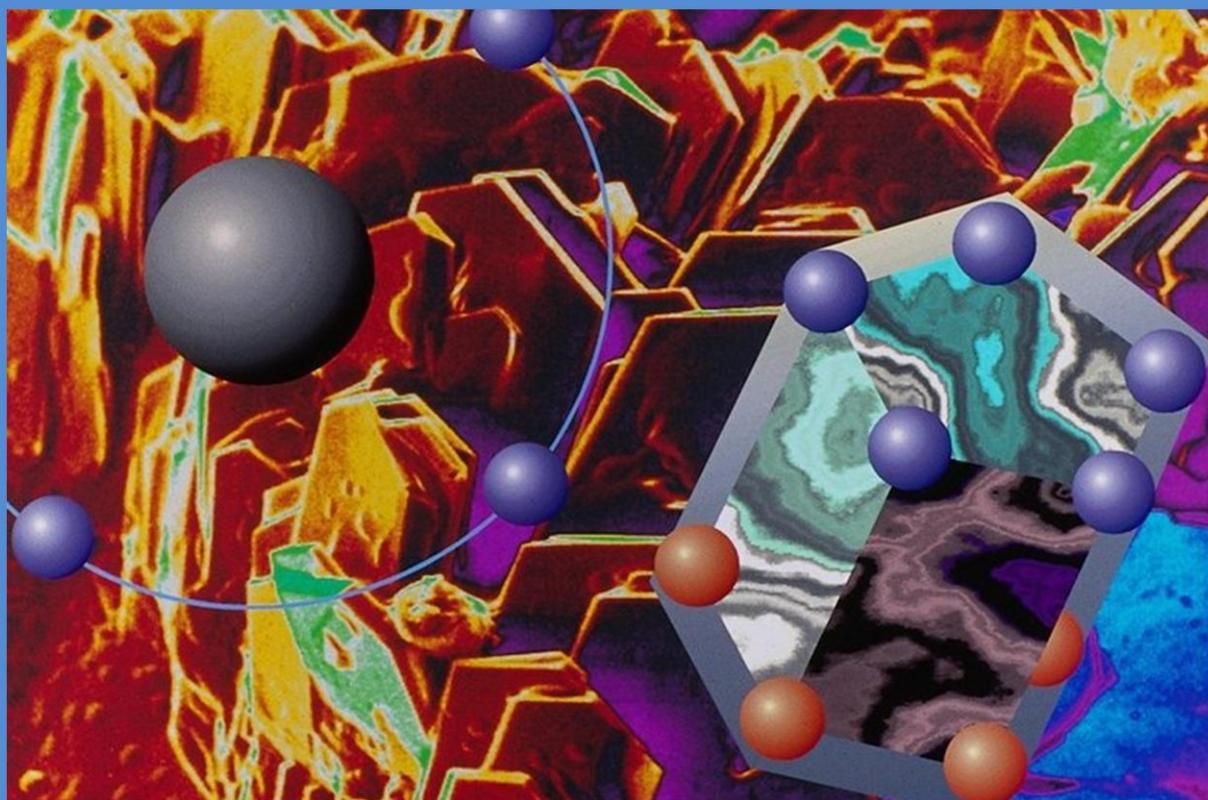


# *Neuropsychotherapy in Australia*

Number 17 – September/October 2012



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**Editor: Dr Pieter J Rossouw**

## Editorial

Welcome to the September/October edition of *Neuropsychotherapy in Australia*.

This is our third edition of the new format of the Journal. Thank you to the many readers who provided feedback in regard to the Journal. The number of subscribers now exceeds 2500.

### **This edition**

In this edition we focus on a crucial aspect of the therapeutic process – the initial engagement and history taking. Significant neural activation happens during the initial phase of therapy. These changes are linked to up-regulation of limbic alertness resulting in a shift in cortical blood flow towards the deeper structures of the brain. Often clients seem “flustered” and report that they “cannot think clearly. This is due to these cortical changes. Further, as the sense of control is somewhat compromised in the new (albeit therapeutic) setting – key aspects of the engagement process need to be considered to maximise the establishment of a safe effective therapeutic climate. These issues are discussed in our feature article.

We are also pleased to add an article that compares narrative therapy with neuropsychotherapy in relation to the management of a particular case. The key aspects of Neuropsychotherapy in relation to this particular case are of significant interest as well as the relationship with another therapeutic approach (narrative therapy) and how it provides a meta-therapy to narrative work.

### **Contact us:**

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### **Neuropsychotherapy workshops**

Two of our two-day workshops: *The Brain and Anxiety – Utilizing Neurobiological Information as a Psychotherapeutic Tool*; and *The Neuroscience of Depression - New Opportunities for Effective Treatment* have been completed in all major centres (Sydney, Melbourne, Brisbane, Perth, Adelaide, Canberra and Hobart). The first of the one-day applied skills workshops: *Focused Neuropsychotherapy – Applied Strategies for the Treatment of Anxiety* has also been completed in all major cities.

In the coming months the third of our 2-day workshop series will continue to roll out. This workshop, *The Developing Brain and the Neuroscience of Memory and Trauma*, has a different focus than the previous workshops and focuses on the Neuroscientific markers of brain development as well as the principles of memory, from a cellular level, to the significant implications of these principles when working with clients to change the brain. We are very encouraged by the positive feedback of the large number of clinicians who attended in Melbourne, Brisbane and Perth. During October and November the workshop will run in Adelaide, Canberra, Sydney and Hobart.

