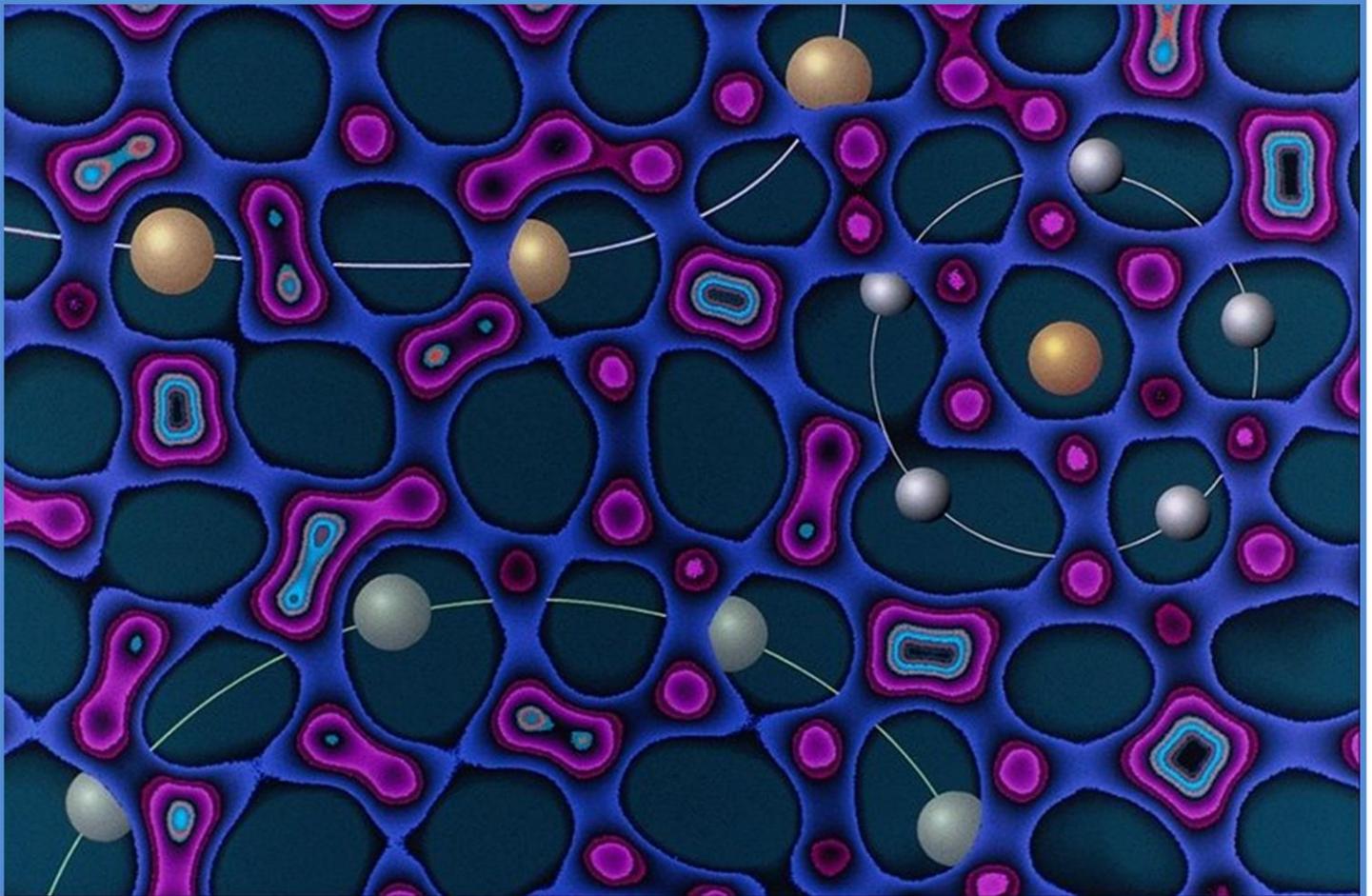


Neuropsychotherapy in Australia

Number 15 – May/June 2012



Editorial	Page 2
Feature Article Bullying – A Neurobiological Perspective	Page 3
Books on Neuroscience	Page 10
Neuropsychotherapy Workshops	Page 11

Editor: Dr Pieter J Rossouw

Editorial

Welcome to the May/June 2012 edition of Neuropsychotherapy in Australia formerly known as Neuropsychotherapy News”.

