'relationality', a shift in appraisal links to mental health improvement (*e.g. Payne & Brooks, 2019*)



Nummenmaa et al 2014, PNAS



Clinical Materials

Interoception

- [A body-based worksheet to explore the experience of Uncertainty.](#)

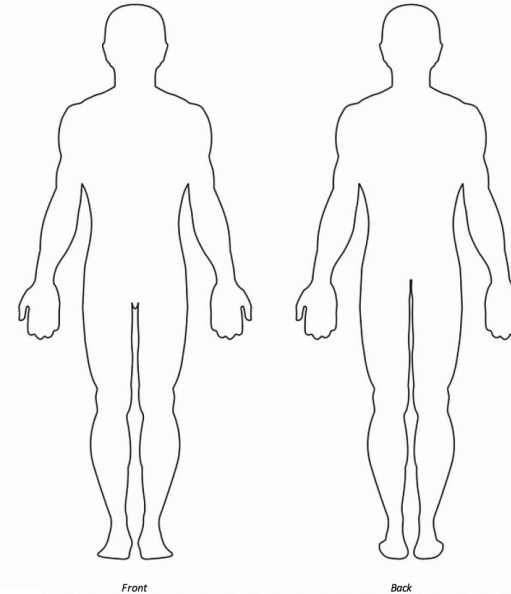
To work with uncertainty in the room, the worksheet helps to investigate the subjective experience as a bodily felt sense. Avoiding the sensations and bodily reactions to unknown situations is part of 'keeping a lid' on the experience and hampers the process of tolerating uncertainty-related discomfort. The interoceptive worksheet supports the experience of being with, sitting with and beginning to relate to the feeling states arising in the face of uncertainty.

- A recording to tap into embodied experiences of safety/unsafety

The recording offers a mindful yet playful way to explore experiences of safety/unsafety as a felt sense. In order to help clients to engage with uncertainty and the related bodily felt discomfort, building the experiences of safety or feeling 'safe enough' in a body-integrative manner is paramount.



The below activity will help us begin using interoception and begin to recognise how these sensations feel to us:



1. Can you think of an uncertainty you're experiencing currently?
2. Using the body map to the left can you locate the feeling? Where is it? Please draw or mark this on the image to the left.
3. Can you draw the feeling on the body map? What does it look like?
4. Can you describe what this feeling is like for you? Heavy? Tight? Loose?

© Uncertainty in Coronavirus Research Network (UNiCORN), 2020. Developed to be used in the management of uncertainty distress. May be used in clinical practice and supervision. For all other uses, please contact layla.mofrad@cntw.nhs.uk or jessica.komes@newcastle.ac.uk. Other resources available at: www.covid19an.com





Trauma is not what happens to us. But what we hold inside in the absence of an empathetic witness.

