

# Trauma and the body

## Frank Corrigan, MD, FRCPsych

- EMDR Consultant
- Trained in Sensorimotor Psychotherapy, Lifespan Integration, Brainspotting
- Trainer in the Comprehensive Resource Model (CRM)
- **Beweging in Trauma, Zwolle, November 2016**

# Trauma and the body

- **Aims of session. To understand:**
- The clinical complexity of complex PTSD
- The need to approach treatment through the body, through body awareness
- The dissociative mechanisms the brain employs to defend against overwhelming trauma
- The difficulties of body awareness in complex PTSD
- The impossibility of adequate treatment for complex PTSD when there is no acknowledgement of self-states/ego states/emotional parts of self, i.e. without recognition of structural dissociation

# The Treatment of Complex PTSD

- Meta-analytic reviews show that **less than half** of patients receiving current psychosocial treatments demonstrate **clinically meaningful improvements**, and that the majority of patients continue to have substantial residual symptoms (Bradley et al. 2005; Jonas et al. 2013).
- Pharmacological treatments have at best shown **moderate effect sizes** and there is insufficient evidence to estimate loss of diagnosis
- The currently available scientific evidence for the treatment for PTSD does not reach the level of certainty that would be desired for such a common and serious condition
  - Gapen et al 2016 A pilot study of neurofeedback in chronic PTSD

# Comorbidity in dissociative disorders

- With their complex and varied symptoms patients with dissociative disorders typically take **multiple psychiatric medications** and are almost always excluded from research, . . . , because of complexity of PTSD, treatment-resistant depression and anxiety, personality disorders, eating disorders and somatoform disorders.
- RCTs for PTSD typically exclude patients with **current alcohol or drug abuse** and exclude those who are **suicidal** (Brand 2009)

# Complex PTSD: the problem of treatment

- Neurobiology and treatment of traumatic dissociation: towards an embodied self. Lanius, U.F., Paulsen, S., Corrigan, F.M. Springer, New York, 2014.
- Neglect of the complex: why psychotherapy for post-traumatic clinical presentations is often ineffective
- Frank M. Corrigan, Alastair M. Hull BJPsych Bulletin (2015), 39, 86-89, doi: 10.1192/pb.bp.114.046995
- Recognition of the neurobiological insults imposed by complex trauma and the implications for psychotherapeutic interventions
- Frank M. Corrigan, Alastair M. Hull BJPsych Bulletin (2015), 39, 79-86, doi: 10.1192/pb.bp.114.047134

# Complex PTSD: Neglect of the Complex

## For PTSD

- The evidence on treatments derived from randomised controlled trials (RCTs) is far from 100% applicable and clinically effective
- “...the **RCT model** itself is **inadequate** for evaluating treatments of conditions with complex presentations and frequently multiple comorbidities...”
- “... the **unthinking application** of a dominant therapeutic paradigm with evidence for PTSD but not complex PTSD...” does not do justice to those in need of treatment
- ...excluding those individuals as untreatable or treatment-resistant when viable alternatives exist is not acceptable

# Complex PTSD: Neglect of the Complex

- “. . .extrapolation of treatments from uncomplicated disorders to complex conditions may . . . be **called evidence-based without being evidenced.**”
- “...**Complex conditions** with polysymptomatic presentations and extensive comorbidity are being **denied proper evaluation...**”
- “...& patients **most severely traumatised** from the early stages of their development are **not provided** with **rigorously evaluated psychotherapies** because they are more difficult to study...”
- “This has **significant implications for health services** responsible for the provision of the most efficacious treatments to those whose disorders arise from severe trauma, often very early in their life.”

# Non-RCT Empirical Data

Attention to the **body feeling** experienced during recall of the trauma memory is the starting point for “transformative” rather than “regulatory” approaches to traumatic experience

This applies to:

- Sensorimotor Psychotherapy (Pat Ogden)
- Somatic Experiencing (Peter Levine)
- EMDR (Francine Shapiro)
- Brainspotting (David Grand)
- The Comprehensive Resource Model (Lisa Schwarz)

However, DD patients typically have great difficulty in being embodied



# Defining the Target Frame

- Sensorimotor Psychotherapy:
  - When you are becoming activated (i.e. experiencing emotion/physiological arousal) as you talk about the traumatic experience - what do you notice is happening in your body?
  - **Body feeling** that goes with the narrative of the memory provides the **Frame**

# Defining the Target Frame

- Somatic Experiencing (SE):
  - Body and mind, primitive instincts, emotions, intellect, and spirituality all need to be considered together in studying the organism. The vehicle through which we experience ourselves as organisms is “**the felt sense**”
  - The roots of trauma lie in our instinctual physiologies. As a result, it is through our bodies, as well as our minds, that we discover the key to its healing. . . . The healing of trauma is a natural process that can be accessed through an **inner awareness of the body.**
    - Peter Levine “Waking the tiger” 1997

# Staying with the Target Frame

- As we use mindfulness in Hakomi, it might be called **assisted meditation**. In therapy, its greatest effect is simply staying with experience longer . . . gathering more information and allowing things to happen by themselves. . . Mindfulness, as a state of consciousness, is the tool we use.
  - Ron Kurtz, Body-Centered Psychotherapy, **1990**

# The body in the CRM Frame

- How is your body telling you that something is wrong, that there is something uncomfortable or unpleasant or distressing or disturbing that goes with that memory?
- As we have been talking about these problems/issues, what do you notice is happening inside?
- When you feel that activation, where do you feel it most in your body?

CRM (Comprehensive Resource Model)

# Staying with the Target Frame

- The body sensations are the **gateway** to the emotions – and the movement impulses - left over from the traumatic experience
- Mindfully tracking the sensations opens the way to what needs to be processed
- It is therefore important to be aware of:
  - What emotions might have been experienced as overwhelming at the time of the trauma?
  - What emotions might arise during processing of past traumatic experiences?

# Affects relevant to trauma: brainstem generation

- Panksepp's 7 basic emotions: SEEKING, JOY, CARE, LUST, **FEAR, RAGE, SEPARATION DISTRESS** are all generated in part in the midbrain PAG
- **SHAME**
- **DISGUST**
- **PAIN**
  
- The basic emotional circuits of mammalian brains: Do animals have affective lives?
- Jaak Panksepp (2011) Neuroscience and Biobehavioral Reviews
- Jaak Panksepp & Lucy Biven (2012) "The Archaeology of Mind" Norton

# Attention to the body feeling for resourcing

- In the Comprehensive Resource Model (CRM) eye positions are used to anchor, **not to the distress activation spot**, but to:
- The **body feeling** accompanying a resource such as a **grid** of solid, grounded places in the body
- The **body feeling** accompanying the **attachment or attunement** to an animal or spiritual being (engaged during the process and specific to the ego state)
- The **body feeling** of **attuned contact** between two ego states such as the Child (whose traumatic memory is the subject of processing) and the Adult (when the adult has compassion for the child's horrific experience)

# Non-RCT Empirical Data and the Need for A Neurophenomenology of Healing

- Attention to the **body feeling** experienced during recall of the trauma memory allows a natural healing process to flow organically
- Observation of this natural healing process highlights:
  - The need for **time** in the sessions: allowing people to be “in process” (when often they lose their own awareness of time passing)
  - The importance of **negative emotions** which are activated before resolution – no emotion, no processing, no resolution
  - The often **diffuse quality** of the affectively-loaded body sensations
  - The necessity to allow the processing/reprocessing to **flow** organically until the body feeling is cleared
  - The relative **unimportance of cognitions** as these alter in a positive direction when the somatic residues of the traumatic experience are cleared



# Prevalence of Dissociative Identity Disorder (DID)

- **1-5%** in general psychiatric inpatient units (in North America, Europe & Turkey) meet DSM diagnostic criteria for DID using structured diagnostic instruments.
- **ISST-D, 2011** –
  - “Accurate clinical diagnosis affords early and appropriate treatment for the dissociative disorders.”
  - “...difficulties in diagnosing DID result primarily from lack of education among clinicians about dissociation, dissociative disorders, and the effects of psychological trauma, **as well as** from clinician bias...”
  - “(this)...leads to limited clinical suspicion about dissociative disorders and misconceptions about their clinical presentation . . . (as) rare disorder(s) with a florid, dramatic presentation.”

# And when DDs are diagnosed . . .

- “ . . . it is important to note that sometimes it can take as long or longer to undo the effects of chronic trauma as it took to create a traumatized self, with the latter for many clients beginning in infancy and yet ongoing even as they seek to enter into psychotherapy. Moreover, gains in complex trauma are frequently nonlinear: there are ups and downs, and as clients learn to become more aware of themselves and their difficulties, often they will appear to worsen before getting better . . . “
  - Frewen and Lanius, 2015, page 276

# Evidence from a naturalistic study of dissociative disorders

- Many in this study had been in Dissociative Disorder treatment for many (8+) years – but still had clinically significant scores for dissociation, PTSD and general distress
- Although specialized treatment for DD appears to be beneficial, it does not quickly or completely ameliorate the suffering of individuals who have already suffered through years of reported childhood abuse and aftereffects and a long course of treatment.
  - Brand et al (2009)

# Complex PTSD - Hypothetical Case

- A female patient in her 30s presents after a suicide attempt and is observed to have:
  - a history of alcohol abuse in the past,
  - disturbed eating patterns with bingeing,
  - deliberate self-harm since her teens,
  - attendance at GP over years for anxiety and depression which do not consistently respond to antidepressants
  - relationship problems – sometimes with amnesia for aggressive or fearful behaviours; often fiery separations
  - a recent history of sexual assault prior to the overdose

# Complex PTSD - Hypothetical Case

- Therapy over the years has included:
  - Antidepressants for anxiety and depression
  - CBT for depression and anxiety
  - CBT for eating disorder
  - DBT for Borderline Personality Disorder
  - Antipsychotics for schizo-affective disorder
  - Person-centred therapy for relationship problems
  - EMDR for PTSD following the sexual assault
- Nothing has consistently helped and there is no consensus about the diagnosis

# Complex PTSD - Hypothetical Case

- The patient ends up detained in IPCU
  - Management is based on behavioural learning principles – such as allowing twenty minutes freedom and offering increased time out if no self-harm
  - But if there is a switch of self-state and a serious attempt at suicide – how to proceed? Cognitive restructuring? Punishment of “bad” behaviour? Increased medication? Seclusion?
  - If there is a refusal to acknowledge the lack of consistency in the presentation and an insistence on treating the patient as a whole, rather than as the sum of parts around a core, and an insistence that she must take responsibility for herself – then the patient’s position is compounded by further invalidation
- Nothing will work without acknowledgement of the relative **independence of the suicidal self-states and their traumatic origins**

