

TRAUMA, RIGHT BRAIN, AND PSYCHOTHERAPY

RANZCP Section Psychotherapy

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****PP I****

Thank you for asking me to say a few words on Trauma, Right Brain and Psychotherapy. Yoram Yovel is certainly a hard act to follow, but on the other hand, I hope that you will find that many of our ideas overlap and complement each other. (Joke)

Introduction

The crux of the argument that I want to present to you today is that trauma and responses to it are central to many psychiatric disorders; that many symptoms are disconnected trauma fragments that emanate from unconscious subcortical parts of the brain and the right hemisphere of the brain; and that psychotherapy involves conscious reconnection of symptoms to past trauma, at the same time as recognising their redundancy in current non-traumatic environments. I will present rough thumbnail sketches of trauma and the unconscious brain, and then apply them to principles of trauma therapy.

Trauma

The word trauma is used loosely in everyday language. It derives from the Greek word meaning wound, penetration. ****PP2**** My working definition of trauma is that **XX** it is a state in which an event irretrievably destroys an ongoing dynamic life enhancing equilibrium, **XX** and in the process sends waves of disturbance throughout the organism.

I will not talk about stress, strain or distress today. But you can imagine them as what occurs as a result of a bone bending before the fracture which is trauma. Stress responses that were present in stress can become intense and potentially endless in trauma, and potentially harmful themselves. In order to mitigate them and be able to get on with life, the trauma and its stress responses can be pushed out of awareness. A soldier who has lost his leg may push knowledge of his condition out of awareness until he reaches the security of a hospital. So knowledge of trauma may be influenced by survival needs.

However, let us go back in history. Trauma was the central driving force in the birth of psychoanalysis and through it of psychodynamic psychotherapy. Let me summarise Freud's early writing on the trauma process. At the time of trauma, Freud said, consciousness is split, or referring to Pierre Janet's term, dissociated; like knowledge of the lost leg which was split off or dissociated from the conscious mind into the unconscious mind,. The split off trauma was like a hidden abscess which nevertheless sent reminders of its existence to the conscious mind; thus trauma was both hidden (Freud said repressed), and relived. Defences could strengthen the walls of the abscess, or

obfuscate signals coming from it. This could result in a great variety of clinical pictures. But each symptom could be resolved if the patient brought the relevant aspect of the original trauma and its associated emotions into awareness. ****PP 3**** One last point: the original dissociation was accompanied by an altered state of consciousness, which Freud called a hypnoid state. This state recurred if split off trauma returned into consciousness.

I want to say a few words about how, to my mind, Freud repressed his trauma theory under the influence of his own traumatization. I refer to Schur, Reder, Krull, Rush and the Fliess letters for this section.

In 1895-6 Freud suffered two traumas. The first one was the near death of his patient Emma Eckstein on whose nose Freud's friend Fliess operated in order supposedly to excise her masturbatory fantasies that caused her hysteria. Fliess negligently left half a metre of gauze in Emma's nose. Freud was psychically and physically traumatised while he watched its removal and Emma's heavy bleeding. What made the trauma worse was that Fliess was Freud's quasi-analyst, and the only person Freud believed could treat his hysterical but firmly believed in heart symptoms. Freud dissociated and repressed true knowledge of the trauma and exonerated Fliess while he blamed the surgeon who saved Emma's life. Concomitantly Freud changed his trauma theory.

Freud's second trauma was his father's death. Freud was troubled by his suspiciousness of his father's role in regard to his hysterical sisters, and his own incestuous wishes toward his daughter. His anxieties, depression, psychosomatic symptoms, and morbid

fear of death intensified. He now exonerated fathers, and shifted blame from adult sexual perversity to child sexual perversity.

In 1920 Freud suffered a string of bereavements culminating in the death of his favourite daughter Sophie. Three weeks after Sophie's death, Freud used the term "death instinct" for the first time (Reder, 1989; Schur, 1972) (Freud, 1920). Out of the death instinct arose concepts of the innate nature of ubiquitous drive to death, destructiveness, sadism and masochism. Freud was unable to mourn his traumatic losses. Instead, he confirmed his pessimistic view of humans perversely carrying the seeds of their own destruction. This philosophy has haunted psychoanalysis. Trauma was largely lost to psychoanalysis for almost a century.

I mention Freud's story to indicate how unresolved traumas can influence one's life and conceptual frameworks; and those of generations of therapists thereafter.