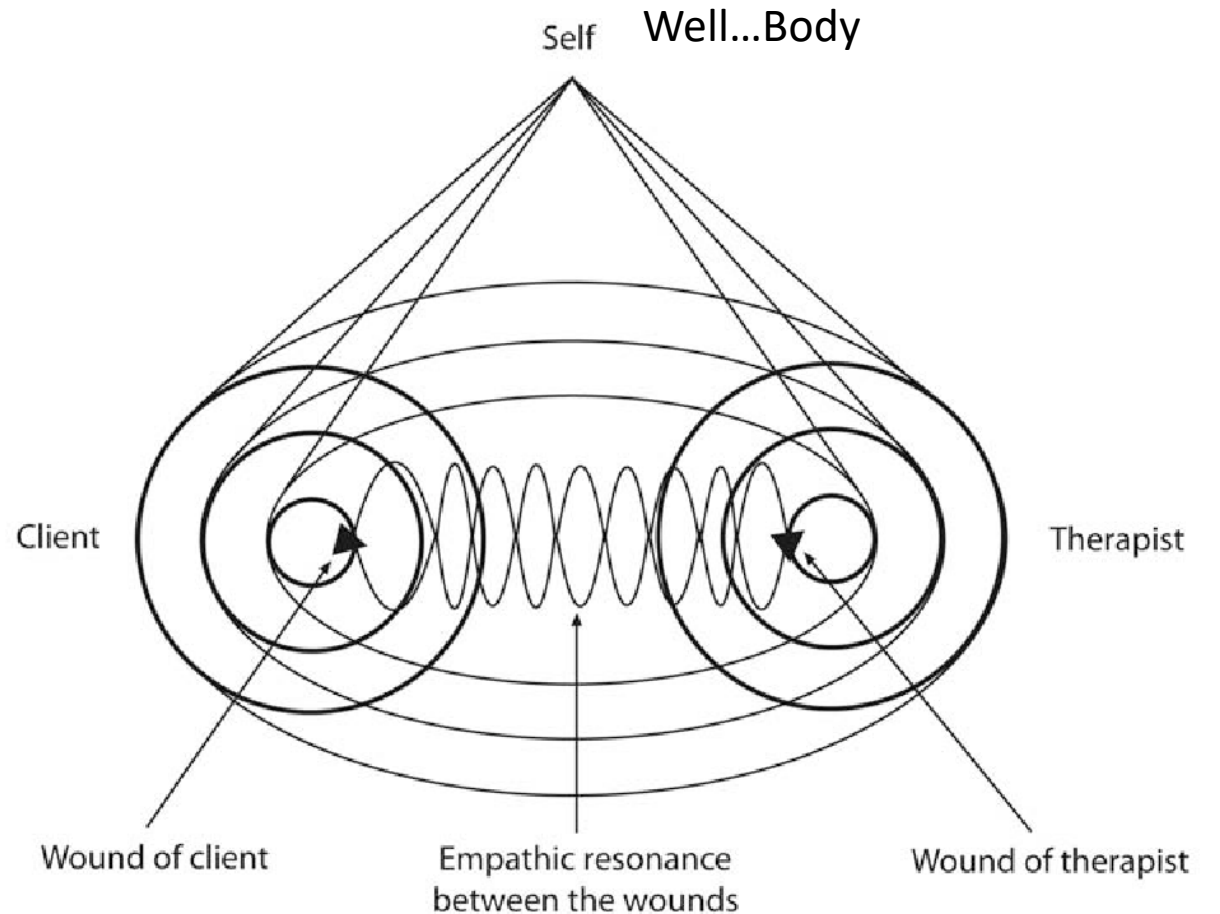
Peter Levine



- From Dismemberment to Integration
- A Collective Window of Tolerance (for Life?!)?
- Embodiment of Empathy
- Embodiment of Compassion
- Embodiment of Self-Compassion
- Embodiment of Unconditional Regard
- Embodiment of Hope

Seeing and 'Being with' through the Body: Embodied Clinical Practice

- From Dismemberment to Integration
- A Collective Window of Tolerance?
- Embodiment of Empathy
- Embodiment of Compassion
- Embodiment of Self-Compassion
- Embodiment of Unconditional Regard
- Embodiment of Hope