From September onwards the second of the very popular 1 day applied skills workshops will also roll out. This workshop focuses on the application (skills based – case studies) of the Neuroscientific underpinnings of depression and the treatment guidelines. Numbers are strictly limited as these workshops are small group, round table, interactive workshops. Between October and December the workshop will run in Melbourne, Canberra, Brisbane and Perth. Also included in this edition is the workshop schedule for 2013. We will have more information about the 2013 workshops in the next edition.

More information about the workshops is included in this Journal.

Dr Pieter Rossouw  
Editor

## FEATURE ARTICLE

# Engaging in therapy and history taking: right brain to right brain communication

**Dr. Pieter J. Rossouw**

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Engaging in the therapeutic process and history taking are traditionally seen as important first stages in the therapeutic process. The interaction between client and clinician and sharing of the “story” of the client are vital aspects of the facilitation of the therapeutic relationship. Interpersonal neurobiology research indicates that engaging in therapy and history taking encompass much more. In its essence it is comprised of right brain to right brain interaction, mirror neuron activity, down regulation of limbic responses and establishment of safety by facilitating a safe, empathic, supportive (enriched) environment. Ultimately engaging in therapy and history taking assist with the overall therapeutic process of controlled incongruence (rather than uncontrolled incongruence) open neural firing (rather than up regulation of the stress response) and enhanced cortical activity (rather than reduction of cortical blood flow due to the stress response) (Grawe 2007).

### The client

The client who presents for therapy experiences two levels of distress. The primary layer is the presenting problem. This is the

reason for the referral. This problem has been an integral part of the client’s life for a longer or shorter period of time and needs to be explored in the first few sessions. History taking is also part of this process – not only exploring the presenting problem but also the context. The second layer of distress is linked to the process of engaging in therapy. Both these layers of distress have implications on biological-psychological-social (and often - spiritual) levels (Sommers-Flanagan & Sommers-Flanagan 2009; Yalom 2002). Although most clients who presents for therapy expect to talk/share their stories, there are also significant levels of stress present - especially during the first stages of therapy (Badendoch 2008). These stress levels are aroused through limbic (amygdala) up-regulation due to heightened awareness of incongruence. A client’s management of the “problem” has established its own protective mechanism/s of coping (even “survival” in some cases). This pattern of coping is about to be questioned. Although clients may “know” on a cognitive level that they need to address these patterns, more primitive neural pathways that control the stress chemicals and stress signals up-regulate (activate) when coping systems are addressed (Feinberg 2009). This leads to the sensations (on biological, psychological and social levels) of incongruence:

- Biological incongruence
  - Activation of the hypothalamic-pituitary-adrenal axis – overproduction of CRF (corticotrophin releasing factor); ACTH (adrenocorticotrophic hormone); Adrenalin and Cortisol.
  - Heart rate increases
  - Blood pressure increases
  - Breathing affected
  - Perspiration

- Reduction in cortical blood flow to frontal regions
- Psychologically
  - Feeling flustered
  - Difficulty verbalising the presenting problem
  - Memory lapses
- Socially
  - Feeling insecure
  - Meeting the therapist – up-regulates limbic alertness further
  - Incongruence as a result of being outside their control/comfort zone.
  - Absence of support

### **The brain-wise therapist**

The therapist needs to be mindful of the bio-psycho-social aspects of both layers of the client's distress – the narrative related to the "problem" and the current reality of presenting for therapy. The needs to demonstrate, and activate, a sense of safety and control are paramount (Kanel 2007). To effectively address these needs start with clear communication in terms of the time and place of the appointment and a friendly reception –

- A personal approach
- Welcoming reception area
- Clear information and instructions (knowing what to expect)
- Being on time

The absence of these basic qualities activates uncertainty, less control and up-regulates the stress response which is contra-indicated for open neural activity and enhanced cortical blood flow.

Meeting the client is a right-brain to right-brain activity. Demonstrating genuine warmth, empathy and compassion are qualities not only

well discussed by Carl Rogers (1961) and others but they also activate the mirror neuron system, establish a solid therapeutic relationship (safety) and enhance a sense of control. Up regulation of safety and control are essential needs that link closely with the primary need for attachment. The slightest hint of violating/compromising this need activates the distress experience and shift congruence to incongruence. This will negatively impact on the establishment of the therapeutic relationship and will ultimately negatively impact the therapeutic process.

History taking is in its essence a therapeutic process rather than a data collection process. The clinician is fully aware of how the "story" unfolds in an organic pattern (focussing on the "way" the client tells the story) rather than a structured pattern (a fixed questionnaire). The clinician is mindful of verbal and nonverbal nuances of the story, and how it unfolds in relation to key role players in the client's life (McLeod 2011; Cory & Cory 2011). The clinician wants to sense what was empathetic and not empathetic from the youngest ages that the client can recall. The clinician is mindful of the emotional content linked to certain role players and places and experience in his/her life and to cognitive, emotional and bodily responses to those references. The clinicians facilitate intergenerational compassion rather than selective bias (this means that the clinician realises that siding with one generation over the other may contribute to a disservice to the client's healing as it may jeopardises the process towards compassionate healing). Badendoch (2008) suggests that clinicians should consider taking some time to sit with their own intergenerational history to assist with more effective levels of mirror neural connection when working through the history ("his/her-story") of others.