# Complex PTSD - Hypothetical Case

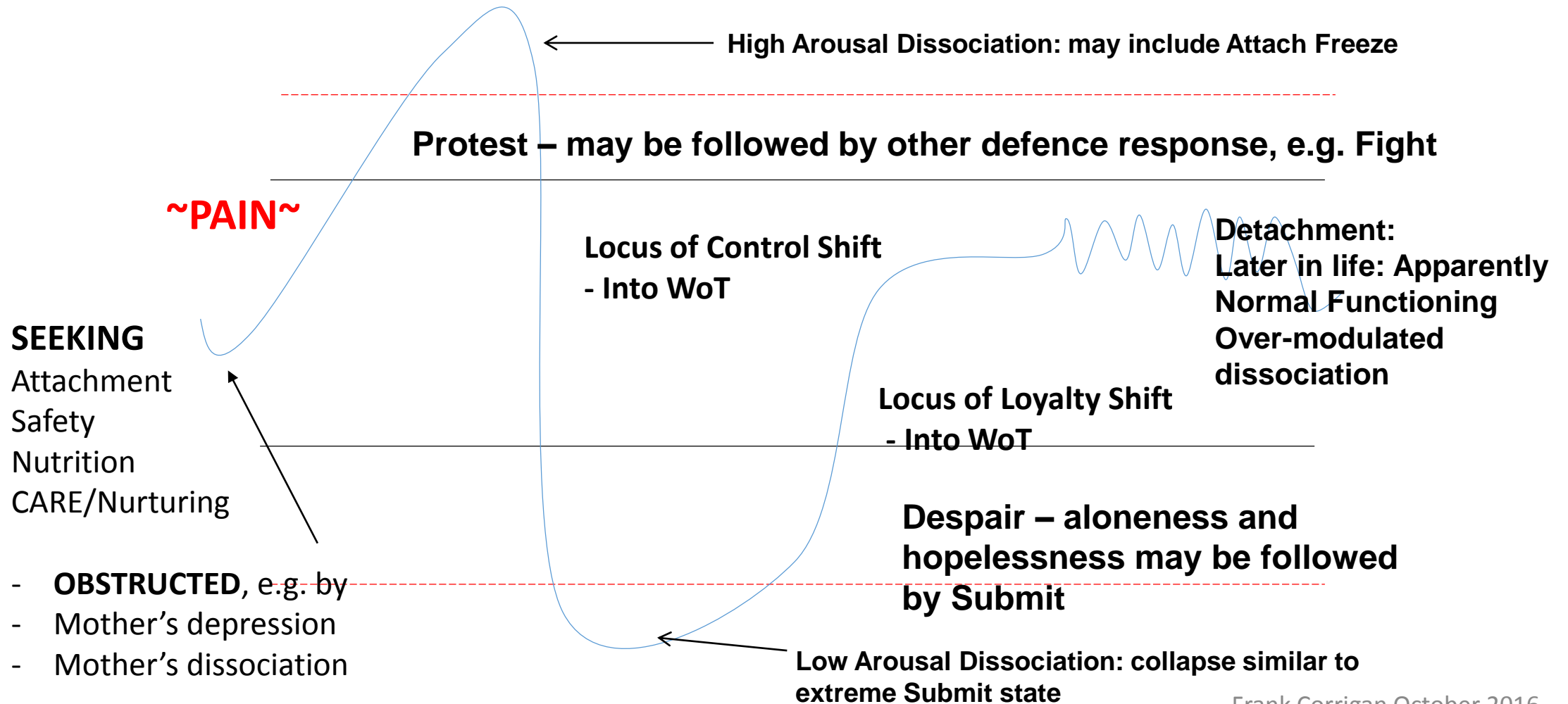
- What is missing when nothing has fundamentally helped?
  - Attention to the history – personal and family - of **trauma**
  - Childhood sexual abuse with onset before 7yo
  - Mother had history of childhood sexual abuse with onset before 7yo
  - Early attachments were disorganised
- Specific treatment for **dissociative disorder** has not been provided
- All the treatments that have been provided have been “evidenced” in studies which would have excluded this patient because of complexity, suicidal risk, and co-morbidity

# Trauma and the origins of dissociative disorders

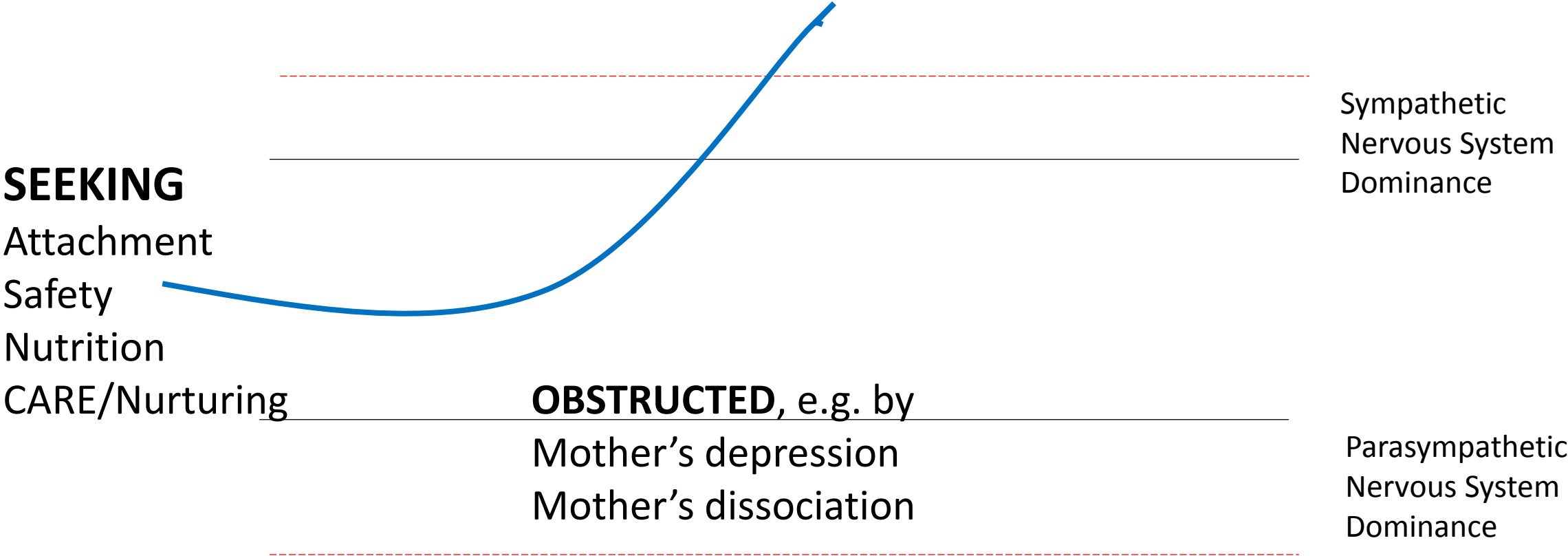
- Lyons-Ruth et al:
- **disorganized attachment** behaviours in infancy are important precursors to later dissociative symptoms
- this early vulnerability is related to patterns of parent-infant **affective** communication observable by the end of the second year of life
- the quality of primary attachment relationships may partially account for why some people exposed to later trauma develop dissociative symptoms and others do not



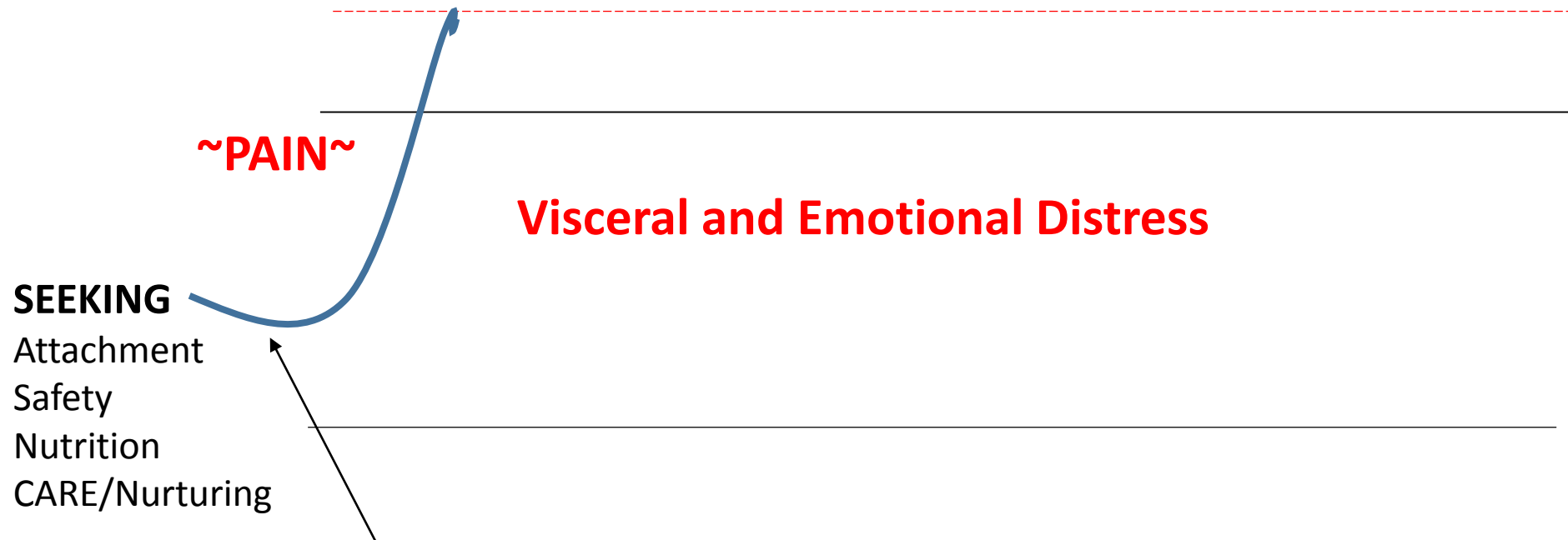
# The Window of Tolerance: Infant Responses to Adversity/Neglect/Abandonment