Trauma outside psychoanalysis also ran typical cycles throughout the 20th century of reluctant acknowledgement and forgetfulness. This was true in all fields- combat, sexual abuse, Holocaust, disasters, accidents. The concept of trauma itself was relived and repressed.

The current wave of recognition of trauma following the Vietnam War is the longest ever. However, it has been at the cost of truncating its conceptual richness. Mainstream recognition is that of PTSD, a diagnosis hidden among other anxiety disorders in the

DSM. ****PP 4**** You see that its features include **XX**, a traumatic event, **XX** its reliving and **XX** avoidance, and **XX** arousal symptoms, lasting **XX** more than a month. The two central features reliving and avoidance are derived from Freud. However, the diagnosis ignores the rich emotional contents and contexts, psychodynamics and physical and social associations of what is relived and avoided. Some have fought to have a Complex PTSD diagnosis included in DSM, but have failed thus far.

[Ash Wednesday Bushfires] I would like to return to the definition of trauma, stress responses and disconnections with which I started. I will do so in the context of the 1983 Ash Wednesday bushfires, which gave traumatology in Australia a major spurt. I was privileged to be part of a team (that incidentally included our conference organiser, Ellen Berah) that was able to witness in vivo the progression of people's stress responses.

In the first days after the fires we saw a wide variety of acute biological, psychological and social stress responses. Example of *physical* responses were palpitations, nausea, diarrhoea, sleeplessness, dysmenorrhoea. Examples of *psychological* responses were survivor guilt, anger, resentment, crying, feeling betrayed, greed, and envy. Examples of *social* symptoms were withdrawal, alcoholism, sexual changes; bedwetting and regression in children; breakdown of hierarchies, rage at bureaucracies. (I am not covering here positive responses which were also present. I will allude to them again later)

We saw responses that had been at times considered to be innate, serving survival. For instance, narcissism or self-centredness served the helpless to gain attention and help.

Survivor guilt motivated people to help others; for instance to share their houses with the homeless. Envy was motivated by others getting more than oneself, and its expression resulted in rectification of the injustice. Greed allowed people with scarce resources to accumulate a surplus for future security and trade.

I believe that the variety of biological, psychological and social stress responses could be organized under eight survival strategies. They were ****PP 5**** **XX 1. PRESERVATION OF OTHERS XX 2. BEING PRESERVED BY OTHERS (ATTACHMENT) XX 3.GOAL ACHIEVEMENT XX 4. GOAL SURRENDER (GRIEF) XX 5.FIGHT XX 6.FLIGHT XX 7. COMPETITION XX 8. COOPERATION.** I describe these strategies and their multidimensional course elsewhere. For the moment let us see how they play out in three brief cases. The first case is an example of stress responses in failed Attachment.

[12.5]

1. A 38-year-old man related, "I looked forward to my mother's visit in hospital, because I thought that this time, surely, she would be nice to me, would hug me. I don't remember her ever touching me. But when she came, she wasn't nice. She told me off for living in the country, for letting myself be burnt. As she was leaving I put out my hand, but she did not take it. She did not touch me during the whole visit. The pain when she left was the worst in the world."

"What was it like?"

"It was an ache in the chest. I yearned to be touched, to matter. The pain was worse than the pain of being burnt."

Amazingly to us as observers, within days many stress responses became disconnected from their sources to become symptoms. ****PP 6** XX XX XX XX (Look at slide)** So severe heart pounding which was accepted as normal when terrified of fire, now became a physical symptom that made people worry about having heart attacks. Local doctors were inundated by such worried patients. Emotions like anger and crying also lost their connections to events, making people worry that they were going mad. Some became psychologically disordered.

2. When we first visited a 72-year-old man he said that he was very lucky to have his house intact when all others around him had burnt down. When we visited him 2 weeks later he was clinically severely depressed, not knowing why. Eventually he said, "Look at

the moonscape around me. I am too old to see it recover.” He could not grieve because he was “lucky” to have his house. When allowed to grieve, his depression lifted. He saw he could still have purpose by serving as a base when reconstruction would start around him.

3. A man was operated for severe abdominal pain soon after the bushfires. The surgeons found no abnormality. The man told me that he had the pains whenever he recalled finding a severed hand in the ashes.

“Why did you not tell the doctors that?” I said.

“They never asked me, and somehow it was not in my mind to tell them.”