The mirror neuron effect of listening and reflecting on the history of the client forms the

essential neural basis for new neural connections (Davidson & Begley 2012; Cozolino 2010). New neural activation (synaptogenesis) can be facilitated in two ways:

- **The first** (most effective but often not most helpful) way to activate new neural patterns is through adverse experiences. Limbic activation responds quickly and effectively to adverse experiences (Hart 2008). Classical studies that activate stress chemicals indicate that neural activation is enhanced and more effective than when stress chemicals are not activated (for example, students learn more and retain information better when their hands are immersed in ice water)!! This is the classical trauma model. The downside of this learning process is that it is fear based and results in neural patterns based on avoidance (in comparison to open, solution focused neural sprouting). The net result is pathology and closed (avoid) neural patterns (Grawe 2007).
- **The second** way to activate new neural patterns is by down regulating the stress response and enhancing basic needs – attachment and control. Addressing these needs facilitate safety to engage in new pathways to shift unhelpful patterns of thinking, feeling and behaving. Facilitating safety and control are essential to facilitate effective open neural patterns - in comparison to closed protective neural activation – the pathology loop (Rossouw 2012). This also means that the clinician is mindful about the rate of progress. Pushing too hard or too fast activates the client's stress response and inhibits the therapeutic process (Rothschild 2000). Research in neural activation clearly demonstrated the unhelpful

effect of activating the stress response and/or eroding the safety and control systems on the facilitation of effective new neural pathways.

### **Guidelines to engaging in therapy and history taking – a neuroscience perspective.**

- Whole-person to whole-person experience. Engaging in therapy and history taking is a whole-person to whole-person experience. In its essence the human brain is a social entity that proliferates in relation to other brains (Schoore 2012; Siegel 2012). The absence of these healthy connections leads to pathology. The therapeutic process provides the essential elements of the basic needs of safety and control. The result is a gradual shift from patterns of protection (avoid patterns due to violation of basic needs) to patterns of approach – neural integration that leads to cognitive, emotional and behavioural integration (Siegel 2010).
- Questions about the implicit attachment world. The therapist may consider questions like:
  - What are your memories about your parents in relation to feeling accepted, loved or rejected?
  - Do you have special memories about your childhood – do you enjoy thinking about them or are they uncomfortable?
  - Have there been losses or deaths in your family? How did that impact you?
  - Was there hugging and physical closeness at home?

- Questions that are linked to “how” provide a wealth of information regarding patterns of protection (avoidance). These are questions like:
    - How did certain experiences impact your life?
    - How did your parents interact with one another?
    - How was school for you (support, fun, unhelpful experiences, bullying)?
    - How was discipline at home/school (fairness)?
  - Questions about emotional integration. These are questions like
    - Can you recall happy/sad/angry/frustrating times? Who is in those memories?
    - How did your family manage good/sad/disappointing times?
  - Questions about moral issues and spiritual beliefs. These are questions like:
    - Were there times that you felt very ashamed or guilty?
    - Was spiritual life important in your family?
    - Did you ever have a special feeling about God when you were small?
  - Questions about physical health and well-being. These are questions like:
    - Can you tell me about your health?
    - Have you ever been quite unwell at some stages of your life?
    - How did it impact your life?
  - Questions about relationships. These are questions like:
    - Can you tell me about your first close friendship?
    - What are your memories of that relationship?
    - Can you tell me about your social relationships in primary/high school?
    - Have there been uncomfortable experiences in social relationships?
    - How did that affect you?
    - Can you tell me about your intimate relationships?
  - Questions about mental health. These are questions like:
    - Can you tell me about your family in terms of their emotional/mental health?
    - Have you ever seen a therapist before?
- The suggestion regarding questions is not nearly extensive and complete. These are guidelines that could be considered within the frame of the right-brain to right-brain, -emotive connection-; whole person to whole-person interaction (being-with-the-client) in the therapy process. One of the most effective ways for a therapist to prepare him/-herself for engaging in therapy and history taking is to take time and ask ourselves these questions. Reflecting on our own experience assists us to be more aware of limbic alertness, and our cognitive, emotional, physiological and behavioural responses. This will significantly enhance the therapeutic relationship.
- Ultimately neuroscience clearly indicates that: **who we are as therapists is far more significant than our body of knowledge** (Kandel 2006).

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## Neuropsychotherapy and Narrative Therapy – a case study-based comparison.

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### Case Study

Marjorie is a 32 years old, single Australian woman from Polish origin. She works as data importer at an IT firm. She has come to you on recommendation of her close friend. Marjorie has mixed feelings about seeking professional help, for this is not something she has ever envisioned doing. Her parents see seeking counselling as a sign of weakness.

Marjorie's major problem seems to be a social anxiety. She has ongoing feelings of dread and exaggerated fear of being exposed to being judged by others in social situations. She fears that she may act in ways that will be humiliating or embarrassing, so she tends to avoid social gatherings of any kind. She remembers painfully a particularly humiliating experience in her teens at a party where she attended a school swimming carnival and was pushed in the pool by a fellow student – everyone laughed and she was totally embarrassed by the incident. She struggles with low self-esteem and find distraction by reading and isolating herself. She feels easily upset and when things go wrong she finds it difficult to "think straight". Marjorie's fears and difficulties in coping with the demands of coping with everyday living are becoming so pressing and urgent. Her self-esteem is low, she experiences low sense of control. This is exacerbated by the strained relationship with her parents, especially her mother who is suffering from major depression.