“Neuropsychotherapy News” has grown and has now matured to a level where it can be a meaningful e-forum for fellow psychologists to share, publish and give valuable contributions on different levels in the field of neuropsychotherapy. The developing professional and academic interest in this field (more than 2 000 subscribers), has increased to such an extent in the past few years and an e-Journal for Neuropsychotherapy will celebrate Neuropsychotherapy’s coming of age in an appropriate way.

We trust that this Journal will enhance Neuropsychotherapy in Australia and the International Community.

Thank you for all your support and interest in the field of Neuropsychotherapy.

Dr Pieter Rossouw

In this Edition

Bullying

This edition focuses on bullying. The prevalence of this phenomenon is alarming. Although much attention has been focused on bullying (especially in the school environment), and many projects have been launched to increase awareness and address this problem, little information is available regarding the effects of bullying on a neural level. Our feature article this month focuses on the neurobiological markers that are linked with bullying, the impact of bullying on neural activity, neural development and neurochemical functioning. Lastly, some therapeutic guidelines are suggested in regards to the intervention process with victims of bullying.

Neuropsychotherapy workshops

Our workshop schedule for 2012 is currently in full swing. Four two day workshops have been completed – The Brain and Anxiety workshop (Melbourne and Sydney) and The Neuroscience of Depression workshop (Perth and Canberra). The feedback continues to be very encouraging. It is exciting to hear so many clinicians talking about the application benefits of neuroscience. The last Brain and Anxiety workshop for 2012 will run in Brisbane in June.

A number of clinicians who attended the two day workshops on the Brain and Anxiety and the Neuroscience of Depression expressed the need for a practical workshop to cement the principles of the two day workshops in skills-focused applications. We developed one-day skills-based workshops for 2012 – one on the treatment of Anxiety from a neuropsychotherapeutic perspective and one on the treatment of Depression. Numbers to attend are limited as the workshop has an interactive, round-table focus. The first two of these workshops – Skills-based Neuropsychotherapy workshop for Anxiety (Brisbane and Melbourne) - have been completed. Feedback from these workshops indicates that it successfully addressed the need for enhancing skills-based interventions.

New Book

We would like to draw attention to the new publication from the editor of the Norton Series on Interpersonal Neurobiology: The Science of the Art of Psychotherapy by Allan Schore (2012). This book is an excellent introduction to the art of psychotherapy from a neuropsychotherapeutic perspective.

Enjoy the read!

Contact us:

If you have any further questions or comments about this edition or to subscribe to this free e-Journal, please contact us at admin@mediros.com.au

FEATURE ARTICLE

Bullying – A Neurobiological Perspective

Pieter J. Rossouw

M. Clin Psych., PhD. MAPS, MCCLin

The University of Queensland
Director of Mediros Clinical Solution

The issue of bullying has been addressed on many levels. In the past few years it has been a hot topic among educators, parents and mental health clinicians. Significant projects have been launched to “say no” to bullying. Radio stations devoted weeks to talk to victims, parents and other key stakeholders. New “forms” of bullying have emerged – one of the most prominent is “cyber bullying”. Prominent figures like presenters of morning shows talked about their experiences of being bullied. Schools are sued years after the victims have left school, with the victims claiming that ongoing bullying, without effective interventions, left them with lifelong scars.

On many levels it is fair to say the world at large is more than aware of the existence of bullying. Bullying is not only a phenomenon for young people – people are bullied in day to day situations, at home or at work. The young and the old, the frail and the sick the employee and the jobless, are all vulnerable to becoming victims of bullying (Asbaugh & Cornell, 2008, Branson & Cornell 2009). And sadly, the opposite can happen as well – a group of workers targeting a “nerdy” boss; girls or boys targeting teachers; a migrant with a strong accent become target of inappropriate jokes from fellow workers.

