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National Centre of Excellence  
for Complex Trauma

**THE TRUTH OF MEMORY AND THE  
MEMORY OF TRUTH:**  
**DIFFERENT TYPES OF MEMORY AND  
THE SIGNIFICANCE FOR TRAUMA**



**BLUE KNOT FOUNDATION**

*empowering recovery from childhood trauma*

The Truth of Memory and the Memory of Truth: Different  
Types of Memory and the Significance for Trauma

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# Blue Knot Foundation

Blue Knot Foundation is Australia's National Centre of Excellence for Complex Trauma, empowering recovery and building resilience for the five million adult Australians (1 in 4) with a lived experience of childhood trauma (including abuse), their families and communities.

Formed in 1995, Blue Knot Foundation provides a range of services including:

- specialist trauma counselling, information, support and referrals
- educational workshops for survivors and their family members, partners and loved ones
- professional development training for workers, professionals and organisations from diverse sectors
- group supervision
- consultancy
- resources including fact sheets, videos and website information at [www.blueknot.org.au](http://www.blueknot.org.au)
- advocacy
- research

At the forefront of pioneering trauma-informed policy, practice, training and research, Blue Knot Foundation actively supported the work of the Royal Commission into Institutional Responses to Child Sexual Abuse and the people engaging with it.

In 2012, Blue Knot Foundation released *Practice Guidelines for Treatment of Complex Trauma and Trauma-Informed Care and Service Delivery* [www.blueknot.org.au/guidelines](http://www.blueknot.org.au/guidelines). These nationally and internationally acclaimed guidelines were a global first in setting the standards for clinical and organisational practice. In 2015, Blue Knot Foundation released an Economic Report, *The Cost of Unresolved Childhood Trauma and Abuse in Adults in Australia* to present the economic case for providing appropriate trauma-informed services for adult survivors. This publication was followed in 2016 by *Trauma and the Law – Applying Trauma-informed Practice to Legal and Judicial Contexts*. In 2017-18 Blue Knot Foundation is releasing its *Talking about Trauma* series.

For more information, visit [www.blueknot.org.au](http://www.blueknot.org.au). If you need help, information, support or referral, call Blue Knot Helpline on 1300 657 380 or email [helpline@blueknot.org.au](mailto:helpline@blueknot.org.au) between 9am-5pm Monday to Sunday AEST/ADST.

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# Executive Summary

Becoming informed about trauma ('trauma-informed') requires basic knowledge about the nature of memory. As with research findings on the brain - with which it overlaps - research into the workings of memory is rapidly expanding.

Neuroscientific and other research confirms that memory is not a single entity. Rather it comprises different types of memory which do not relate solely to conscious recall. The different types of memory are associated with complex neural networks and are stored in different areas of the brain.

This has major implications not only for our understanding of memory, but for our understanding of the challenging experience of *traumatic* memory, the ways in which it is expressed, and ways in which it can be resolved.

This report presents and discusses current research findings around the nature, process, and functions of memory, with particular emphasis on traumatic memory. These research insights are important for legal and health professionals as well as the general public. Misconceptions about memory are common. They can also be costly for individuals, systems of care and justice and society as a whole, and have far-reaching repercussions.

The material presented here has urgent practical implications. This is because better understanding of traumatic memory will enhance processes of support and justice as well as informed outcomes for the many people who are struggling with its disabling impacts.

**Dr Cathy Kezelman AM**  
President  
Blue Knot Foundation

Sydney, February 2018

## Different types of memory: *explicit* and *implicit*

*Broadly speaking, there are two types of memory: those that are explicit and those that are implicit, the former being conscious and the latter relatively unconscious.*

(Levine, 2015: 15)

*[C]onscious explicit memory is only the tip of a very deep and mighty iceberg.*

(ibid: xxii)

Neuroscientific and other research confirm that memory is not a single entity all of which can be recalled at will.<sup>1</sup> Complex neural networks are associated with *different types* of memory which are stored in different areas of the brain.<sup>2</sup>