## Summary

Social anxiety can be an ongoing struggle that encroaches upon the individual's ability to cope with everyday life. The narrative presentation of social anxiety involves the incorporation of problem-saturated experiences into the construction of the dominant plot, together with the exclusion of information to the contrary. This is analogous to the neurobiological underpinnings of social anxiety, where dominant neural firing patterns establish in the brain (closed loops), which maintain negative emotional experiences and avoidance schemas and reduce the accessibility of preferred neural activation patterns and approach schemas (Cozolino, 2006; Grawe, 2007). When the basic human needs of attachment, orientation and control, pleasure maximization/distress avoidance and self-esteem are violated to any degree, the promotion of less adaptive neurochemical and neural activation patterns establish in the brain (Grawe, 2007). However, the brain's neuroplastic capacity continues to allow for positive changes to be pursued and facilitated. The facilitation of new neural pathways diverts energy away from dominant neural patterns of activation that maintain social anxiety, low sense of control and low self-esteem. This is best achieved through the exploration of meaningful, "affect-infused" exceptions to the dominant problem-saturated story (Beaudoin & Zimmerman, 2011). Thereby, connecting the often implicit neuropsychotherapeutic world of the brain with the explicit world of the narrative.

## Narrative Therapy

Narrative therapy approaches the understanding of lived experience through narratives or stories (White & Epston, 1990). Marjorie's dominant narrative unfolds around her experience of social anxiety, low self-esteem and a low sense of control in her life. Problem-saturated narratives are constructed

by the selective removal of events, actions and thoughts from experience that do not fit in with the dominant story and prevent the telling of alternative or preferred stories (White & Epston, 1990). Therefore, a counsellor must seek to understand Marjorie's dominant problem-saturated narrative and pursue the construction of an alternative/preferred story. An investigation of how Marjorie was recruited into her current view of the problem is important (White, 1992). It appears that Marjorie has been recruited into her current narrative presentation by her enduring fear of being judged for acting in a humiliating or embarrassing way. The dominant plot of her story about social anxiety may be reaffirmed by the fact that she is still single. It is unclear whether Marjorie's social anxiety has prevented her from pursuing a romantic relationship or whether the lack of a romantic relationship has further exacerbated her social anxiety. Therefore, the problem story needs to be mapped with reference to the influence of the problem on Marjorie's life and the Marjorie's influence in the life of the problem (White & Epston, 1990). Also, there is strain in the relationship Marjorie has with her parents, which will only add to her feelings of isolation. This strain may be magnified by her mother's experience of major depression. Furthermore, the majority of the duties required of a data importer in an IT firm are probably undertaken individually rather than as a team, giving her limited opportunities to socially engage with colleagues. This may exacerbate her fear of being exposed in social situations and increase her desire to isolate herself.

Marjorie is reluctant to seek counselling and this relates to her belief that it was not something she envisioned doing along with her parents' assertion that counselling is a sign of weakness. The narrative practice of writing letters of invitation to people who are reluctant to attend may prove to be useful in the continual engagement of Marjorie in therapy (White & Epston, 1990). Furthermore,

a strong commitment to Polish cultural values has been found to increase resistance towards seeking psychological help (Bassaly & Macallan, 2006). Therefore, Marjorie and her parents' Polish cultural background may be one reason for their respective reservations about counselling and this might have caused increased strain between Marjorie and her parents if she told them she was going to see a counsellor.

Marjorie's Polish cultural origin is likely to be an important part of her narrative. Cultural narratives can powerfully shape choices about what life events can be storied and how they should be storied (Freedman & Combs, 1996). However, individuals of Polish origin (second and third generation) do not unconditionally categorize their lives in terms of their ethnicity but allow different aspects of their ethnicity, like language ability, to come in and out of focus at different times within a chosen context (Temple, 2001). Therefore, Marjorie's account of what it means to be of Polish origin needs to be explored. Since, within a culture an individual's identity is understood in terms of how *they* position themselves, or are positioned by others, in relation to these dominant narratives (McLeod, 2006). Moreover, if Marjorie has sought counselling despite its' lack of acceptance by her family and Polish culture, this can be viewed as a "unique outcome", which contradicts the dominant cultural narrative.

Meaning ascribed by social structures and cultural practices as well as personal knowledge helps to shape the lived experience (White, 1992). Within Marjorie's dominant personal narrative, her anxiety appears to be presented as fear, which prepares her for unwanted surprises and unpredictable hurt (Keen, 2011). Marjorie's fear of being exposed or judged by others appears to have provided meaning to the dominant plot through an "adaptive" preparation for unwanted surprises and the dread of unpredictable hurt. Although,

fear may have served Marjorie in the past and allowed her to find sanctuary in reading and isolating herself, it has now brought her to experience a low sense of control and self-esteem and is causing her difficulties in coping with her daily life. Separation of the self from the problem is essential in the alleviation of the enduring influence the problem is having on her life.