Bullying is a sad reality of life that needs to be addressed on every possible level. Not all types of bullying are the same or have the same effects. Duration, intensity and age are important variables. Some key indicators are:

- The stronger the pre-morbid levels of resilience, the better the chance of effectively managing bullying experiences.
- The shorter the bullying experience, the lesser the impact.
- The prevalence of effective support networks lessens the severity of bullying.
- The more resources (health, age, emotional and physical strength), the better the chance to manage bullying.
- The closer the emotional tie (family, friends, co-workers), the more severe the impact of bullying.

It is important to be aware of the effects of bullying on the brain. Is bullying a very unfortunate experience for someone resulting in emotional discomfort or is there more to it? How does bullying affect someone’s wellbeing? A neurobiological perspective provides significant indicators of the effects of bullying.

The development of the well brain

Effective development of the young brain needs physical and emotional safety. Safety and nurturing provides the essential ingredients for the development of strong open neural networks. Open neural activation is vital for the brain to maximise development. Up-regulation of distress or fear closes this neural activation process resulting in down-regulation of open neural connections. These neural networks are fragile and highly susceptible to environmental changes (Rudy, 2008).

The developmental model of neuroscientist Paul MacLean (1990) provides a systematic growth perspective of the brain – early system (reptilian brain); then the limbic system (the mammalian brain) and the advanced system (paleomammalian brain) – the neo-cortex

(Rossouw, 2011). Sporns (2012) links on to this network model and describes the development of the neural networks as they build on the neural expressions of earlier (more primitive) connections. It is the developmental processes and neural expressions that indicate the need for physical and emotional safety. Violation of these basic needs changes neural activity.

Neural connections are dependent on environmental triggers (experiences) to facilitate the formation of implicit memory (specific neural connections) and eventually also explicit memory (more cognitive and emotional neural expressions). The basic needs that are vital for open, growing, effective neural connections are:

The need for attachment.

The experience of an infant that he/she is in a safe and caring environment down-regulates the fear system. The function of early activation of the limbic structures (especially the amygdala activity and its links with the hypothalamus and hippocampus) is to associate safe cues to down-regulate the stress response. Proximity to the primary carer down-regulates/soothes this response resulting in an implicit memory system geared towards an approach pattern of neural activation rather than an avoid pattern (closed homeostatic feedback loops). The more effective the safety experiences are facilitated, the stronger the basic approach motivational schemas are facilitated. Early safety experiences also down-regulate the stress response resulting in lesser production of cortisol that can be harmful for key neural structures (e.g. the hippocampus). Secure attachment is widely seen as a key contributor to healthy neural development (Grawe 2007; Hart 2011).

The need for control.

Epstein (1990, 1993) refers to this need as the most fundamental of all human needs. The

concept of control refers to the need to feel safe in the environment – the ability to manipulate the environment to sustain the probability to exist and not to run the risk of non-being. It is not the same as homeostasis – it rather links with the concept of the availability of the maximum number of options available. Neural functioning flourishes in the presence of the maximum availability of options. The chemical releases linked to the stress response are down-regulated. This results in more neural sprouting and enhanced plasticity, and cortical maturation steps up. As soon as some of the available options are jeopardised or violated, neural functioning changes (consider a significant drop in share prices for a retiree's sense of control; being diagnosed with cancer, losing a job etc.) (Murray 2010).

The need for self-esteem (feeling valued).

Traditionally, concepts like self-esteem and personality were seen as alien to neuroscience. They were more likely to be categorised as philosophical constructs. Recent neurobiological research, however, identified neural activity that can be directly related to these constructs. The need for self-esteem enhancement and protection can be linked directly to some neural processes (like aspects of the orbito frontal cortex functioning and aspects of hippocampal and prefrontal cortical activities). A reasonably well integrated sense of self is evident in effective neural activity and proliferation. Maximizing this basic need for self-esteem is essential to enhance well-being (Mruk 2006).