Clinical Vignettes: Embodied Change

Ella, 20 year old female, presenting with anorexia

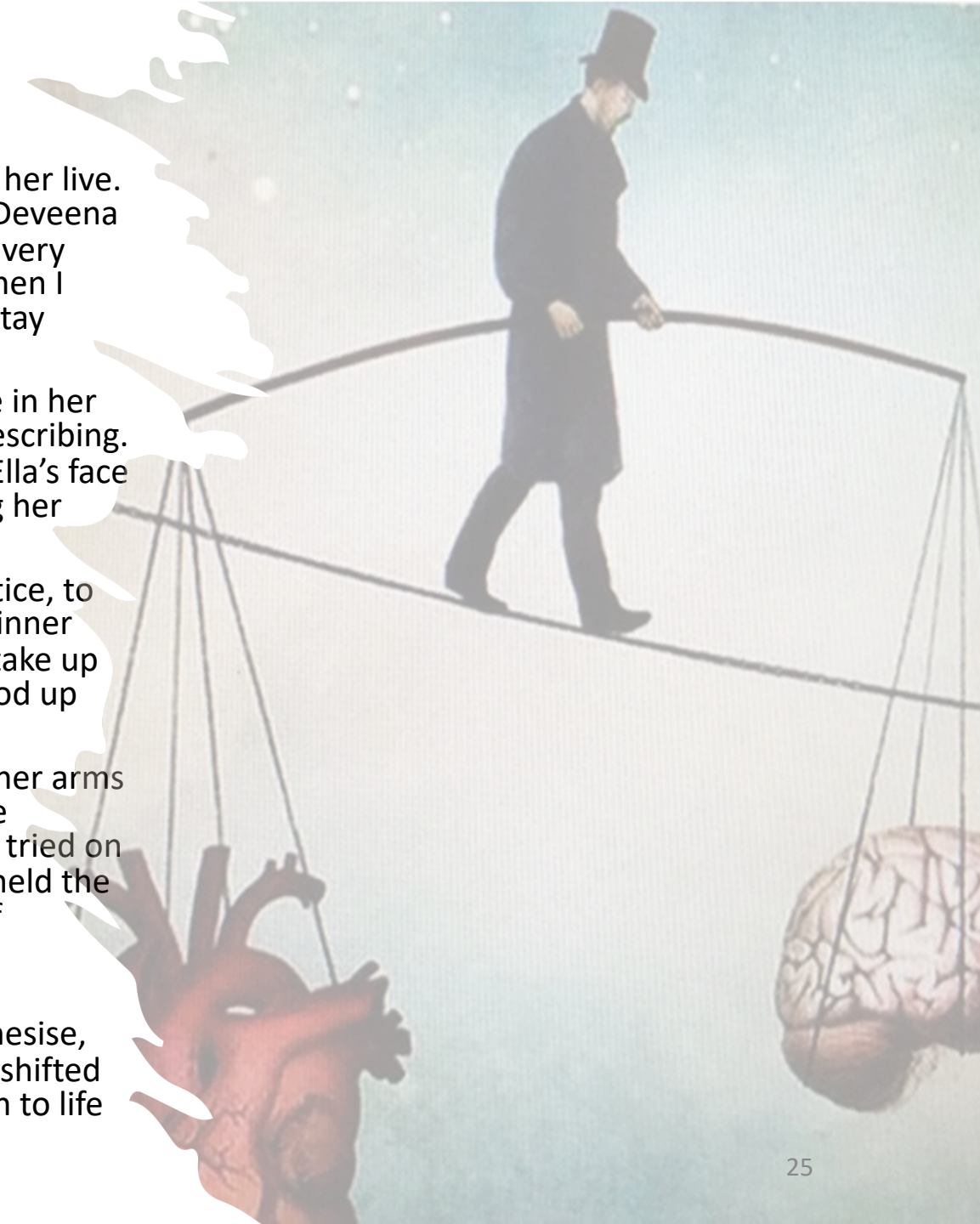
... described how she felt possessed by a dark figure who would not want to let her live. Whilst we were beginning to explore this part of her, who she called Deveena. Deveena carried a strong no to life by keeping her very small, and Ella and I were getting very dissociative with this encaptivating part. It turned out to be a pivotal session when I invited Ella to look around her room to find something to focus on to help her stay present. Her eyes landed on her lava lamp.

We began to explore the experience of relating to the object, I asked her where in her body she could feel the movement and the warmth of the lava lamp she was describing. Alongside the heavy veil of blackness in the room there was a shimmer of life. Ella's face and eyes changed as she ran (actually hovered her fingers, avoidant to touching her body) midline above the area above her heart and her belly (her solar plexus).

I asked her what was happening for her and she was seemingly surprised to notice, to tell me to relate to sensations in her body and to relate over these signs of her inner life. She consciously connected to her willingness to live, or as she called it to "take up space" and upon invitation to express this with a posture or movement she stood up and stretched her arms out.