The externalization of the problem creates a separation between the dominant story and the person (White & Epston, 1990) and is supported by the belief that the problem is operating or impacting on the person's life but it is separate from the person (Freedman & Combs, 1996). When the problem is not located in the person or used to classify them it allows the person to stop being defined by it (Newman, 2010). It would then be advantageous to use Marjorie's own words in the creation of an objectified, externalized personification (Carr, 1998) or metaphorical description (McGuinty, Armstrong, Nelson, & Sheeler, 2012) of her social anxiety. The creation of a metaphor serves the function of encoding the descriptive experience of the problem as it is externalized in order to act indirectly on the individual's problem and sense of self (McGuinty et al., 2012). For example, Marjorie may refer to herself as "Miss Fearful" or view her social anxiety as a "black monster". Particular ways of questioning will help separate Marjorie from her social anxiety, for example: "How far has the "black monster" encroached on your life?" or "How did the black monster come to oppress you in this way?" (Carr, 1998). Thus, enabling Marjorie to explore her social anxiety from an objective position.

The externalization of the problem activates the deconstruction process via identification of neglected aspects of lived experience that are inconsistent with the dominant, problem-saturated story (White, 1992; White & Epston, 1990). Experiences, events, actions and

thoughts that are outside of the dominant story are referred to as “unique outcomes” (White & Epston, 1990). Questioning is a valuable tool in the investigation of “unique outcomes”, such as, “When did you resist the problem’s invitation to become a part of it?” (Prochaska & Norcross, 2010). “Unique outcomes” may be occasions when Marjorie has confidently and successfully navigated a social situation without overwhelming feelings of anxiety.

Marjorie has come to counselling on the recommendation of a close friend. Therefore, her successful establishment of a close social relationship with this friend highlights a contradiction or exception to her dominant story. These types of “unique outcomes” when uncovered must be plotted into a “unique account” or alternative story that is meaningful (White & Epston, 1990). Thereby, thickening or enriching the plot of the alternative story (Carr, 1998). Additionally, outsider witness groups, which may consist of people who have encountered similar problems in their lives or members of Marjorie’s social network, can enhance and consolidate the link between “unique outcomes” and the construction of new narratives simply by witnessing, advising and coaching (Carr, 1998; White & Epston, 1990).

The re-authoring process incorporates landscape of action and landscape of consciousness questions (White, 1992). Landscape of action questions encourage the mapping of “unique outcomes” across time according to particular plots, for example, “Looking back from this vantage point, what did you notice yourself doing that might have contributed to this achievement (of a “unique outcome”)?” (White, 1992). Landscape of consciousness questions encourages the person to reflect on and determine the meaning of the developments across the landscape of action, for example, “When reflecting on recent developments, what new

conclusions might you reach about your tastes; about what is appealing to you; about what you are attracted to?” (White, 1992). Landscape of action and consciousness questioning assists the thickening of the alternative/preferred narrative through reflection on the meaning of “unique outcomes” across the landscape of time.

The deconstruction of dominant problem-saturated, individual and cultural, narratives initiates the expansion of preferred stories that change the lived experience in a positive way. Preferred stories are created through the re-authoring of the lived experience, where alternative modes of living become available to the individual (White, 1992). The preferred story is established through a process of collaborate co-authoring, externalizing of the problem, excavating “unique outcomes”, thickening of the new plot, linking the story to the past or extending to the future and utilising outsider witness groups and letters as required (Carr, 1998). Therefore, it would be the aim of the narrative endeavour to collaboratively re-author Marjorie’s narrative regarding social anxiety into a story that supports her control and engagement with the lived experience rather than her fear and isolation from it.

### **Neuropsychotherapy**

The biological basis of social anxiety is pertinent to a full exploration of Marjorie’s lived experience. Social phobia is a conditioned fear of social interactions that activates the amygdala, which projects to the lateral hypothalamus resulting in a sympathetic response (Cozolino, 2006). The amygdala can be activated by either a fast or the slow system (Arden, 2010; Cozolino, 2006; Le Doux, 1996). The fast system is unconscious, based on prior learning and the implicit memory system, which involves sending information from your sense organs through the thalamus to the amygdala that activates the sympathetic nervous system (Arden, 2010; Cozolino, 2006).

The slow system is conscious, contextualizing and involves balancing inhibitory input from the hippocampus and the cortex to the amygdala when a stimulus is judged to be safe (Arden, 2010; Cozolino, 2006). For Marjorie, the neural networks that attend to negative affect have developed thicker axons with more dendrites that can effect behaviour faster and more intensely than information coming from the thinking part of the brain (the left prefrontal cortex) (Beaudoin & Zimmerman, 2011). Individuals with anxiety problems, in imaging and lesion studies, reveal increased right-sided activation in various sectors of the prefrontal cortex (PFC) that is associated with increased negative affect (Davidson, 2002). Moreover, the right hemisphere has the ability to override the left side's conscious processing and regulation of emotional well-being in a defensive reaction to perceived threat (Cozolino, 2006). Therefore, Marjorie's rapidly activating amygdala and right-side activation are circumventing the ability of her brain to access the left side, particularly the PFC, to "think straight" and experience a sense of control.