I want to point out through these cases first, that psychic pain after trauma can be at least as painful as physical pain; and second, that psychic pain can be dissociated out of awareness- at a cost.

Why did people disconnect their stress responses from their sources? I believe that there were three basic reasons: ****PP 7** XX 1.** People could not bear to keep experiencing their traumas and their responses- like the man who found the severed hand. **XX 2.** They could not bear to keep experiencing untenable conflicts of survival- such as survivor guilt, priority guilt, anger at not being helped, shame of bodily exposure and sudden poverty. And **XX 3.** They could not bear to face intolerable existential meanings such as

in the first case, "If my mother does not love me, I am unlovable." Other untenable meanings included "I did not prevent my child's sufferings, so I am a bad mother." "Who am I if I soiled my pants? If I own nothing?"

I believe disconnections and other defences served a fine balance of knowing and not knowing according to what was judged to be best for the person at the time.

At this stage it was relatively easy to reconnect symptoms to their sources and understand them as aspects of no longer useful attempts at survival. Moral judgements leading to disconnections could be reassessed. People came to see that they had done what they could under the circumstances. Similarly meanings of the events showed people that they were just vulnerable humans who had survived a catastrophe not of their making.

In my emergency department work I found that many presenting symptoms and illnesses were similarly related to but disconnected from recent or not so recent traumatic situations. Recognising this could save much medical blundering. In my psychotherapy practice I also saw the same symptoms and disconnections, but after many years, they permeated the person in ever wider circles, and they were compounded with more and more subsequent events.

In summary, trauma results in biological, psychological and social stress responses that are variably relived or disconnected, according to perceived survival and fulfilment needs. Disconnected stress responses are experienced as irrational symptoms, but they

make sense if they are reconnected to original survival strategies at the time of trauma. Survival strategy stress responses permeate people and their environments in ever larger circles. Lastly, recognition of trauma by therapists may require clearing the blind spots that resulted from their own traumas.

Subcortical Brain and the Right brain

In this section I look at two parts of the brain that encode trauma outside awareness. The first is the midbrain and limbic systems especially the amygdala and the hippocampus; the second is the right brain. I have referred to works by MacLean, Panksepp, Damasio, Le Doux, Bremner, Joseph, Schore, and others in this section. I also acknowledge Malcolm Hopwood from the Austin Hospital with whom I discussed implications of latest neuroimaging findings. .

MacLean long ago noted that survival responses are served by the midbrain and the limbic system. In the last decade Panksepp delineated circuits for specific survival strategies, akin to the eight that I have described. In traumatology literature the fear response of the survival strategy flight has been the most studied. Damasio who also studied it in detail, thinks that it may be a paradigm for other survival circuits. The fear circuit works something like this:

A variety of sensory circuits (visual, auditory, olfactory etc) send their information to the amygdala. The amygdala ****PP 8**** is an almond shaped mass of nuclei located deep

within the temporal lobes, medial to the hypothalamus and adjacent to the hippocampus.

****PP 9****

The amygdala match the *sensory* inputs with past encodings. At the same time the hippocampus matches and coordinates various *cognitive* inputs. The amygdala and hippocampus inform the prefrontal cortex and insula, the sites of working memory and consciousness. Working memory combines amygdala and hippocampal information with long and short term memory and makes judgements that are fed back to the hippocampus and amygdala, modifying their outputs. To have conscious memory, the initial amygdala and hippocampal inputs must have been processed into working memory and must subsequently be able to be retrieved through working memory.

In traumatic situations it is essential to respond to danger quickly. This is achieved by intensified amygdala reactivity and inhibited hippocampal activity. Elevated amygdalar and diminished hippocampal activity are consistent findings in neuroimaging studies of PTSD (Hull BJP 2002), though these findings are also found in depressed, schizophrenic, and other psychiatric patients.

The hyper-responsivity of the amygdala is associated with cruder sensory discernment. This may for instance result in childhood misperceptions- a stick may be confused with a snake, or sexual activity with attack. These crude discernments may be encoded as so-called fast and dirty memories. However, even crude cognitions may be further obscured through hippocampal paralysis and consequent lack of contextualization of sensory input.

Then fear only fills working memory, resulting in people being conscious of fear, but not of the reason for it.

Intense events including fast and dirty memories may be imprinted on the amygdala in so-called flashbulb memories. They may be kindled by cues reminiscent of the original danger, and the original response may be triggered like a conditioned reflex, without consciousness or context. [This process is abetted by glutamate, calcium, kinases, and genes that potentiate the sensory lateral amygdala nucleus. Cortisol, E and NE amplify traumatic memory.]