It was a moment of 'awe' witnessing Ella making contact with her body, lifting her arms and feeling into the space around her. It was a moment of terror too, seeing the objectification, with Ella moving her body robot-like or at best as if she had just tried on a new dress to see how it fits. Yet the embodied encounter with the lava lamp held the spark of aliveness Ella had not been able to connect with under the darkness of Deveena.

It was an experience that literally 'affected' her and the emotional reaction she consciously experienced from within her body was powerful in that, so I hypothesise, she touched base with the willingness to relate to her inner and outer life. This shifted her orientation just enough to change her eating behaviour. To pivot from death to life survival.



Clinical Vignettes: Embodied Change

Kay, 30 year old female, presented with strong symptoms of anxiety which occasionally climaxed into panic interfering with her work as a physiotherapist specialising in women's health.

Kay's circumstances were marked by abandonment in terms of cutting ties with her emotional abusive mother just before what she experienced like "the loss of her man" with her husband undergoing a change in gender identity.

Kay displays high levels of self-awareness and elaborated somatic or interoceptive literacy, i.e. the verbalization of sensate experiences. The work with Katy highlighted for me how the mind can mentalize somatic experience to alienate away from the authentic relationships through spiritual flight, spiritual bypassing (Welwood 2011). As a yoga practitioner and 5Rhythms dancer, it seems she allows herself to be embodied on very circumscribed terms.

She recently started to voice her lack of emotional relationality expressing how she is frustrated about not being able to bring her sadness into our sessions. xx sessions into our work (and thanks to supervision) I finally quit the survival trance, walking on eggshells. Exploring the longing and the terror to be seen, we have started now to explore the protector-persecutor system (Kalsched, 2013) expressing in her constant worry about what I think of her and how she tries to protect both of us with her smile attempting to mask the heavy grief and the moor of shame that has been eating her up. In the latest session as she goes to history wondering about why a part of her is so terrified of a relationship, I ask her how she really feels as she looks at her life right now. Kay seems to land, anger and sadness are tangible, she connects to an image of broken, shattered, glass. As we start exploring the image through her body, she reports feeling snapped out of the emotive inner life by the return of what she experiences as and labels as anxiety, a defence to literally get in touch with what is, which is/remains un-known.

Clinical Vignettes: Embodied Change

Pete 25 year old male ...

...presented with social anxiety and depressive symptoms about a year ago. As a boarding school survivor from primary school through to A-levels, he had chosen to live at home for his University studies. Despite his strong longing for connection, his main struggle was to establish any relationships outside of his family home.

Our work evolved to get to know and integrate the bully. This part of him seemed to have been splitting of his need for connection is fighting relationship at all costs. This included being in the body and being with feelings. In the transference Pete's hostile inner world had regularly expressed in somatization symptoms such as gastric inflammation that I manifested on his behalf and highlighting my own violent defences to come into relationship.