The orbital frontal cortex (OFC), medial prefrontal cortex (MPC) and the anterior cingulate gyrus, which comprise the "higher part" of the limbic circuitry and social circuits of the brain, are quite underdeveloped at birth and therefore particularly shaped by experience (Siegel, 2006). The OFC thrives on close relationships and is highly influenced by bonding, which increases its' capability to tame the amygdala and regulate emotions (Arden, 2010). Childhood emotional maltreatment (abuse, neglect and insensitivity to emotional development), even in the absence of physical and sexual abuse, is associated with a reduction in the volume of the MPC, which regulates emotional behaviour and predicts anxiety disorders in adulthood (Van Harmelen et al., 2010). Also, early separation or neglect by the mother is associated with decreases in dopamine activity and increased behavioural

reactivity to stress (Cozolino, 2006). Marjorie appears to have been raised in an environment where the attachment need and probably the basic needs for control, pleasure and self-esteem were not met (or violated) to some degree, producing the necessity for the development of protective avoidance schemas, which were adaptive in the short term but created potential for inconsistency and motivational conflicts over the longer term (Grawe, 2007). Therefore, Marjorie's potentially problematic attachment to her mother may have laid the neurobiological foundation for her experience of social anxiety. Marjorie's implicit memory of social and emotional learning, developed in the early years of her life, is now guiding her moment-to-moment experiences through its' amygdala centred, right-hemispheric bias, which is largely unconscious and context free (Cozolino, 2006). Therefore, a therapeutic focus on the conscious and contextualizing explicit social memory, with a hippocampal and left hemispheric bias, is important (Cozolino, 2006).

Consciousness plays a direct role in harnessing neural plasticity to alter automatic modes of neural firing and enabling new patterns of neural activation to occur because where attention goes, neural firing occurs and new connections are made (Siegel, 2006). Additionally, neuroplasticity and neurogenesis of neurons in the hippocampal dentate gyrus is involved in the treatment efficacy of major depressive and anxiety disorders (Petrik, Lagace, & Eisch, 2012). Therefore, attentional focus on the explicit social memory system has the ability to change the implicit firing of neural pathways that provoke Marjorie's social anxiety.

In addition, when the attachment and control needs are violated early on there is a tendency to encounter experiences with peers and enter into roles that are detrimental to self-esteem (Grawe, 2007). The incident where Marjorie

was humiliated by one of her peers at a school sports carnival seems to have had an enduring effect on her behaviour. Peer victimisation or bullying leads to neural and endocrine alterations, for example, abnormal levels of basal cortisol and altered brain functioning in the anterior cingulate cortex, the right ventral prefrontal cortex and the insula and this is likely to lead to poorer physical and mental health outcomes (Knack, Gomez, & Jensen-Campbell, 2011). Therefore, negative life experiences are likely to have facilitated the development and consolidation of closed neural loops that originate from the amygdala and activate the right PFC, whilst inhibiting the medial PFC (that includes the OFC and is closely interconnected with the hippocampus), preventing negative feedback and promoting relatively fixed negative emotional patterns and difficulties in the down regulation of emotion (Davidson, 2002; Grawe, 2007; Thayer & Lane, 2000).

Marjorie continues to avoid social gatherings and fears the judgement of others for acting in a humiliating or embarrassing way. Furthermore, because of her low self-esteem she is likely to experience elevated cortisol levels originating from reactivity of the hypothalamic-pituitary-adrenal (HPA) axis, if rejection was to occur now (Ford & Collins, 2010). In a meta-analysis of brain volume and trauma, it was found that total brain volume was significantly smaller in trauma-exposed participants than non-trauma-exposed controls (Hedges & Woon, 2010). This meta-analysis illustrates that traumatic experiences, like Marjorie's experience in adolescence, can change the brain's development. Also, degenerative neuronal populations exhibit concurrent glial weakening and impairment of neuronal metabolism (evident in the prefrontal cortex of individuals with depression and probably anxiety) (Pav, Kovaru, Fiserova, Havrdova, & Lisa, 2008). These early experiences for Marjorie may have elicited the neurobiological and endocrinal changes that

increased the probability of developing and maintaining social anxiety and low self-esteem. Marjorie's low self-esteem renders her cautious and conservative with an unwillingness to take risks and a reluctance to draw attention to herself, which is self-protective but also self-derogatory (Baumeister, 1993). It is likely that she may seek to actively verify or maintain her low self-image as a self-protective strategy to prevent distress, loss of control (which she experiences) and the general occurrence of inconsistency or incoherence (Baumeister, 1993; Epstein & Morling, 1995; Grawe, 2007). Therefore, behaviour can be seen as a compromise between the satisfaction of various needs (self-esteem enhancement, pleasure maximization, relatedness to others and the maintenance of a coherent model of the world) and a compromise between them when conflict occurs (Epstein & Morling, 1995). Two basic systems or schema that mediate emotion and motivation are the approach system, which generates positive affect usually in the context of moving towards a desired goal, and the withdrawal (avoidance) system, which generates negative affect and withdraws the individual from sources of aversive stimulation (Davidson & Irwin, 1999). In general, the left prefrontal cortex (LPFC) is related to the approach system and the amygdala is related to the withdrawal system (Davidson & Irwin, 1999). Also, serotonin has an impact on the regulation of self-esteem with low levels increasing negative symptoms associated with anxiety and higher levels increasing calm, which is promoted by positive social feedback (Sylwester, 1997). Therefore, the development of the approach system is an important way to gain access to positive social feedback, which will increase serotonin levels and the activation of the LPFC.