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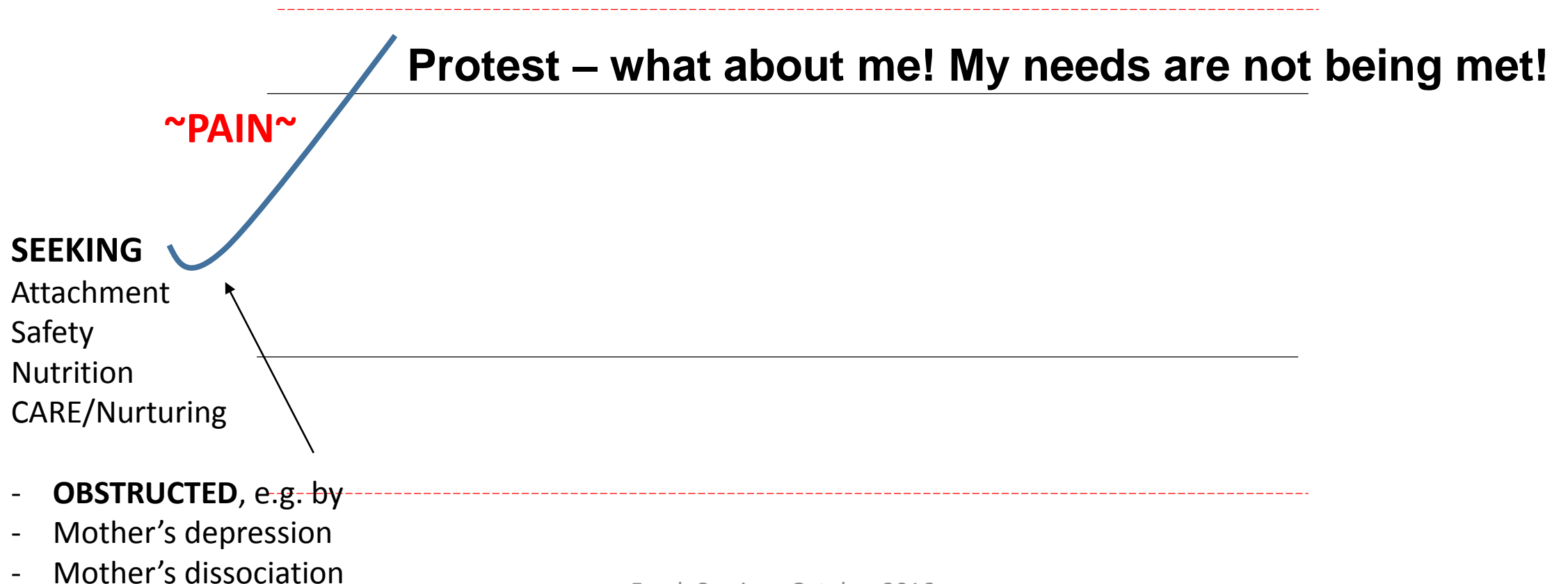


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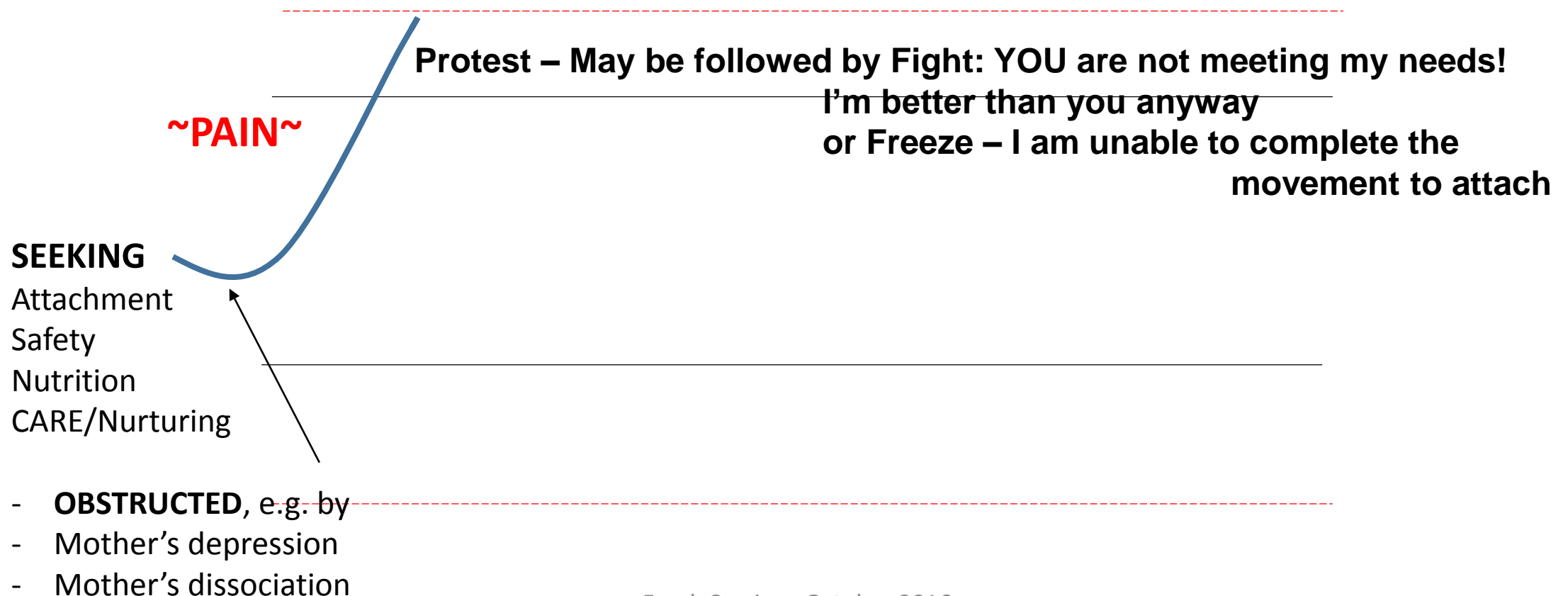