The need for pleasure maximization.

The need for pleasure maximization and distress avoidance is probably the most obvious among all the basic needs. In his famous "Principles of Morals and Legislation" (1789), English philosopher, social reformer and animal rights pioneer, Jeremy Bentham,

refers to these needs as the two “sovereign masters” that determine what and who we are and become. In its infancy, the need for pleasure maximization links closely with the role of key limbic structures to scan the environment and ensure the safety of the individual. In its essence distress avoidance is a matter of survival. As safety is secured, it shifts towards avoiding pain and distress, and maximizing well-being and pleasure. Research indicates that this principle is enhanced by effective neural networks between the limbic structures (especially the amygdala and hippocampus) and the anterior and pre frontal cortical areas. This is further enhanced by neurochemical changes. Increased flow of serotonin from lower brain regions to the neo cortex enhances communication and effective down-regulation of distress with effective problem-solving and social skills. Increased production of dopamine is linked with an enhanced sense of wellbeing, pleasure and reward (Kubovy 1999; Hoebel 1999).

Bullying and the basic needs.

The four basic human needs have deep-rooted neural networking implications. In a well-functioning brain, they facilitate effective neurochemical releases and neural development. Violation of any of these needs shifts neurochemical balances as well as neural connections resulting in significant changes. It is important to bear in mind that these needs do not imply static homeostasis. Healthy development implies the ability to effectively manage change – the concept of incongruence. The key is the ability to be able to control and manage the incongruence leading to effective adjustments and neural growth. When incongruence becomes **uncontrollable** (bullying results in the loss of **controllable incongruence** – normal stress situations), significant non-productive and/or harmful neural changes are facilitated – the outcome of uncontrollable incongruence.

Bullying and attachment.

The flipside of this need is the need not to experience situations of insecurity. Insecurity jeopardises basic safety and survival. Violation of this need results in significant up-regulation of early warning systems. On neurochemical levels, research indicates that violation of secure attachment leads to significant increases in the production of the stress chemicals – adrenocorticotrophic hormone, corticotrophin-releasing factor, adrenalin and cortisol. The more insecure the attachment, the stronger the cortisol release (Semrud-Clickerman & Ellison, 2009). The effect on neural development is also significant in insecure attachment. Duggan and colleagues (2009) found a reduction in the formation of effective memory systems and increased looping activity in the brain (Duggan et.al. 2009). This adversely affects neural development. Ongoing fulfilment of the attachment need is facilitated by key relationships.

Effective social relationships are extensions of the concentric circles of the essential relationship with the primary caregiver. Violations of this need in any of these circles feeds back into the neural circuitry of the attachment development. The implication is that the closer bullying occurs to the centre, the more profound the neural and neurochemical response (Murray, et al., 2006). Violation of this need by a primary carer (bullying at home) will result in more significant neurostructural and neurochemical changes than a brief bullying encounter by a total stranger.

Bullying and orientation and control.

Neural development is a fascinating process. It is an ongoing development of the brain to improve its memory systems (implicit and explicit) to maximise survival, the sense of being, environmental interaction and the sense

of future. Down-regulation of the fear responses at a very early age (i.e. the increased experience that basic needs are met), results in significant neural sprouting and activation (i.e. less defensive activations result in enhanced neural connectivity). Up-regulation of distress activates the survival mechanisms to the extent that neural growth is inhibited (Ireland and Pennebaker, 2010). The need for control is essential. It implies the absence of distress and trauma and that the presence of the maximum number of options is available (Judge & Bono, 2001).

Bullying violates the core of these needs. It up-regulates the fear response, triggers the stress systems and shifts neurochemical releases – less serotonin release, less communication to the prefrontal cortex, less cortical blood flow to the left prefrontal cortex (problem-solving skills), more norepinephrine release, more corticotrophin releasing factor release, more adrenocorticotrophic hormone release, increased production of adrenalin and cortisol. The result is an increased experience of uncontrollable incongruence that inhibits proliferation of open neural connections and growth, and an increased activation of neural loops. This results in a significant decrease in well-being (Murray et al 2010).