Psychotherapeutic intervention with social anxiety has been shown to have some long-term success in changing the brain of participants with social phobia. After successful

management (cognitive behavioural psychotherapy or citalopram medication) of social phobia there was a decrease in regional blood flow in the amygdala, hippocampus, and the periamygdaloid, rhinal, and para-hippocampal cortices (particularly in the right hemisphere) in response to public speaking compared to a wait list group, with associated clinical improvement after a year (Furmark et al., 2002). Neural plasticity, the change in neural connectivity induced by experience, may be the fundamental way that psychotherapy changes the brain (Siegel, 2006). Also, the action of the neuronal machinery of the therapist's brain, through visual and vocal contact, creates changes in the neuronal machinery of the client's brain effectively joining the biological and sociopsychological approaches (Kandel, 1998). The therapeutic process is greatly enhanced by the existence of mirror neurons. Mirror neurons allow the expressions of another to be perceived by their brain allowing for an internal state of "resonance" to occur (Siegel, 2006). Thereby, enhancing the therapeutic relationship, which is foundational in the counselling process and in turn promoting neuroplastic changes in the brain.

### **Narrative Therapy and Neuropsychotherapy**

Movement away from the traditional "medical model" in counselling is evident in both the evolution of the postmodern narrative therapy perspective (White & Epston, 1990) and the new framework of neuropsychotherapy that de-emphasises the solely genetic understanding of behaviour (Kandel, 1998) and predominance of drug interventions (Turner, Matthews, Lindardatos, Tell, & Rosenthal, 2008). Consequently, neuropsychotherapy's emerging understanding of neural plasticity, neurogenesis and the neurobiological origins of behaviour opens up new ways of conceptualising the lived experience. The shared goals of narrative therapy and neuropsychotherapy include an emphasis on

changing dominant patterns, schemas or stories, to facilitate a more functional and satisfying lived experience.

Narrative therapy is a therapeutic practice that has a sound basis in neurobiology. The narrative function of the brain detects themes in our life story and uses prefrontal functions to integrate neural maps into episodic and autobiographical memory systems (Siegel, 2006). Furthermore, when an emotional situation arises the developed neural pathways associated with the problem-saturated story are more likely to be activated rapidly and predictably because a brain state has been created (Beaudoin & Zimmerman, 2011). A brain state is composed of a cluster of neural firing patterns that is embedded within certain behaviours and accesses particular memories (Siegel, 2010).

The externalization of the problem is likely to down regulate the functions of the limbic system in order to promote the deconstruction of the dominant narrative and the re-authoring and consolidation of the preferred story. The brain has neural networks that are associated with preferred experiences but these are much less developed than the "super highways" of the problem related experiences (Beaudoin & Zimmerman, 2011). As clients re-experience meaningful moments that can connect them to their "thin" but preferred story, associated neural networks will thicken and accelerate their speed of connection (Beaudoin & Zimmerman, 2011). An exploration of "affect-infused unique outcomes" and the "scaffolding" of a detailed description of the experience itself (questioning to examine thoughts experienced during the "unique outcome") strengthens the consistency of the neural network associated with the meaningful experience making it more accessible in the future (Beaudoin & Zimmerman, 2011). The neuroplastic ability of the brain is instrumental in the process of re-authoring neural pathways.

One way to rewire the brain to promote positive moods is in the construction of narratives (Arden, 2010). The narrative emphasis on privileging the client's experience and language in the collaborative process of re-authoring their dominant problem-saturated story (White & Epston, 1990) facilitates the development of a sound therapeutic relationship that draws on the mirror neuron system (Siegel, 2006). A strong therapeutic alliance creates a safe forum for the explicit exploration of dominant withdrawal/avoidance patterns and the development of approach patterns of motivation with a corresponding increase in self-esteem (Davidson & Irwin, 1999; Grawe, 2007). The use of cognitive behavioural therapy techniques at appropriate intervals in therapy may also prove to be helpful because of its' proven effectiveness to make changes to the brain of people with social phobia (Furmark et al., 2002). In conclusion, any therapeutic practice that can be informed by neurobiology will have a greater level of effectiveness and great likelihood that it will change the structure and function of the brain in a positive way.

### **Guidelines for Integration**

The benefit of using a personal narrative to create changes in the underlying neurobiological processes that perpetuate social anxiety, is that the process resonates with the client. As unique individuals, we are all the storytellers of our own experience. Cultivating a safe therapeutic environment, as well as the successful externalization of the problem, promotes the continued down regulation of the fear response for the client (Grawe, 2007; White & Epston, 1990). The down regulation of limbic influence facilitates the client's ability to explore their story with awareness and insight utilising the thinking functions of the left prefrontal cortex (Davidson, 2002; Davidson & Irwin, 1999). The development of a strong working alliance, empowers the client to explore and strengthen

the less developed neural pathways associated with "unique outcomes". Furthermore, corrective emotional experiences arising from an empathic therapeutic relationship, which satisfies basic needs and reduces inconsistency, can also be viewed as a "unique outcome" and incorporated into the client's preferred narrative (Sommers-Flanagan & Sommers-Flanagan, 2009). Thereby, reducing the influence of established closed looping patterns of neural activation that reinforce social anxiety, low self esteem and low sense of control for the client (Grawe, 2007). More specifically, the identification of "affect-infused" exceptions to the client's dominant problem-saturated story can rewire the brain and encourage increased Hebbian facilitation of these underdeveloped neural connections (Beaudoin & Zimmerman, 2011). The inherent neuroplastic ability of the brain underpins the success of the re-authoring process and promotes the construction and consolidation of a preferred/alternative narrative.