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Right brain

The right brain is the nonverbal, timeless, un-self-aware half of the brain. It probably receives at the least the emotional aspects of subcortical responses that I have just described, but it also stores and elaborates more complex information. It may be the substrate for Freud's unconscious, and for traumatic material. Let us examine this further.

The following distinguish right and left brain functions. ****PP 10****

Left and Right Hemispheric Functions

Left Hemispheric

Right Hemispheric

Functions:

- Responsible for verbal expression and language
- Recognizes words and numbers
- Sense of linear time (past, present, future)
- Deals with inputs one at a time
- Does logical and analytical thinking
- Crucial side for engineers
- The seat of reason

Functions:

- Responsible for non-verbal, facial and body language
- Recognizes faces, places, music
- No sense of time line present
- Integrates many inputs at once
- Does intuitive and holistic thinking
- Crucial side for artists, musicians
- The seat of passion

Based on Sousa (1995, p. 88)

In summary, the right brain is our nonverbal, timeless, unselfconscious, visceral, emotional and social brain; one that because it lacks words, simply experiences- without thought, awareness or judgement- like when we are in a dream (in fact REM sleep is right

brain dominant). The right brain is also imaginative and creates fillers to gaps which may be mythical and even delusional. But you should be warned. The right brain is twice as fast as the left brain. So by the time you understand my words you will have already had an emotional reaction to them. Similarly, the right brain can already have contributed to survival actions before the left brain even becomes aware of them. People then say, "I just did it automatically," though their actions indicate reasonable tactical discernment.

The right brain and the Unconscious

The right brain and the unconscious share many features. The main ones are lack of verbal symbolization, though presence of non-verbal communication; lack of discernment of chronological time hence of past and present; emotionality; emphasis on relationships; connections to involuntary nervous system and bodily processes; lack of insight and self-awareness; imagination and generalization of experience.

PET and other studies indeed confirm that the right brain processes sub-conscious fear and other emotions. Schore by collating many studies, concluded that the right orbito-frontal cortex processes and encodes early attunements and misattunements with the mother, and establishes long term unconscious circuits. So it is conceivable, as the leading neurologist Rhawn Joseph has said, that we have found the neurological site of Freud's unconscious.

The right brain and Trauma

There is evidence that emotionally traumatic material is stored in the right brain. Schore's review of neuroimaging studies found that panic, flashbacks and traumatic memories involved the right as against the left hemisphere. Similarly, a review of neuroimaging findings in PTSD patients by Hull (British J Psychiatry in 2002), showed right brain activation to be significant and replicable while the patients related their traumas. An example of such a study was one by Teicher (Scient Am 2002) who reported MRI studies that showed processing emotional aspects of sexual abuse trauma was associated with activation of the right as against left brain. Lanius et al (American J Psychiatry 2004) reported a functional MRI study on 2 groups of patients who had undergone the same traumatic situations, but one group developed PTSD and the other did not. When the non-PTSD patients described their experiences they did so coherently and their MRIs showed that their left brains were activated. In contrast, the traumatized patients could not relate their traumas coherently and they were right brain activated.

In summary, the right brain appears to be the site of the unconscious which stores still active traumatic material.

Connections and Disconnections between right and left brains

The right and left hemispheres are connected through the corpus callosum. Roger Sperry severed the corpus callosum in patients with severe epilepsy in order to prevent spread of epilepsy from one hemisphere to the other. He received the 1981 Nobel Prize for his observations on his split brained patients. Sperry concluded that the right and left brains existed in different worlds, and that they did not know about each other. For instance, the

left brain could be quite surprised, perplexed and chagrined when right hemisphere memories suddenly appeared as if from nowhere; and the left brain realised that it had been unwittingly influenced by these memories for a long time.

There is a natural diathesis for splitting even in normal people. This is because the corpus callosum myelinates very slowly- to the extent that in young adults 40% is still unmyelinated. Certainly children, who are right brain dominant till thinking takes over from just being, have trouble expressing their feelings verbally. This may be enhanced if parents forbid awareness of events and feelings. Lack of left brain awareness in young children may result in only patchy non-verbal, non-thinking, emotional, somatic, and action memories for this period in adults. When emphasized, it may result in alexithymia in adults.