Bullying and Self-Esteem, Self-Esteem enhancement and Self-esteem protection.

Alfred Adler (1927) regarded striving to overcome inherent inferiority feelings as the most important source for human motivation. This uniquely human need develops in the interaction between an individual and its social environment. Language (verbal and non-verbal) plays a key role in the development of this need. Positive or negative experiences can strongly influence the formation of the sense of self (Mruk, 2006). Self-esteem builds on the two basic needs – attachment and control. A study at the Ohio State University found that students found positive feedback from peers

more than drinking alcohol, receiving a pay cheque, seeing a good friend, eating favourite food, or having sex (Bushman, Moeller, & Crocker, 2011).

Violation of this need lead to closed feedback loops in neural activation (the result of pain, hurt and the fear response). This reduces open neural activation, neural growth, and cortical blood flow to the frontal regions of the neo cortex, with accompanying impairments in the ability to problem solve and to use self-soothing strategies. These self-soothing strategies kick in when an individual has the capacity to activate higher GABA responses (self-calming); increase serotonin flow to the left pre frontal cortex (cognitive restructuring); and release dopamine (activating alternative reward systems).

Bullying, pleasure, pleasure maximization and distress avoidance.

This “mother of all needs” (Bentham, 1789) is probably the most obvious among the basic needs as it is accessible to observation. On neurostructural and neurochemical levels, studying this need is more complex. Evaluation of sensory information (which is part of the process of gene expression – the study of epigenetics) is predominantly not a conscious process – it establishes itself in implicit memory. Most of these pathways are well established within the first 10 months post-birth. Eventually, as a child matures more explicit memories get linked to these implicit systems. The need for pleasure and pleasure maximization develops “on top of” a well-established system of safety. An effectively down regulated limbic system (due to the presence of good attachment and control) and the development of positive, integrated self-esteem, activate the release of reward (sense of pleasure) linked to positive experiences. The absence of a down-regulated stress response (presence of violation of this need) leads to increased stress reactions and down-regulation of pleasure (e.g. little or no dopamine release).

Bullying changes the drive towards this need and it changes the down-regulated stress response and reactivates the fear response. This inhibits effective neural firing, neural growth and the proliferation of neural connections.

Bullying cuts a channel of despair, hopelessness and a low sense of self that up-regulates emotional and physical distress leading to an increased fear and stress response. This process reduces effective brain functioning resulting in decreased physical, emotional, social, cognitive and neural well-being.

Guidelines for Neuropsychotherapeutic Interventions

From a neuropsychotherapeutic perspective, it is clear that effective interventions need to address a number of key aspects that are deeply-rooted in neurobiology:

- ***The need to provide physical and emotional safety***

Without addressing physical/ emotional safety first, and generating a safe therapeutic environment, the basic fear/stress responses will not down-regulate/relax. This is essential for shifting neurochemical releases (less norepinephrine and stress activation and more serotonin and eventually, dopamine). This may imply a holistic systems approach where the trigger/s that activate the fear (bullying) responses are addressed. Without some intervention on this level the triggers may perpetuate the emotional/physical discomfort. Although the presentation may vary significantly from situation to situation, minimization of the trigger/distress needs to be part of the strategy as far as possible (consider a situation of abuse – ongoing exposure to the experience of distress means no neural changes will occur on cognitive or

frontal cortical areas due to the over-activation of more primitive neural systems).

- ***The need to up-regulate a sense of control***

The next step is for the clinician to identify specific strategies for a client in his/her unique situation to increase a sense of control. It is vital for a client to identify small steps toward increased levels of control. This process reduces the looping neural activity triggered by the stress response and opens neural activity towards more effective problem solving, cortical blood flow and dopamine release (positive reward experiences), increased GABA activation (sense of calm – a direct result of up regulation of control) and increased activation of the parasympathetic nervous system (through breathing exercises, relaxation, physical exercise, visualisation, systematic desensitization).