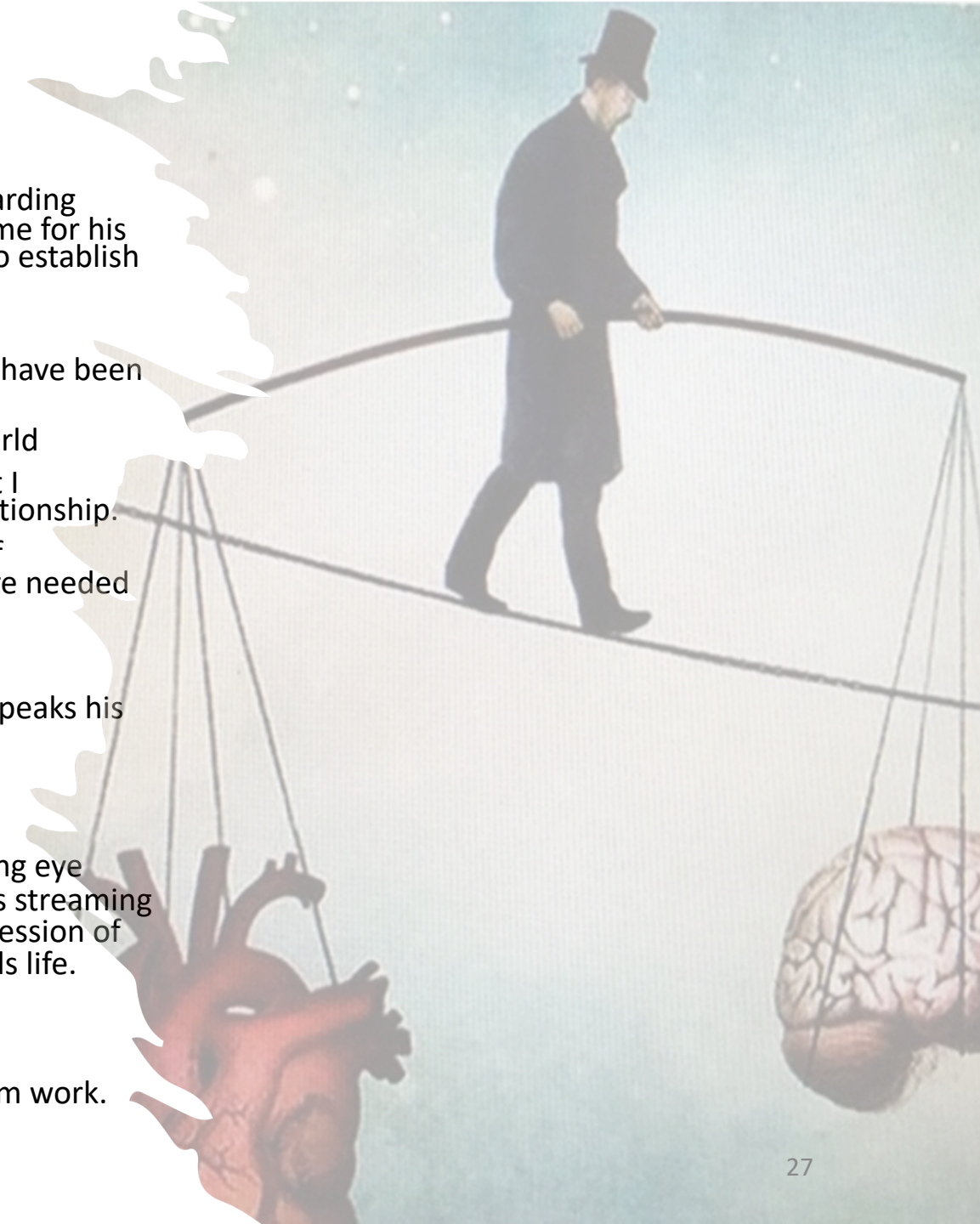
I explored this in supervision and my own therapy sessions to help gain awareness of entanglements/projective identifications – and ultimately also to deepen the self care needed when allowing to be truly “affected” by the other.

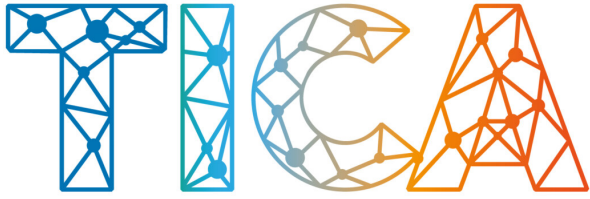
In a recent session with his bully spinning his mind on a violent merry-go round, he speaks his need to lie down.

He tells me, for the first time, about his early separation from home.

Held by the floor underneath and allowing for my hand to touch his whilst maintaining eye contact, it seems he can surrender to the wave of aliveness in his body with the tears streaming down his face and connect to the pain he has been defending against. With this expression of feelings and indeed suffering as a relational experience comes a new impulse towards life.

In a subsequent session, he recognises how he does not dislike himself anymore and how that affects his plans to leave the family home and move in with a colleague from work.





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Thank you
Questions?

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