Schore gives an example of how this may play out clinically. Imagine an ambivalent mother say to her young child "I love you." The child's left brain hears the words while the right brain discerns hate. Later, the adult hearing "I love you," may cringe and have distressing physiological responses without knowing why.

Back and forth shifting of hemispheric dominance may be more common than we think. When people say, "He is a different person when drunk to when he is sober," or "I don't know why I did that; I was in a different world," they may be describing fluctuating right brain dominance, including reliving of aspects of past trauma.

In summary, Freud's unconscious may refer to the preverbal limbic system including the amygdala and hippocampus, and the non-verbal right brain. ****PP 11**** Unconscious

memories and traumatic amnesia may be explained by imprints and circuits in these areas. XX Subcortical imprints may explain phobic and panicky conditioned reflexes to cues reminiscent of past trauma, and reliving of trauma in fugues, flashbacks and panic attacks; the right brain may explain more complex unconscious reverberations of traumatic situations in relationships, moral dilemmas and conflicting world views.

(To put this in a developmental context, let us remember that at birth the brain weighs about one fifth of its final weight. Trauma can diminish its final weight, and through differential pruning influence its circuits. The interplay of these circuits and of the innate circuits of various survival strategies in different parts of the brain results in the rich symphonies of post-traumatic manifestations.

The interplay of these circuits is not set in concrete. The brain, in particular the hippocampus, is more plastic and even regenerative, and to an older age, than was thought. This provides neurological hope that psychotherapy can indeed rectify and replace redundant distressing circuits.)

Psychotherapy

The assumption in trauma centred psychotherapy is that trauma disrupted a dynamic life enhancing equilibrium. The core of human neurosis is not so much the realistic damage of trauma, but in the human tendency to maintain trauma responses as if the traumatic situation was still current or imminent when in fact it is not. Such long term reverberation

and sensitivity are adaptive when organisms live in constant ecological niches where the traumatic situation is likely to recur, but they are not adaptive for civilized humans who change their ecological niches as part of their adaptation. For them to maintain responses as if past dangers were still present or imminent is irrational.

[37.5]

The goals of trauma therapy are- ****PP 12** XX** 1. To recognise the reverberations and the original trauma. **XX** 2. To understand that to maintain the reverberations and the original wound is redundant and irrational; and **XX** 3. To recognise that new and better ways are available.

Various trauma therapies have addressed these needs- such as debriefing, cognitive behaviour therapy, EMDR, psychodynamic trauma therapy, [and so-called power therapies (traumatic incident reduction, visual/kinaesthetic dissociation, thought field therapy)]. To my mind, they all utilise 4 treatment ingredients. Rather than describe different trauma therapies in turn, I will present the ubiquitous treatment ingredients. They are ****PP 13** XX** 1. Recognition that trauma has occurred **XX** 2. Non-specific treatment **XX** 3. Symptomatic treatment **XX** 4. Specific trauma therapy.

Trauma Therapy

1. Recognition **PP 14 XX** The first prerequisite is a mindset on the part of the therapists that is open to recognising that symptoms may result from trauma. Such a mindset may be quite absent, and it has resulted in not recognising during whole

therapies the impact of the Holocaust, or of sexual abuse. Non-recognition can produce a “second wound”.

XX The opening question should allow patients to talk of their traumas if they want to. I have found the following question useful: “Of all the things that worry you, what worries you the most?” This question if asked genuinely, addresses both right and left brains, and often releases right brain material. **XX** Direct questions about whether the patient has experienced a variety of traumatic situations should also be asked routinely. Finally, **XX (look at slide)** denials of trauma may nevertheless be contradicted through non-verbal communication.

2. Non-specific aspects. (PP 15)** Trauma therapies, like all psychotherapies provide a **XX** safe environment, a therapeutic relationship that includes **XX** kindness, caring, empathy, **XX** trustworthiness, reliability, predictability, boundaries, support and holding, comforting, respect, lack of judgement, and empowerment. Each of these features is specifically counter-traumatic, providing a corrective emotional experience to survival strategies , in brackets, that had failed in trauma.

3. Symptomatic, supportive therapy. (PP 16)**** Each therapy attempts to relieve especially disabling symptoms, or symptoms therapists feel equipped to address. Symptomatic or supportive therapy includes **XX** education, clarification, advice, **XX** drugs, **XX** relaxation and anxiety management, **XX** anger management, **XX** assertiveness training, **XX** skills training and **XX** games and adventures.