- ***The need to enhance neural growth and self-esteem***

Ultimately the goal of therapy is to:

- reduce symptoms (avoidance patterns due to the violation of basic needs);
- encourage approach patterns – the shift from uncontrollable incongruence to controllable incongruence; and
- facilitate new neural patterns.

The avoidance pattern that presents as a result of bullying can become an unhelpful default behaviour pattern of closed feedback loops leading to a preference not to reach out, not to engage, not to explore due to the up-regulated fear response (Lau 2012). This activity reduces neural activation and leads to enhanced isolation and decreased ability to utilise frontal cortical functions to effectively problem-solve. This process interrupts the power and ability of frontal cortical functioning (especially the left prefrontal cortex). Introduction of cognitive qualities, utilizing cognitive abilities to “override” more primitive “default” patterns is a powerful tool in the treatment process.

- **Bullying and pleasure, joy and distress avoidance**

Bullying erodes the fundamentals of neural growth. Neural growth is facilitated when the system experiences controllable incongruence. The ability to sense change and challenges, within the implicit experiences of safety and control, maximizes growth. This process minimizes the release of excessive stress hormones (CRF, ACTH and cortisol) and enhances the neural connections with reward (release of dopamine). Bullying tends to close the open neural activation process as the stress response becomes the dominant activation in an attempt to enhance the safety for the individual. Although this is an essential circuit to protect an individual from danger, bullying up-regulates the activity of this circuit and inhibits the operation of higher cortical functions.

The implication is that it inhibits effective social function, the formation of new memory connections and problem solving because it inhibits cortical blood flow to higher cortical areas. Ongoing exposure leads to closed neural looping resulting in avoidance behaviour patterns. This avoidance pattern is the result of the overactivity of the stress response that facilitates the reduction of effective cortical neural activation. In the absence of the ability to fulfil the need for pleasure and pleasure maximization, the opposite is facilitated – distress avoidance. Ongoing exposure leads to the pattern of avoidance to minimize distress experiences.

Top down or bottom up approach?

The guidelines discussed indicate that the preferred approach to manage bullying is a bottom-up approach rather than a top-down approach. Cognitive interventions that are introduced at the beginning of a therapeutic intervention may not be effective as the neural activation and facilitation of new explicit

memory systems are compromised due to up-regulation of distress (primitive/deep brain activity) and shifts in cortical blood flow away from (left) pre-frontal cortical areas. Once a safe therapeutic relationship is established and down-regulation of the fear response is effectively addressed, then the capacity of the brain to activate new neural connections and ultimately new pathways is facilitated (Rossouw, 2011). In this environment, cognitive, emotional and behavioural interventions can be successfully introduced.

References

- Adler, A. 1927. *Studie uber Minderwertigkeit von Organen*. Munich, Bergmann.
- Asbaugh, L & Cornell, D. 2008. Sexual harassment and bullying behaviours in sixth graders. *Journal of School Violence*, 7: 21-38.
- Bentham, J. 1789. Principles of Morals and Legislation. Complete manuscript, Internet public domain.
- Branson, C. & Cornell, D. 2009. A comparison of self and peer reports in the assessment of middle school bullying. *Journal of Applied Psychology*. 25: 5-27.
- Bushman, B. J., Moeller, S. J., & Crocker, J. 2011. Sweets, sex, or self-esteem? Comparing the value of self-esteem boosts with other pleasant rewards. *Journal of Personality*, 79, 993-1012.
- Duggan, A. et. al. 2009. Examining Maternal Depression and Attachment Insecurity as Moderators of the Impacts of Home Visiting for At-Risk Mothers and Infants. *Journal of Consulting and Clinical Psychology*. 77: 788-799.
- Epstein, S. 1990. Cognitive-experiential self-theory. In Pervin, L.A. *Handbook of personality: Theory and research*. 165-192. New York, Guilford.
- Epstein, S. 1993. Implications of cognitive-experiential self theory for personality and developmental psychology. In Funder, D.C., Parke, R.D., Tomlinson-Keasey, C., Widaman, K. (eds). *Studying lives through time: Personality and development*. 399-438. Washington, APA