- **OBSTRUCTED**, e.g. by
- Mother's depression
- Mother's dissociation

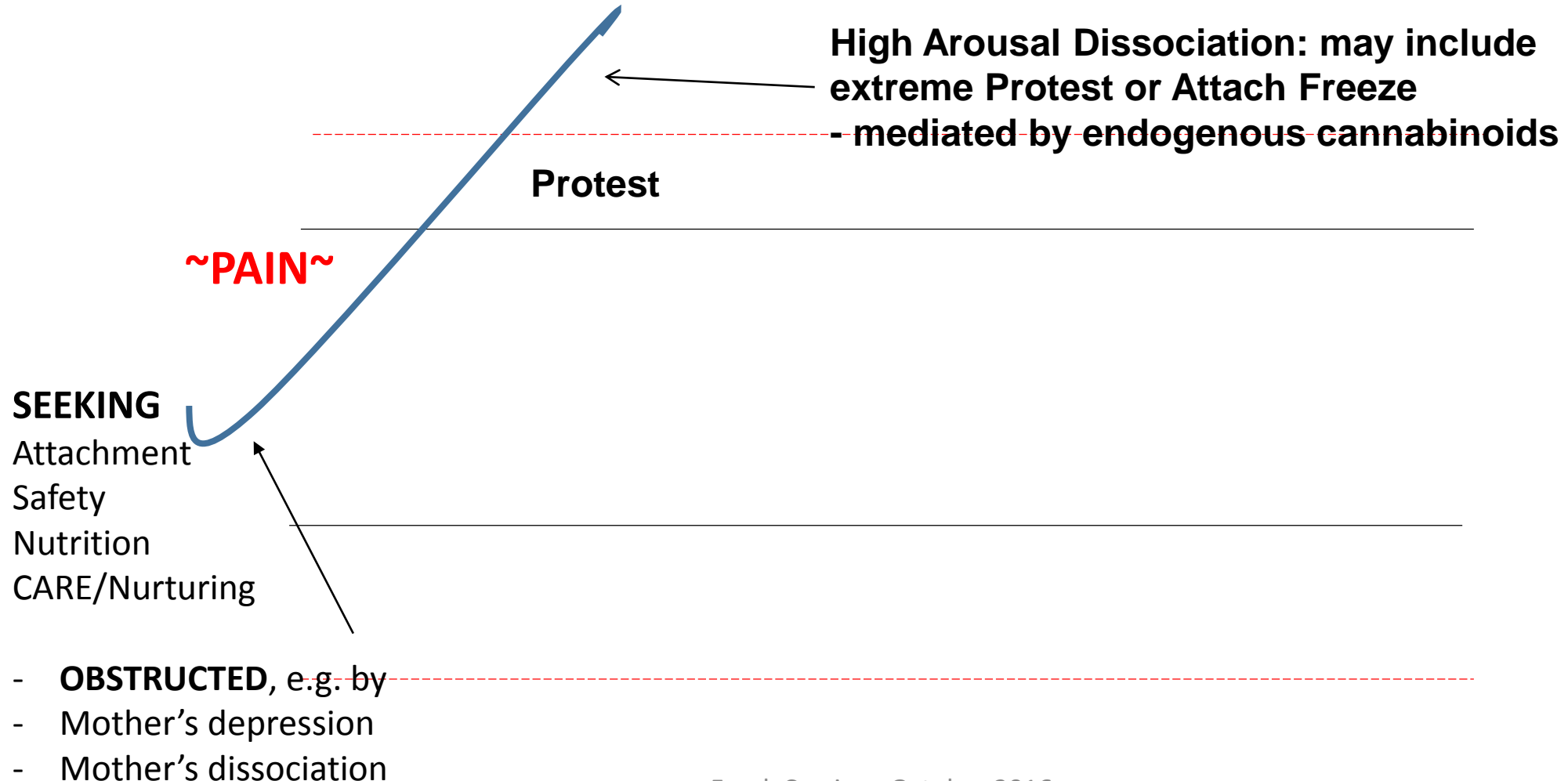
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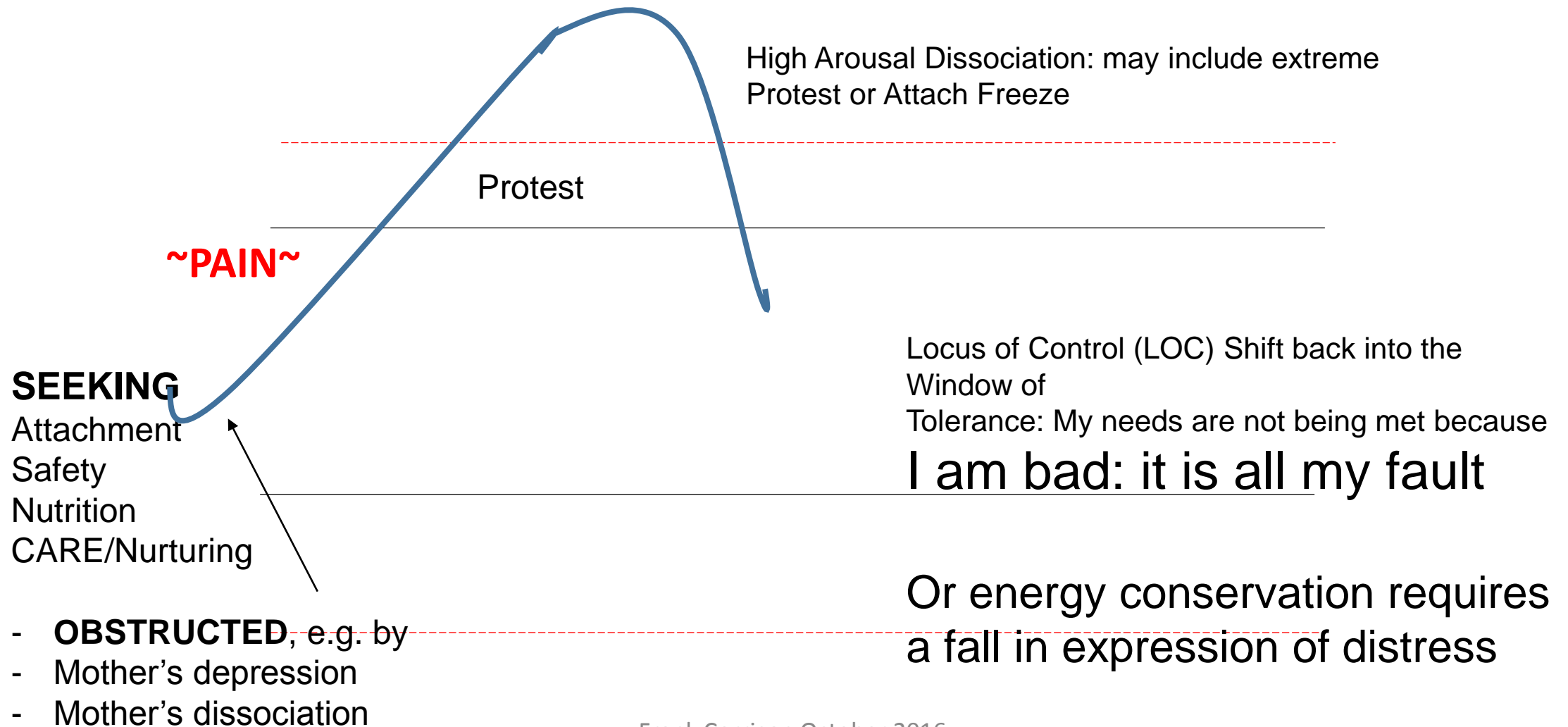
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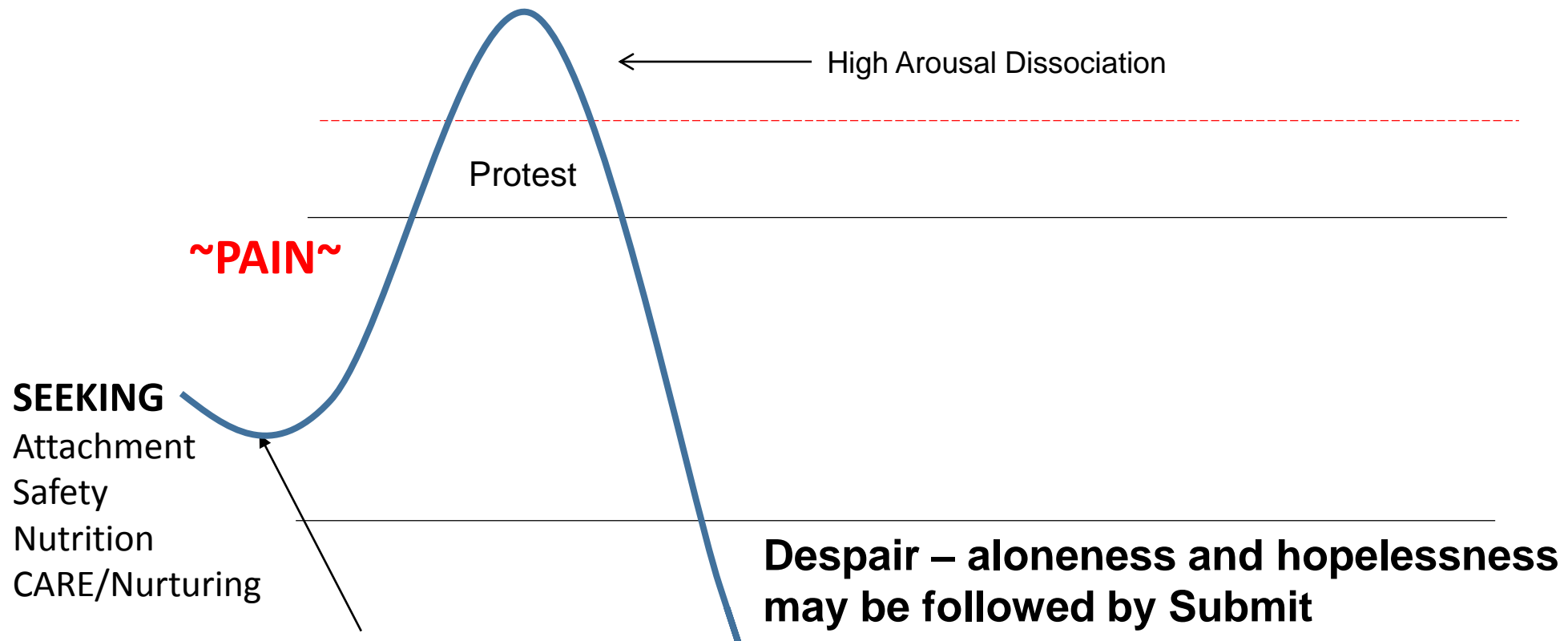
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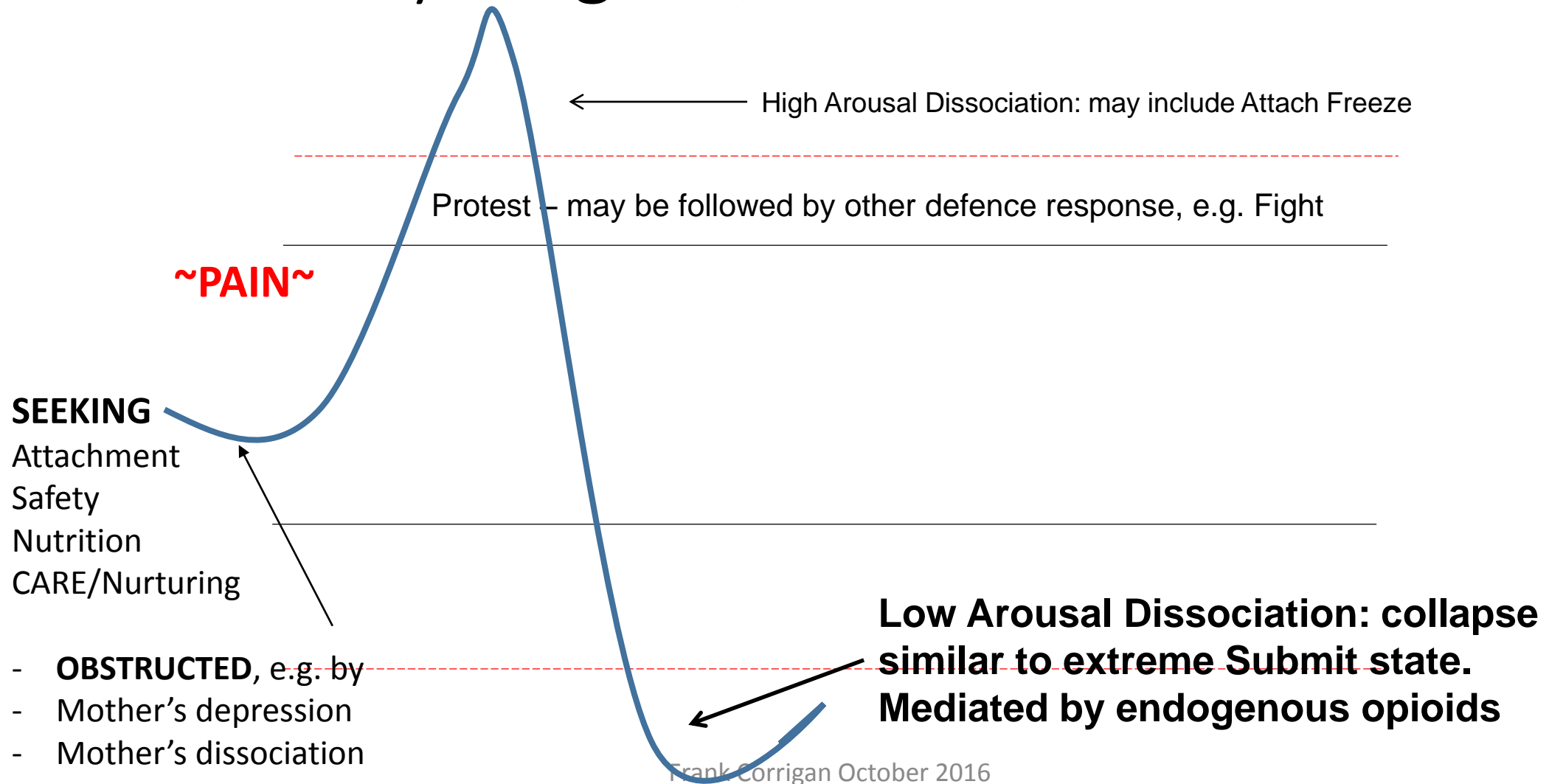
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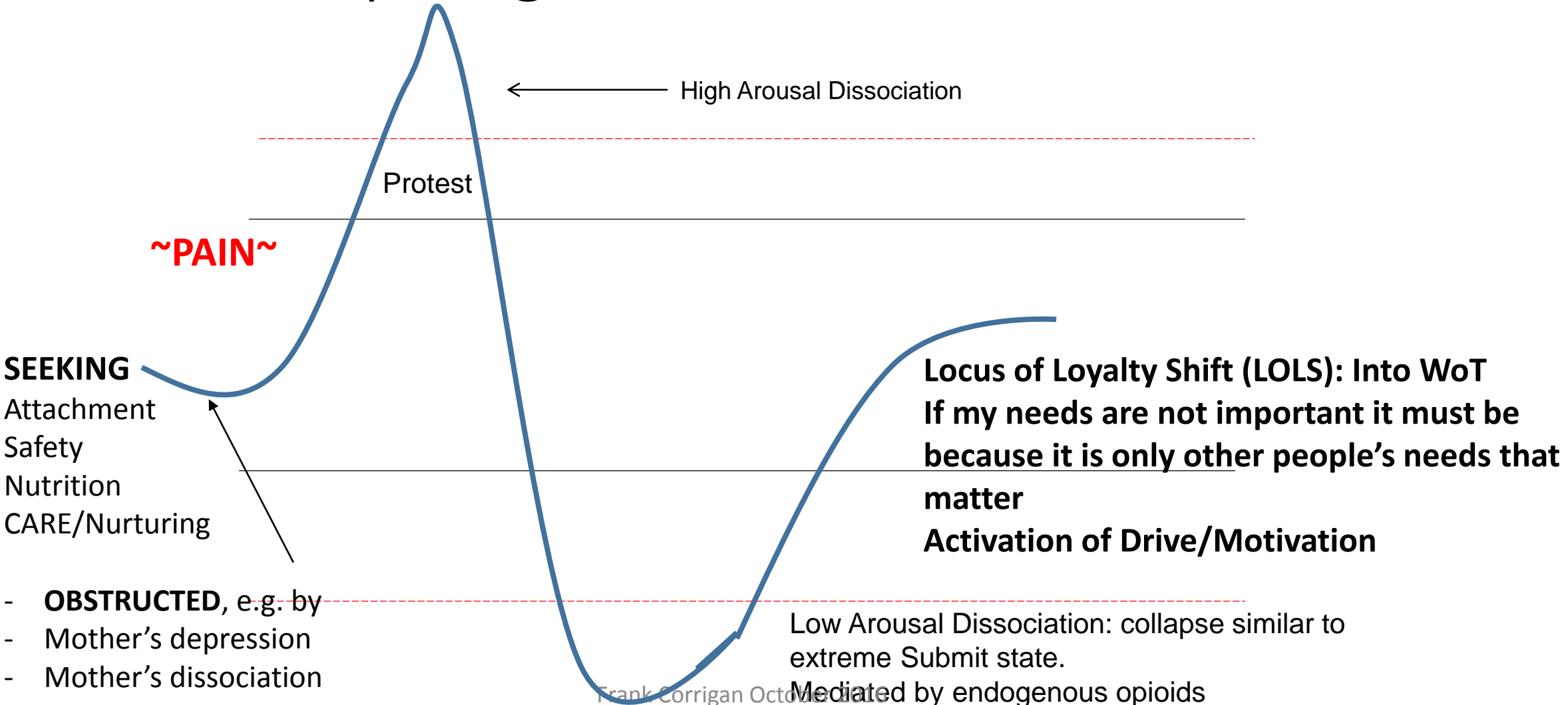
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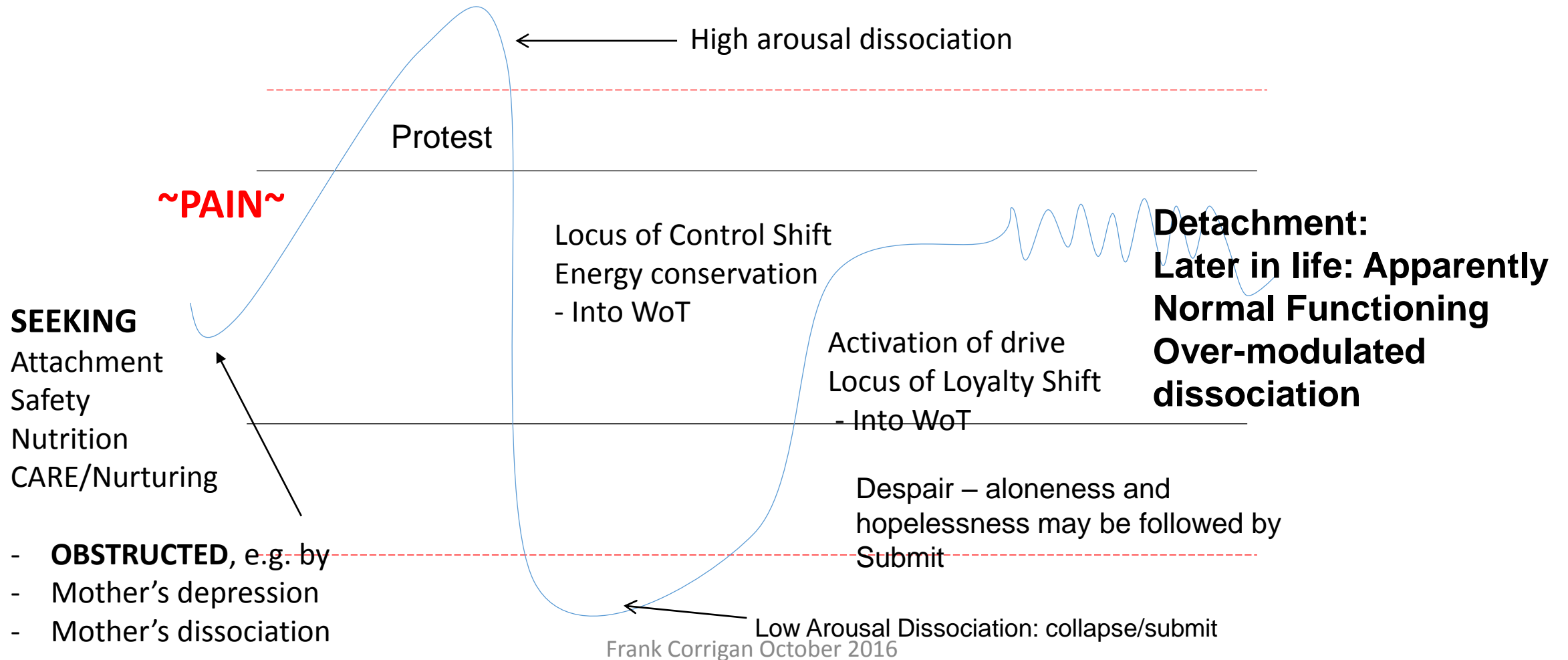
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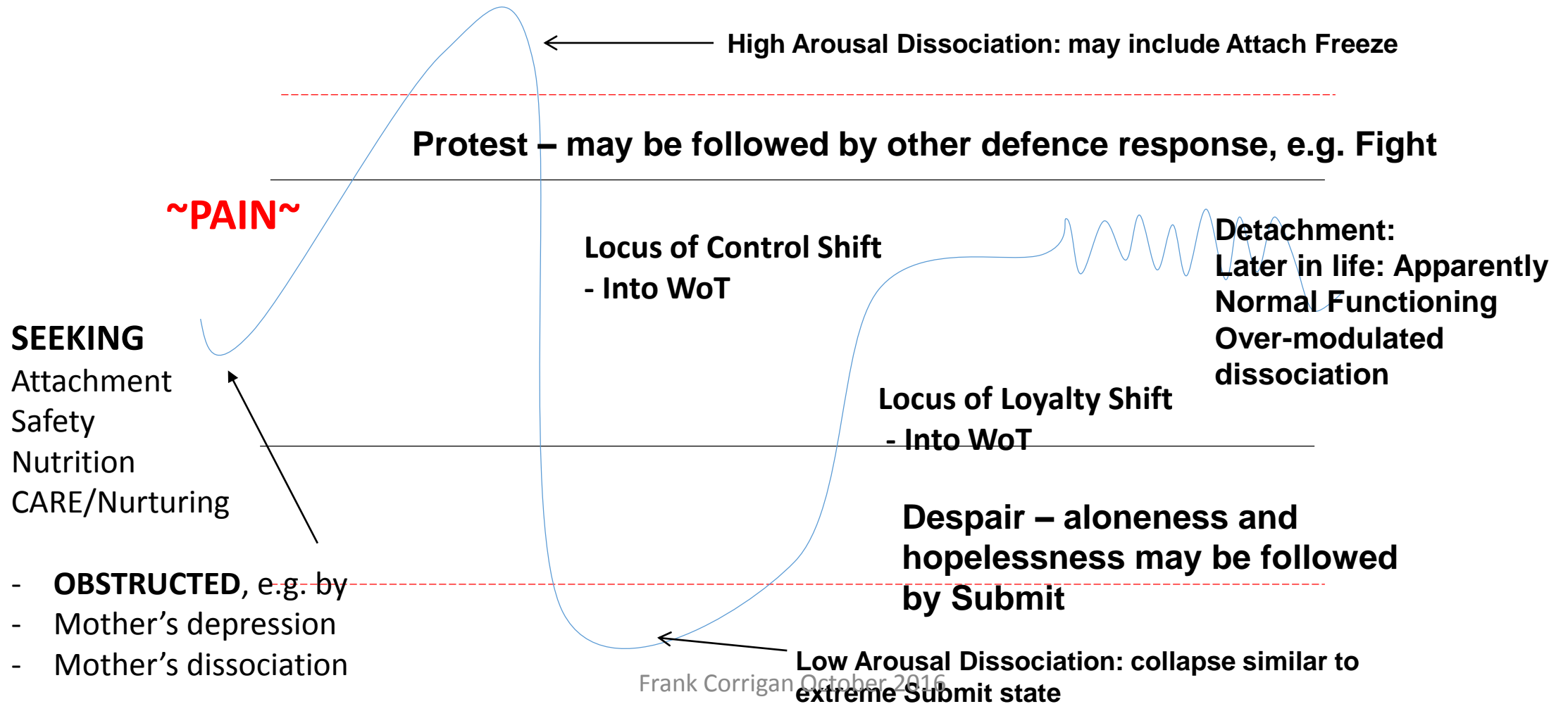
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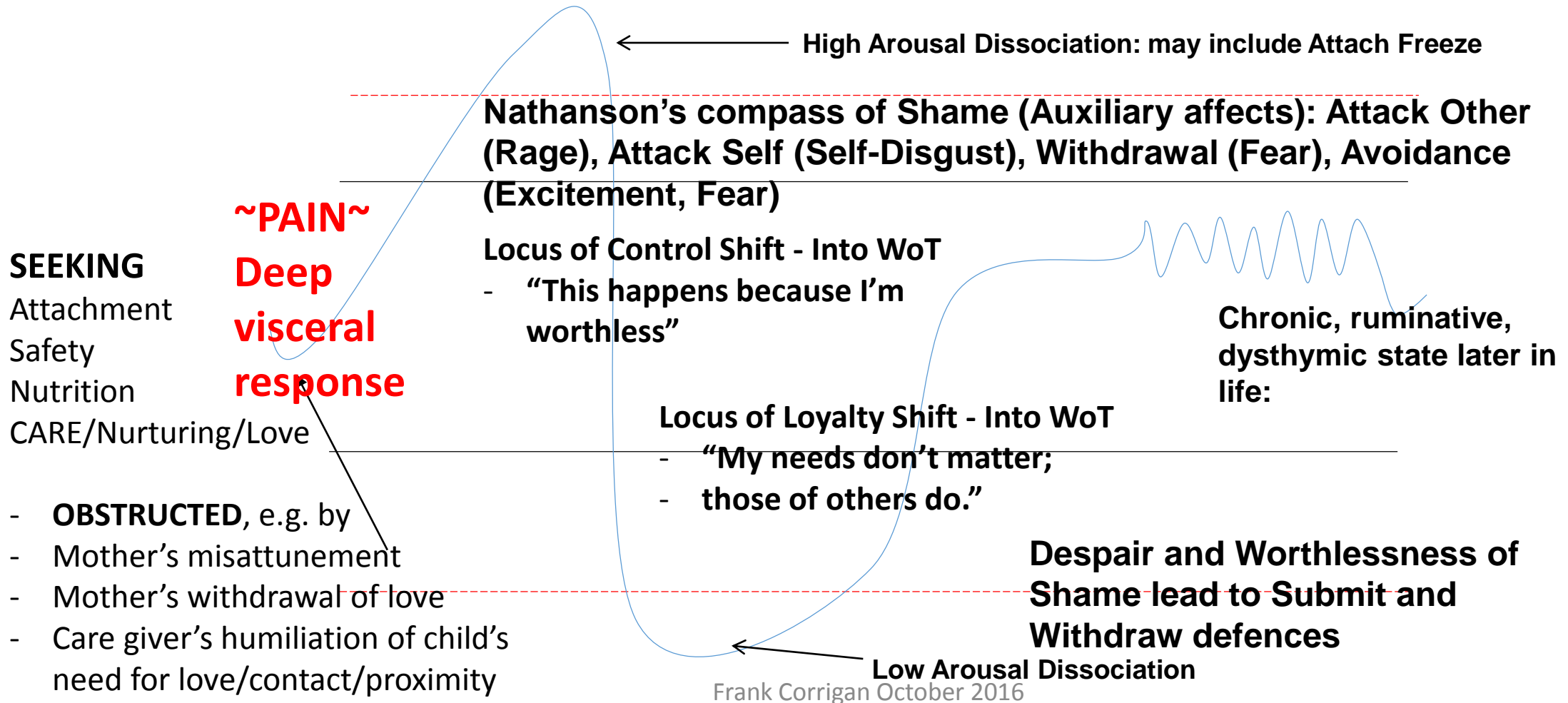
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# Treatment needs to get back to the **PAIN**