Specific Trauma Therapy ** (PP 17)** This includes a number of steps:

XX 1. *Therapeutic alliance.* Therapists can explain to patients the sense and sources of formation of their symptoms, and the nature of what follows.

XX 2. *Making sense of traumatic fragments* Disconnected traumatic fragments or symptoms are traced back to biological, psychological and social aspects of stress responses in survival strategies evoked in traumatic situations. For instance, yearning in the burnt man suggested attachment problems. Pounding heart suggested fight and flight arousal. Depression often suggests unmourned loss.

Tracing symptoms to preverbal and non-verbal parts of the brain may require reading by the therapist of patients' nonverbal communications, and reading of their own subcortical and right brain reverberations to the patient. This is called reading the transference and countertransference. Therapists translate their nonverbal experiences into left brain words which they convey back to patients in interpretations. They may use metaphors and rich images in order to access patients' right and left brains simultaneously. Patients match and connect words with their experience, which are now as if revealed, solid, and can be seen, thought about. Typically, people say, "I always knew it was there, but now it is revealed, I can talk about it." It is as if a shut book is opened to be read. Mindlessness becomes mindfulness. Words translate experience into self-consciousness, self-

awareness, like a formula makes us aware of processes in physics or chemistry. With words as symbols, one can see oneself experiencing and one can judge the experience.

[43']

XX 3. *Dual focus of attention.* As the left brain becomes aware of right brain content relating to the past, past trauma can be contrasted with its current opposite. For instance, a violent parent and a kind therapist may enter the same image, and be disentangled.

Care and clarification must be applied to the process of traumatic material moving from right to left brain, as the initial dissociative process is retraced. A similar alteration of consciousness may occur on this reverse journey as occurred during the initial dissociation. This may manifest as blanks, psychic numbing, depersonalization, derealization, or involve a vivid replay of the traumatic situation. It requires skill to facilitate dual focus of attention, for if it becomes unbalanced, the therapist may become identified with the violent parent. This is called a psychotic transference; in which the patient is re-traumatized and therapist's state may become precarious.

XX 4. *Breaking nexus between past and present* Dual focus of attention is now in the left brain, which gives words, time, and awareness to both the trauma and the present situation. The two can be viewed from outside and be sequentially separated.

XX 5. *Relearning one's history, forming a new narrative.* As past and present are differentiated, a new history is formulated, in which the trauma, its context and its consequences are in the past. As one comes to see oneself as a whole, one can judge one's own and others' actions in the traumatic situation anew, and create new meanings. They form a new narrative, where past, present, and future belong to a minded self.

Additional comments:

1. *Length of therapy* Because in trauma all survival strategies have been strained in the relearning they will all have to be revisited, made sense of, and their significance readjusted in their various biopsychosocial ramifications. When trauma occurred in childhood making sense of traumatic fragments may be a long process. For these reasons therapy often requires a long time.

2. *Fulfilment therapy.* I have concentrated on maladaptive stress responses. Luckily, for every biological, psychological and social stress response of each survival strategy there is an innate opposite potential, some of which may have been acted on in traumatic situations, others that could not be. These adaptive innate potentials must also be traced and made conscious. Trauma therapy is only half therapy. The other half is fulfilment therapy.

Combined Story of Trauma, Right Brain and Psychotherapy

In a sense the story is simple. An event intrudes and makes waves in the organismic pot. Our neurosis consists of the fact that when the event stops stirring, we still respond as if it continued. To the extent that the waves stop us getting on with everyday life, we sequester knowledge of them in the unconscious part of our minds- the subcortical limbic

areas and the right brain. Symptoms from those parts of the brain are like periscopes that both alert that something is wrong underneath, and see if it is secure to surface. Therapy involves in surfacing the submarine, integrating its parts, and setting it on a new course.

The complexities in the story arise from difficulties in tracing symptoms back to their sources because at their source events may not have been imprinted in memory banks one can easily draw on later, and because biopsychosocial stress survival responses manifest variably in three dimensional humans. That is, they manifest differently at different ages, in different social situations, and at different ramifications of individual development.

In conclusion, I mentioned that the concept of trauma was itself traumatized. Re-recognising its centrality, combined with new knowledge in traumatology and neuroscience that give trauma words, may set its narrative on a new and rich course. With that, psychotherapy and with it psychiatry may be reintegrated and revitalised.

Once again, thank you for the opportunity to explain some of my thoughts on trauma, right brain and psychotherapy.