- Grawe, K. 2007. *Neuropsychotherapy. How neurosciences inform effective psychotherapy*. New York, Taylor & Francis.
- Hart, S. 2011. *The Impact of Attachment*. New York, W.W. New York.
- Hoebel, B.G., et al. 1999. Neural systems for reinforcement and inhibition of behaviour: relevance to eating, addiction, and depression. In Kahneman, D., Diener, E., Swarz, N. (eds). *Well-being: The foundation of hedonic psychology*. (558-569). New York, Russel Sage.
- Ireland, M.E., Pennebaker, J.W. 2010. Language style matching in writing: Synchrony in essays, correspondence, and poetry. *Journal of Personality and Social Psychology*, 99. 549-571.
- Judge, T. A., Bono, J.E. 2001. Relationship of core self-evaluations traits - self-esteem, generalized self-efficacy, locus of control, and emotional stability - with job satisfaction and job performance: a meta-analysis. *Journal of Applied Psychology*. 86: 80-92.
- Lau, Y.F. et.al. 2012. Neural responses to peer rejection in anxious adolescents. Contributions from the amygdala-hippocampal complex. *International Journal of Behavioral Development*. 36:36-44.
- Kubovy, M. 1999. On the pleasure of the mind. In Kahneman, D., Diener, E., Schwartz, N. (eds.). *Well-being. The foundations of hedonic psychology*. New York, Russel Sage.
- MacLean, P.D. 1990. *The Triune Brain in Evolution: Role in Paleocerebral Functions*. New York Plenum Press.
- Masten, C.L. et al. 2009. Neural correlates of social exclusion during adolescence: understanding the distress of peer rejection. *Social Cognitive and Affective Neuroscience*. 4: 143-157.
- Mruk, C.J. 2006. *Self-Esteem. Research, Theory and Practice: Toward a Positive Psychology of Self-Esteem*. New York, Springer.
- Murray, L., et.al. 2006. Socioemotional development in adolescents at risk for depression: The role of maternal depression and attachment style. *Development and Psychopathology* 18: 489–516.
- Murray, S.A. et. al. 2010. *The Effects of Acute Stress on Cognitive Performance*. University California, San Diego.
- Rossouw, P.J. 2011. The Triune Brain – Implications for Neuropsychotherapy. *Neuropsychotherapy News*. 5: 2-4.
- Rossouw, P. J. 2011e. The World as One. The Neuroscience of Interconnectedness. (12th International Mental Health Conference, 24-26 August 2011) Gold Coast, QLD, Aus.
- Rudy, J.W. 2008. *The Neurobiology of Learning and Memory*. Massachusetts, Sinauer Publishers.
- Semrud-Clickeman, M., Ellison, P.A.T., 2009. *Child Neuropsychology. Assessment and Interventions for Neurodevelopmental Disorders*. New York, Springer.
- Sporns, O. 2011. *Networks of the Brain*. Cambridge, MIT Press.

Dinah Maria Mulock Craik

(1826-1887)

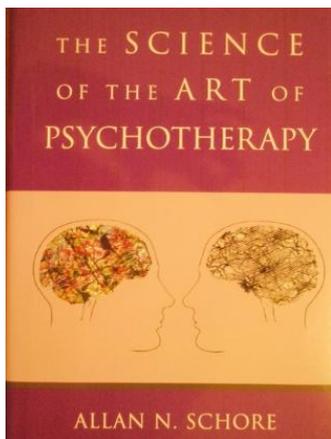
from A Life for a Life

*Oh, the comfort —
the inexpressible comfort of feeling safe
with a person —
having neither to weigh thoughts nor
measure words,
but pouring them all right out,
just as they are,
chaff and grain together;
certain that a faithful hand
will take and sift them,
keep what is worth keeping,
and then with the breath of kindness
blow the rest away*

BOOK REVIEW

The SCIENCE of the ART of PSYCHOTHERAPY

Allan N. Schore. 2012.
Norton & Company. NY.