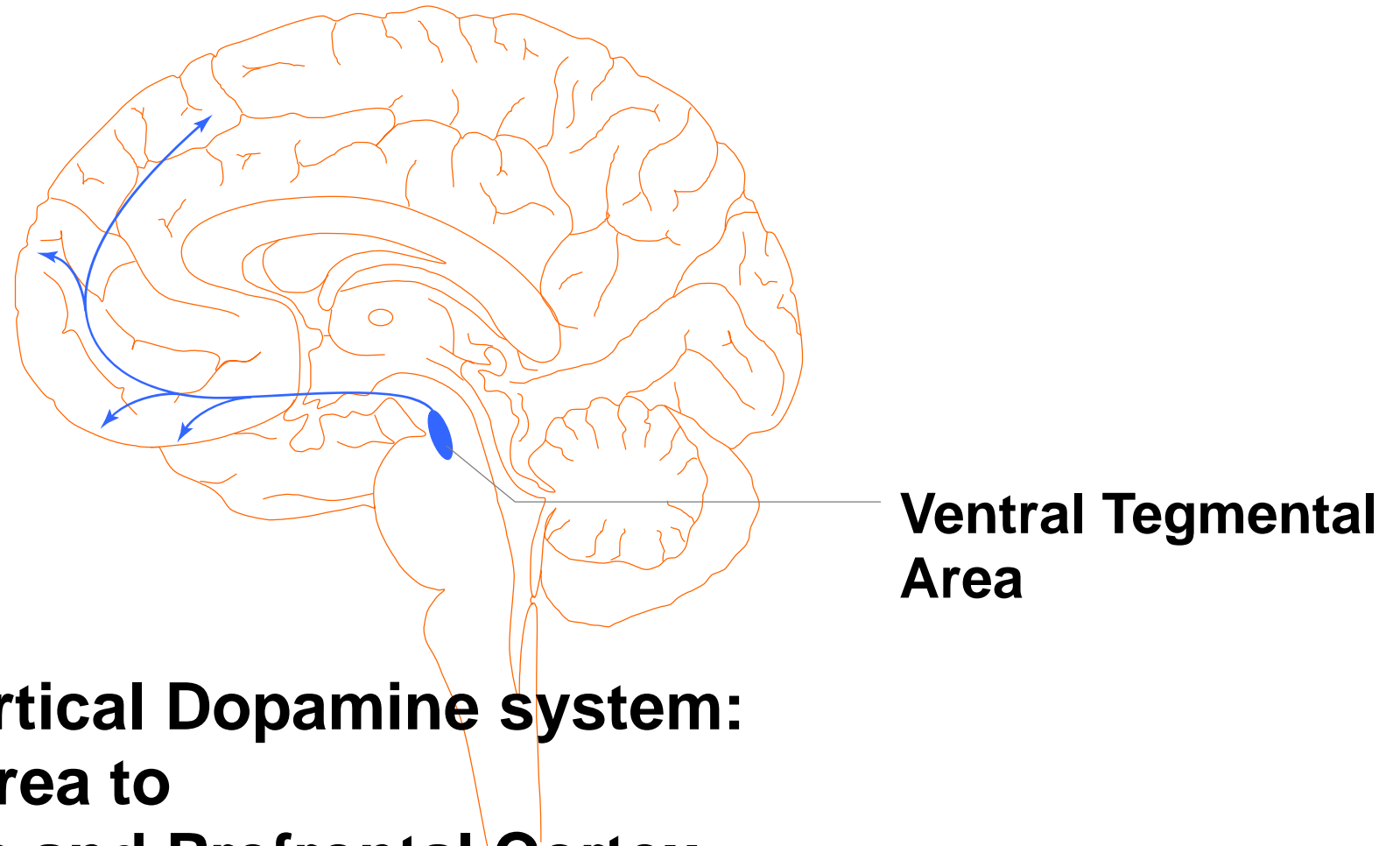
# Shame Pain and the Socialised Response to Humiliation/Neglect/Abandonment