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*Every man can,  
if he so desires,  
become the sculptor  
of his own brain”  
— Santiago Ramón y Cajal*

## Mediros Workshop dates 2012 (register at [www.mediros.com.au](http://www.mediros.com.au))

### Two day workshop

**The Developing Brain and the Neuroscience of Memory and Trauma. Implications for Effective Skills Based Interventions.**

**APS Endorsed 12 CPD hours  
(CCLIN, CCOUN, CCOM)**

- 12,13 October 2012 – Adelaide
- 26,27 October 2012 – Canberra
- 2,3 November 2012 - Sydney
- 9,10 November 2012 – Hobart

### One day skills based workshop

**Focused Neuropsychotherapy – Applied Strategies for the treatment of Depression – skills based training**

(1 day round table class – case demonstrations, discussions and interactive learning) (limited spaces)  
6 Learning hours

- 17 November 2012 – Melbourne
- 1 December 2012 – Canberra
- 8 December 2012 – Brisbane
- 15 December 2012 – Perth

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## WORKSHOPS – TWO DAYS

Mark with X

### The Brain & Anxiety: Neurobiological information as Psychotherapeutic Tool

*Continuing Professional Development Hours - 12 hours specialised training*

Sydney	16 & 17 May 2013	Portside Centre, Level 5, 207 Kent Street, Sydney	<input type="checkbox"/>
Brisbane	12 & 13 April 2013	RBW Hospital, Herston Rd, Herston, Brisbane	<input type="checkbox"/>
Melbourne	31 May & 1 Jun '13	Royal Melbourne Hospital, Grattan Street, Parkville	<input type="checkbox"/>

### The Neuroscience of Depression: New opportunities for Effective Treatment

*Continuing Professional Development Hours - 12 hours specialised training*

Sydney	13 & 14 June 2013	Portside Centre, Level 5, 207 Kent Street, Sydney	<input type="checkbox"/>
Melbourne	21 & 22 June 2013	Royal Melbourne Hospital, Grattan Street, Parkville	<input type="checkbox"/>
Brisbane	27 & 28 June 2013	RBW Hospital, Herston Rd, Herston, Brisbane	<input type="checkbox"/>

### The Developing Brain and the Neuroscience of Memory and Trauma

*Continuing Professional Development Hours - 12 hours specialised training*

Brisbane	12 & 13 Sept 2013	RBW Hospital, Herston Rd, Herston, Brisbane	<input type="checkbox"/>
Melbourne	20 & 21 Sept 2013	Royal Melbourne Hospital, Grattan Street, Parkville	<input type="checkbox"/>
Sydney	3 & 4 October 2013	Portside Centre, Level 5, 207 Kent Street, Sydney	<input type="checkbox"/>

### The Social Brain and the Neuroscience of Relationships

*Continuing Professional Development Hours - 12 hours specialised training*

Canberra	18 & 19 Oct 2013	Calvary Private Hospital, Mary Potter Cct, Bruce, ACT	<input type="checkbox"/>
Adelaide	25 & 26 Oct 2013	Hackney Hotel, 96 Hackney Road, North Adelaide	<input type="checkbox"/>
Perth	1 & 2 Nov 2013	St Catherine's Coll, UWA, 2 Park Rd, Nedlands, Perth	<input type="checkbox"/>
Melbourne	15 & 16 Nov 2013	Royal Melbourne Hospital, Grattan Street, Parkville	<input type="checkbox"/>
Brisbane	21 & 22 Nov 2013	RBW Hospital, Herston Rd, Herston, Brisbane	<input type="checkbox"/>
Sydney	28 & 29 Nov 2013	Portside Centre, Level 5, 207 Kent Street, Sydney	<input type="checkbox"/>
Hobart	Date to be confirmed	Grand Mercure Hadleys Htl, 34 Murray St, Hobart	<input type="checkbox"/>

## SKILLS CLASSES – ONE DAY

Mark with X

### Focused Neuropsychotherapy - Applied Strategies for the treatment of ANXIETY

*Continuing Professional Development Hours - 6 hours specialised training*

Brisbane	9 August 2013	RBW Hospital, Herston Rd, Herston, Brisbane	<input type="checkbox"/>
Melbourne	24 August 2013	Royal Melbourne Hospital, Grattan Street, Parkville	<input type="checkbox"/>
Sydney	30 August 2013	Portside Centre, Level 5, 207 Kent Street, Sydney	<input type="checkbox"/>

### Focused Neuropsychotherapy - Applied Strategies for treatment of DEPRESSION

*Continuing Professional Development Hours - 6 hours specialised training*

Brisbane	4 December 2013	RBW Hospital, Herston Rd, Herston, Brisbane	<input type="checkbox"/>
Melbourne	7 December 2013	Royal Melbourne Hospital, Grattan Street, Parkville	<input type="checkbox"/>
Sydney	13 December 2013	Portside Centre, Level 5, 207 Kent Street, Sydney	<input type="checkbox"/>

## COSTS

<b>Two day Workshops:</b>	Early Bird rate (60 days prior)	\$ 495.00	_____
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	Group (4+, one payment)	\$ 450.00	_____

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### Discount rate on Skills Classes if booked at the same time

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