This book – a companion to Schore's *Affect Dysregulation and Disorders of the Self* and *Affect Regulation and Repair of the Self* – provides a window into the ground breaking ideas of one of the best-known writers on

the hottest topics in psychotherapy: attachment, developmental neuroscience, trauma, and the developing brain.

The Science of the Art of Psychotherapy offers a representative collection of essential expansions and elaborations of regulation theory, all written since 2005. Schore presents a model of brain/mind/body changes not only in the patient but also in the therapist, addressing the development of therapeutic expertise and how clinical experience can have a neurobiological effect on the therapist.

This first part of the book, *Affect Regulation Therapy and Clinical Neuropsychanalysis*, covers the art of the craft of psychotherapy, offering interpersonal neurobiological models of the change mechanism in the treatment of patients, especially those with a history of early relational trauma.

These chapters contain contributions on modern attachment theory and its focus on the essential nonverbal, unconscious affective mechanisms that lie beneath the

words of the patient and therapist; on clinical neuropsychanalytic models of working with relational trauma and pathological dissociation; and on the use of affect regulation therapy in the emotionally stressful, heightened affective moments of clinical enactments.

The second part of the book, *Developmental Affective Neuroscience and Developmental Neuropsychiatry*, addresses the science that underlies regulation theory's clinical models of development and psychopathogenesis, and the wide-ranging applications of the theory's interpersonal neurobiological model of emotional and social development. For mental health practitioners who are actively involved in child, adolescent, and adult psychotherapeutic treatment, there is an emphasis on the problem of early intervention and prevention. Each chapter represents a further development of regulation theory, presented in chronological order.

A pioneer in the study of the development of the self, Schore integrates biology and psychology to understand unconscious processes, describes human emotional functioning throughout lifespan, and ultimately arrives at a new paradigm for psychotherapy that is rooted in a deep understanding of the human condition.

Allan N. Schore, PhD, is on the clinical faculty of the University of California at Los Angeles David Geffen School of Medicine.

He is the author of *Affect Regulation and the Origin of the Self*, *Affect Regulation and the Repair of the Self*, and *Affect Dysregulation and Disorders of the Self*, the editor of the Norton Series on Interpersonal Neurobiology, and has been in private psychotherapy practice for over four decades.

Mediros Workshop dates 2012
(register at www.mediros.com.au)

Two Day Workshops

**The Brain and Anxiety –
Utilizing Neurobiological Information as
Psychotherapeutic Tool**

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

- 28,29 April 2012 – Sydney
- 20,21 April – Melbourne
- 1,2 June - Brisbane

**The Neuroscience of Depression –
New Opportunities for Effective Treatment**

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

- 11,12 May 2012 – Perth
- 18,19 May 2012 – Canberra
- 25,26 May 2012 – Adelaide
- 15,16 June 2012 – Melbourne
- 22,23 June 2012 – Sydney
- 6,7 July 2012 – Brisbane
- 13,14 July 2012 – Hobart

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

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

- 7,8 September 2012 – Melbourne
- 14,15 September 2012 – Brisbane
- 21,22 September 2012 – Perth
- 12,13 October 2012 – Adelaide
- 26,27 October 2012 – Canberra
- 2,3 November 2012 - Sydney
- 9,10 November 2012 – Hobart

One-Day Skills workshops

**Focused Neuropsychotherapy – Applied
strategies for the treatment of Anxiety –
skills based training**

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

**APS Endorsed—6 CPD Hours
(CCLIN, CCOUN, CCOM)**

- 24 March 2012 - Brisbane
- 14 April 2012 – Adelaide
- 2 May 2012 – Melbourne
- 30 June 2012 – Perth
- 21 July 2012 – Sydney
- 1 September 2012 – Canberra

**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

- 18 August 2012 - Adelaide
- 27 September 2012 - Sydney
- 5 October 2012 – Hobart
- 17 November 2012 – Melbourne
- 1 December 2012 – Canberra
- 8 December 2012 – Brisbane
- 15 December 2012 – Perth