# Accessing the residues of early attachment disruptions

- Working with the clinical sequelae of early attachment disruptions is only possible through the body sensations and affects generated in the present by
  - relationship conflicts or
  - medical/somatic conditions or
  - clinical presentations such as depression, dysthymia, substance abuse, eating disturbance
- Obstructed action urges may also emerge but are at a higher brain level than the affects

# SEEKING Attachment and the Dopamine (DA) system

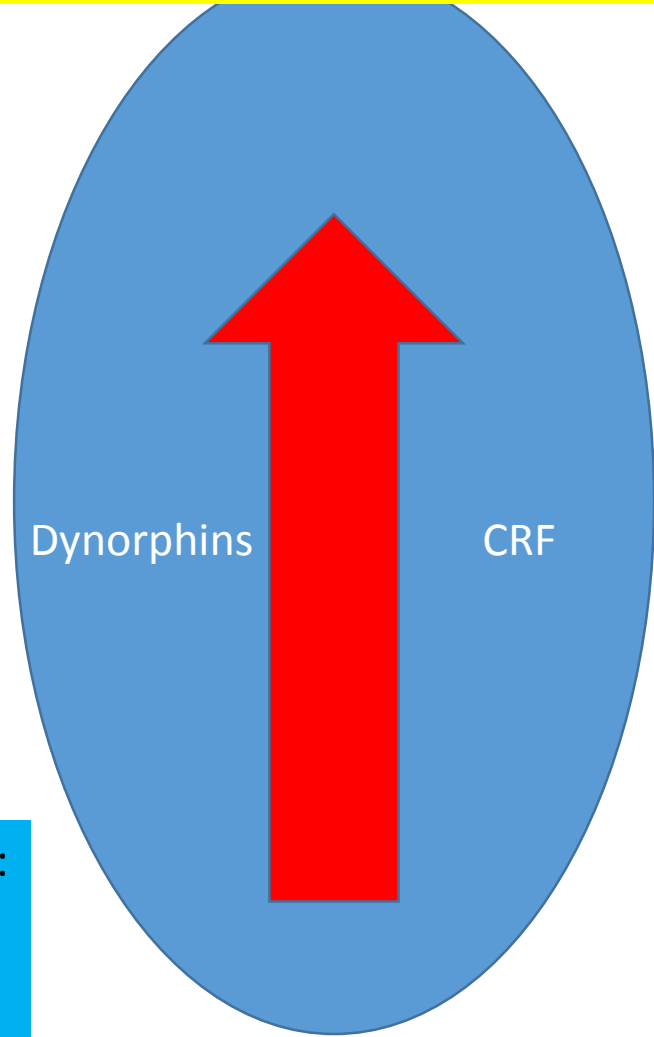


**Mesolimbic/Mesocortical Dopamine system:  
Ventral Tegmental Area to  
Nucleus Accumbens and Prefrontal Cortex**

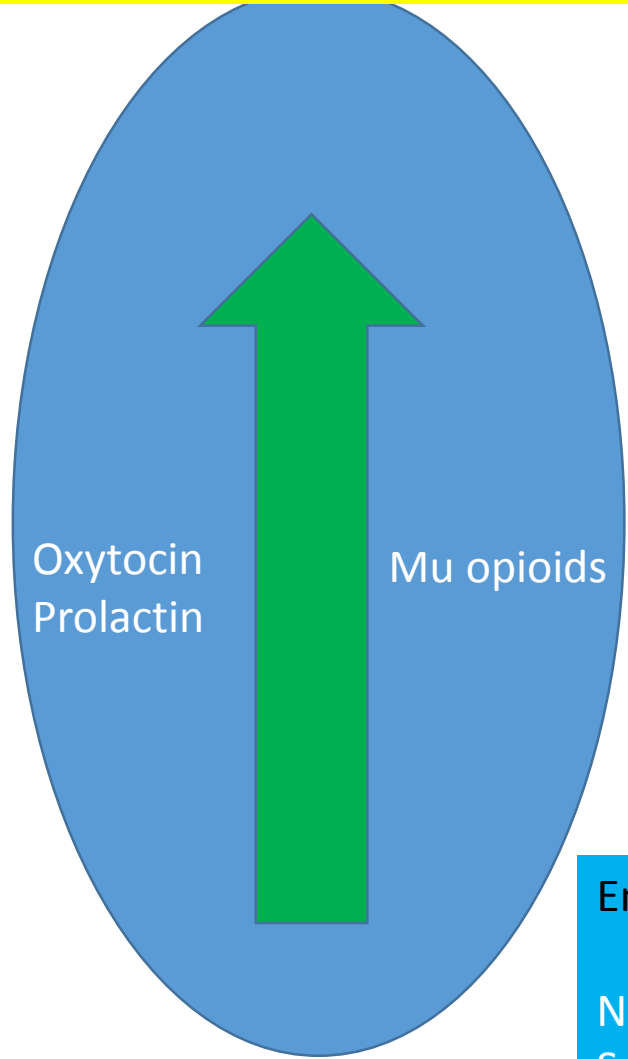
Dysphoric SEEKING – Attachment Urge painful and with Negative affects

SEEKING Attachment from a warm, secure base and with Positive affects

PAG Inputs:  
FEAR  
RAGE  
PANIC/Grief  
Shame



PAG Inputs:  
CARE/Nurturing  
Play/Joy  
Sexual Desire



Environment:  
Loud Noise  
Bright Light

Environment:  
No noise – peaceful  
Soft lighting

The Mesolimbic Dopamine System – ML-DA – in differently-valenced states and with different affective overlays



# Trauma and the origins of dissociative disorders – may be neurochemical

- Neurochemical responses to separation distress in infancy involve endogenous cannabinoids & endogenous opioids
- If the experience is repeated or extreme a separate physiological body state can be established
- This separated complex of emotion, sensation, action impulses and cognitions may form the basis of a structurally dissociated **ego state**
- The separate ego state is based in loops or circuits that can involve different levels or tiers of the brain

# Trauma and the origins of dissociative disorders

- Dissociation (Frewen and Lanius 2015):
  - Re-experiencing (undermodulated) subtype of PTSD:
    - Flashbacks and nightmares; increased heart rate in response to personal trauma scripts; decreased response in the mPFC (medial prefrontal cortex) and pACC (perigenual anterior cingulate cortex)
  - Dissociative (overmodulated) subtype of PTSD:
    - A minority within PTSD populations
    - Prominent derealisation and depersonalization; decreased heart rate in response to personal trauma scripts; increased response within mPFC and pACC
    - Associated with childhood adversities and suicidality

Shifting the subtype of PTSD from re-experiencing to dissociative is not healing

# Trauma and the origins of dissociative disorders

- Cortical thickness in medial prefrontal regions increases significantly towards maturity over years 8-10 as capacity for self-other referential processing increases
- Cortical thickness in medial posterior structures important for self-development increases over years 8-11, whereas maturation is achieved in temporoparietal junctions at 9yo, dorsal anterior cingulate at 13yo and insula at 18yo.

- Reality orientation has not reached adult levels by age 7 or 8

*Frewen and Lanius 2015: Neurodevelopment of a traumatised self*

- Brain areas for self-other, internal-external and body awareness are not on line fully until comparatively late in growth and maturation

# Is Dissociative Identity Disorder (DID) created by therapists doing ego state work?

- The naturalistic evidence is that treatment of Dissociative Disorders needs to be **long-term** and needs to acknowledge the presence of separated **ego states**, self states, emotional parts or alters, however titled
- **Iatrogenic harm** may arise from a refusal to acknowledge the most powerful parts of the internal system that developed as guardians for hurt, abandoned, fearful, sad, angry child parts that may be holding memories of severe trauma

# Defence Response Ego States

- The child whose brain has learned to respond to neglect and abandonment through dissociation has the chemical and structural templates for the emergence of other self-states
- Abuse leads to defence responses of
  - Fight (“Get away from me”),
  - Flight (“I’ve got to get out of here”),
  - Freeze (“I’m trapped and can’t move”),
  - Hide (“If I stay very quiet maybe he won’t see me”),
  - Avoid (“If I get to stay somewhere else it might not happen”), *etcetera*.
- These are **obstructed** because their expression would be dangerous so their energy is contained and they are stored in mind/brain compartments with somatic (body) signatures

# Complex PTSD - Hypothetical Case

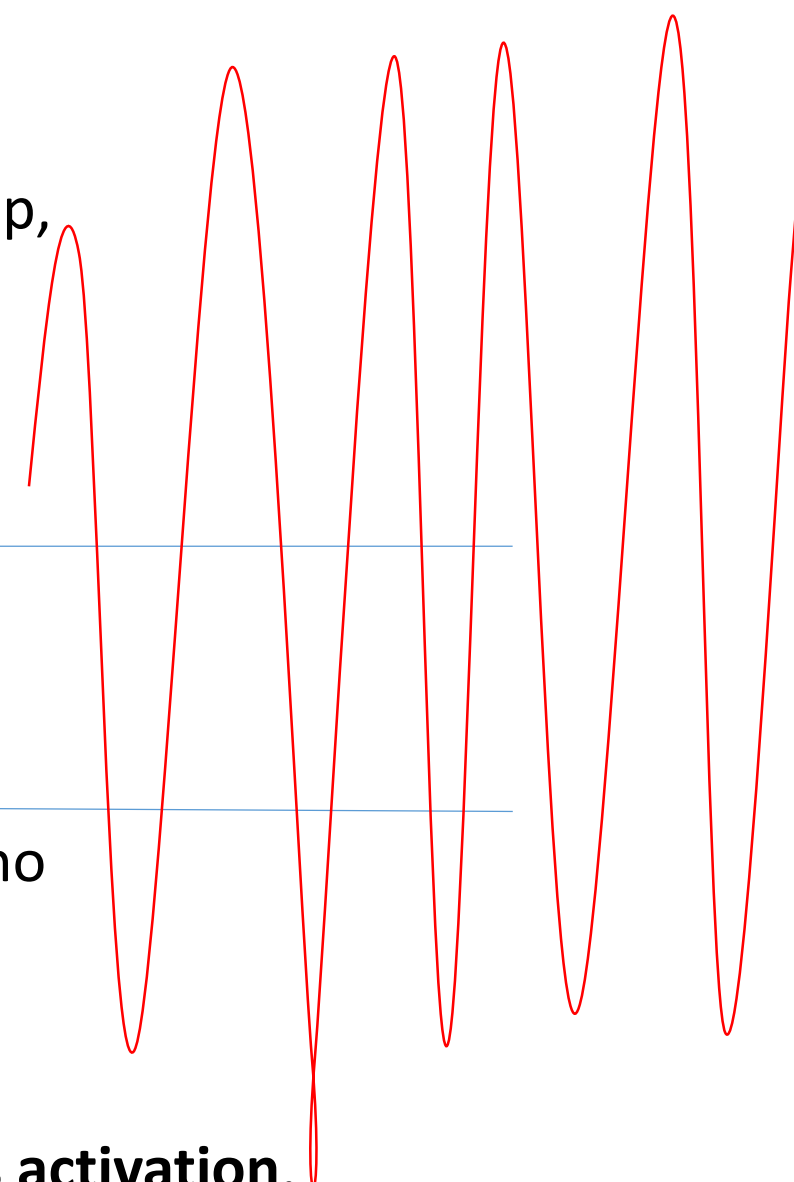
**Post-Traumatic High Arousal State:** Agitated, tense, can't sleep, worrying, feeling that life is not worth living, vigilant, fearful.  
Self-states of fight, flight, high arousal freeze . . . .

**Self-harm relieves tension of unbearable emotions**

Window of Tolerance

**Post-Traumatic Low Arousal State:** numb, shutdown, no joy, no enthusiasm.  
Self-states of despair, submit, low arousal freeze . . .

**Self-harm restores some sensation and feeling and increases activation.**

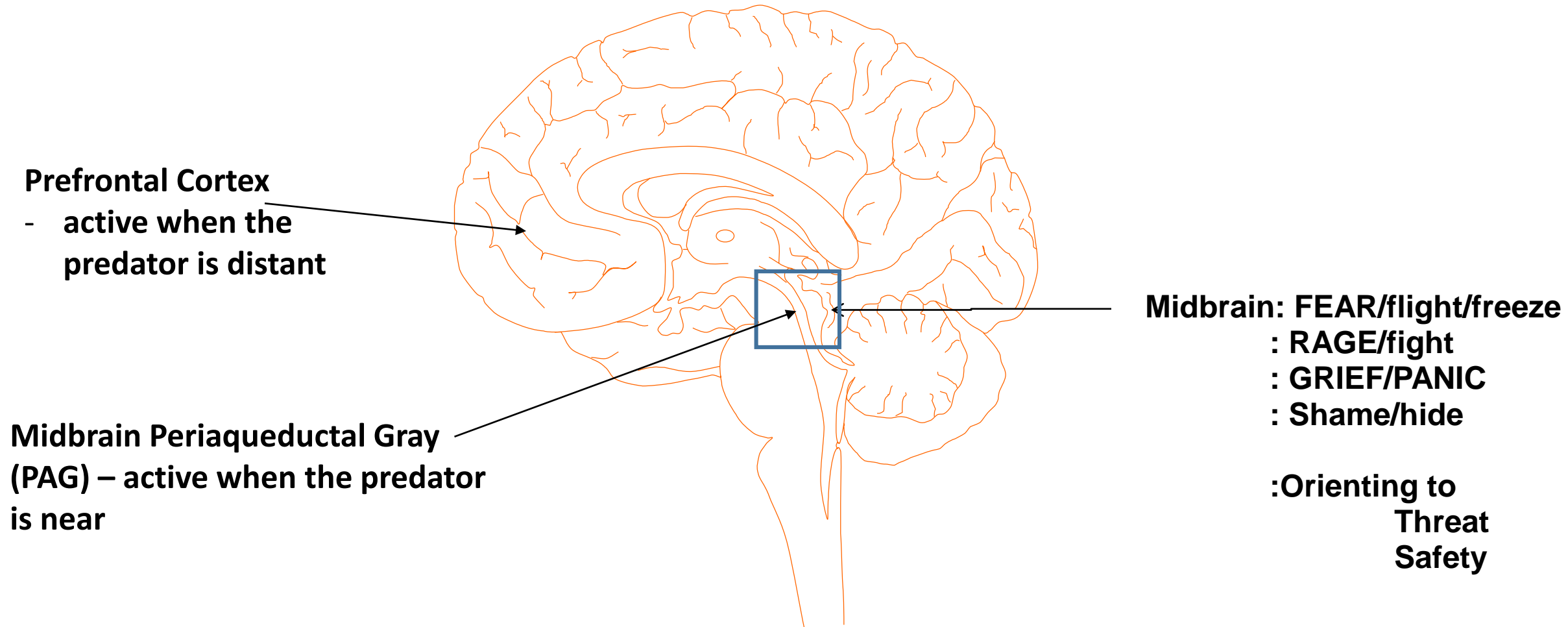


# Dread in the “Reptilian” Brain

A study in which a virtual predator is able to chase, capture and inflict pain on the volunteer in the scanner (Mobbs et al 2007)

- As the predator closes, brain activity shifts from the ventromedial prefrontal cortex (VMPFC: cortex) to the periaqueductal gray (PAG: midbrain)
- Activity in the periaqueductal gray (PAG) correlates with the subjective experience of dread of “capture”

# Survival Terror and the Brain stem





# Survival Terror and the Midbrain

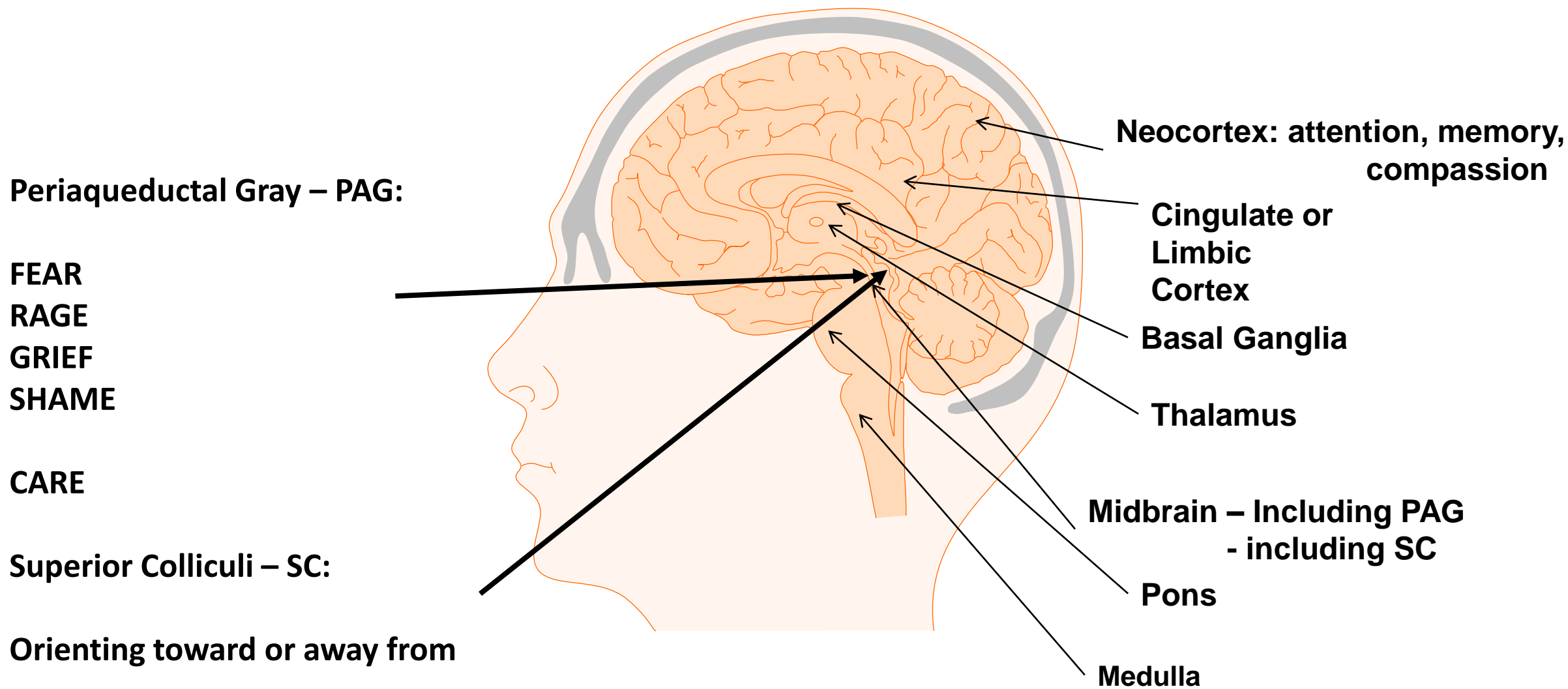
- “Fear is agonizing in all its forms. It is horrible to be stricken by sudden terror. It is also terrible to be continually consumed by persistent feelings of anxiety that gnaw away at you, destroying your sense of security in the world...”
- “...Such feelings are generated by a coherently operating primal brain system, running from the periaqueductal gray (PAG) to the amygdala and back again...”
- “When fear stimuli are far away, the higher cognitive parts of the brain, such as the medial prefrontal cortex and amygdala, are also aroused;”
- “...But when a fearful predator is at your heels, then the lower reaches of the FEAR circuitry, especially down in the midbrain PAG, take over (Mobbs et al 2007).”

Panksepp and Biven, 2012, page 178.

# The Role of the Amygdala

- “ . . . early in life even the amygdala and related temporal lobe structures may all need to be programmed by deeper structures in the FEAR system, such as the PAG and hypothalamus, which can then allow higher brain systems to better evaluate fearful stimuli and situations.”
  - Panksepp and Biven 2012, page 196
- Survival terror generated at the midbrain level through the PAG is programming the amygdala and prefrontal cortex. It also influences mesolimbic and mesocortical systems through the thalamic nuclei.

# The multi-level brain: summary



**“Reptilian” Brainstem = Midbrain + Pons + Medulla**

# The midbrain periaqueductal gray (PAG)

- **Pain is the universal provocation.**
- **Pain stimuli enter the PAG directly.**
- **Any affective pain will involve the PAG.** Any experience that is emotionally uncomfortable to the extent that there are unpleasant visceral sensations involves the PAG – not only in the generation of the affects but also in the recognition of the ensuing pain.
- The PAG and hypothalamus program higher structures – including the amygdala, hippocampus, and prefrontal cortex.
- The learned responses have been programmed by the intensity of the PAG activation.

# Basic Emotions and Trauma

- FEAR and RAGE systems are abnormally active in some cases of PTSD
- Major and Posttraumatic Depressive Disorders may have a dysfunctional, underactive SEEKING/expectancy system and/or an overactive GRIEF/SADNESS system
- If we are approaching emotions that are so intense that they have been “capped” by dissociative mechanisms – there is a need for resources to be in place, and the resources need to be robust

# Emotional Arousal and Change in Psychotherapy

**Mounting evidence suggests that emotional arousal is a key ingredient in therapeutic change, *even in CBT* (Lane et al 2014)**

The essential ingredients of therapeutic change include:

1. Reactivation of old memories
2. Emotional arousal in response to these
3. Engagement in new emotional experiences that promote reconsolidation of the memories with a different affective tone
4. Reinforcement of the new way of behaving and experiencing  
(emotional arousal necessarily involves the body)

# Emotional Arousal and Change in Psychotherapy

- In the **Comprehensive Resource Model**:
- Old memories are reactivated through the somatic residues of the adverse experiences
- Emotional arousal is a key ingredient in therapeutic change
- Resourcing allows full engagement with the significant affect so that it can be **stepped into** and **oriented to**
- Engagement in new emotional experiences promotes reconsolidation of the memories
- Reinforcement of the new way of behaving and experiencing: installing the New Truth (spontaneously emerging preferred positive cognition with a high validity of cognition)

# The Comprehensive Resource Model

- If the treatment process elicits terror, rage and grief without resources in place there is a risk that the distress of the re-experiencing **is simply repeated** and the memory is laid down again with the same – or even more – unresolved distress.
- CRM works to ensure that the terror, rage, and grief – and disgust, shame and pain – are approached from a physiological state that prevents overwhelm. There is then not the neurochemical synthesis and release that prevents resolution.
- The physiologically resourced state is anchored in the body through an eye position so that overwhelm does not occur and states hitherto behind amnesic barriers can be safely approached and processed



# Midbrain Sensitisation Hypothesis for PTSD

- When PTSD is not amenable to verbal, cognitive (neocortical), or prolonged exposure (limbic) approaches:
  - The residues of the traumatic experiences have sensitised the midbrain SC/PAG
  - This leads to ready triggering of orienting and defence responses and the associated affects

# The need for new approaches to the psychotherapy of complex trauma disorders

- Many of the most severe disorders resulting from complex trauma are not recognised as such and therefore not treated appropriately within existing health care services
- Many of those who have failed to find help are dismissed as treatment-resistant or personality-disordered
- The Comprehensive Resource Model (CRM) is a potential way forward for the most traumatised as it combines safety and stabilization with trauma memory processing and integration in the same session; it is not a phase-oriented approach

# CRM and the range of event-based conditions

- If we learn to treat the most severe trauma disorders we find that we can also treat less severe disorders – perhaps presenting with low mood, fearfulness, substance abuse, unexplained medical symptoms – as many have their origins in events that have been experienced as traumatic.
- An event-based psychotherapy is applicable in many conditions in which the clinical presentations may be various – depression, anxiety, dysthymic disorder, panic disorder, as well as PTSD.
- Access to the relevant events is not through episodic memory – but **through body memory**

# CARE, COMPASSION AND PSYCHOTHERAPY

- “...The most effective psychotherapy occurs when clinicians know how to approach clients with unconditional acceptance, empathic sensitivity, and a full concern for their emotional lives. In a word, effective psychotherapists share their ability for CARE, along with the ability to recruit the healing power of the positive emotions”  
(Panksepp, 2012, p310)
- This imposes a task on the psychotherapist to ensure that the midbrain-generated CARE/Nurturing system is not swamped by any triggered fear, grief or rage

# Emotional Arousal and Change in Psychotherapy

## **In the Comprehensive Resource Model:**

- Old memories are reactivated through the somatic residues of the adverse experiences
- Emotional arousal is experienced as necessary for change when the unresolved components of the earlier events are contacted
- There may be initially at least no clear narrative or episodic component – it may be entirely somatic/emotional
- **Stepping into the affect** and **orienting fully** to the emotional – and other - content of the event obviates its power to distress

# Summary

- Neuroscience: exposure is not the only model that applies to trauma processing – especially when the key affects are generated below the corticolimbic system
- Referral to specialist services? Do they exist in your area? Does the local trauma service acknowledge the importance of complex PTSD with dissociation or are all cases seen as Personality Disorders? What are the risks of a patient being managed by a team that ignores the trauma aetiology?

# SUMMARY – Clinical Implications

- Dissociative disorders arise from early attachment disruption followed by later sexual, physical and/or emotional abuse
- It is necessary to attend to self-states as well as trauma-related altered states of consciousness
- CRM provides a resourced way to treat trauma memories with their attendant obstructed defence responses and triggered emotions
- Clearing the negatively-valenced or distressing emotions leaves the person open to the experiences of seeking attachment, joy, happiness, play, love
- Thank you