There are two main types of memory or memory systems: *explicit* (conscious) and *implicit* (relatively unconscious) memory.<sup>3</sup> *Explicit* memory refers to conscious recollection ('when we remember our trip to Paris or recognize that some words occurred in a recent list, these are instances of explicit memory').<sup>4</sup> Significantly, 'most typical measures of [memory] retention that psychologists have used over the years (recall, recognition, and their variations) are examples' (of *explicit memory*).<sup>5</sup> By contrast, *implicit* memory 'refers to cases of past experience being deployed in the service of a task that seems unrelated to remembering', and where we 'may not be aware of using memory at all'.<sup>6</sup>

Examples of an *explicit* memory are conscious recall of our first meeting with our partner's parents, or of items on the shopping list we wrote before leaving for work (note that these are also contrasting illustrations and that explicit memory can be further divided into subcategories; see subsequent discussion). Examples of an *implicit* memory are a sense of familiarity when we smell a particular fragrance, and our ability to perform certain tasks such as making our regular breakfast (note, too, that these are likewise contrasting illustrations, and that implicit memory can also be divided into subcategories; see next page).

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<sup>1</sup> Current research supports prior realisations from a long time ago - '[S]ince the late nineteenth century, the study of memory has produced descriptions of several forms of memory, suggesting that memory is not a unitary entity but more likely a multidimensional function consisting of various domains and representations of recollections' (James A, Chu, ref. Polsten, Nadel, & Schacter, 1991, *Rebuilding Shattered Lives*, New Jersey: John Wiley 2011, p.94).

<sup>2</sup> For brief, generalist, and accessible introductions to this complex topic, see Amy Reichelt, 'We're capable of infinite memory, but where in the brain is it stored, and what parts help retrieve it?', *The Conversation* (27 September 2016) <http://theconversation.com/were-capable-of-infinite-memory-but-where-in-the-brain-is-it-stored-and-what-parts-help-retrieve-it-63386> and 'Where are Memories Stored in the Brain?' Queensland Brain Institute, University of Queensland <https://qbi.uq.edu.au/brain-basics/memory/where-are-memories-stored>

<sup>3</sup> The terms 'explicit' and 'implicit' memory were introduced in 1985 by Graf and Schacter in the *Journal of Experimental Psychology* (full reference appears at the end of this paper). While comprising respective subcategories (see subsequent discussion) the broad distinctions between 'explicit' (conscious) and 'implicit' (relatively unconscious) memory are now widely referenced by otherwise diverse researchers and clinicians.

<sup>4</sup> Henry Roediger et al. 'A Typology of Memory Terms', in John Byrne, ed. *Learning and Memory* (Academic Press, Oxford, 2017), p.8.

<sup>5</sup> Roediger et al, 'A Typology of Memory Terms', ibid, pp.8-9.

<sup>6</sup> Roediger et al, referencing Jacoby, 1984, p.9.

*'When we recall a past experience with a subjective sense that we are remembering something, we are retrieving explicit memory'.  
(Ogden, Minton & Pain, 2006:236)*

By contrast, *implicit* memory relates to experiences *'that are not accompanied by an internal sense that something from the past is being remembered'*.  
(Ogden et al, referencing Siegel (1999, 2001), *ibid*, p.236)

*Implicit memory is largely unconscious and non-verbal.*

These two memory systems; i.e. explicit and implicit, serve separate functions in helping us navigate life's challenges, and are *'mediated by distinct neuro-anatomical brain structures'*.<sup>7</sup>

*Explicit*, conscious memories i.e. facts, information and consciously recollected experience are also generally *verbally accessible* ('VAMS') (*'I remember when...'*).<sup>8</sup> This contrasts with *implicit* memories which are often *situationally accessible memories* ('SAMS')<sup>9</sup> elicited by environmental prompts such as a fragrance, sight or sound. Implicit memories are also *'primarily organized around emotions and/or skills, or 'procedures' - things that the body does automatically'*.<sup>10</sup> Implicit *'procedural'* memories are *'deeply embodied resources in the forward movement of our lives'*.<sup>11</sup>

*'The kind of memory that enables us to ride the bike is called implicit memory; our ability to recall the day we were taught to ride is explicit memory'.*

(Siegel, 2010:149)

*The word 'memory' is generally used to refer solely to explicit, conscious memory. Explicit memory is also often misleadingly regarded as more important than implicit, unconscious memory.*

Conscious, explicit memory is central to the recollection of facts and events, and to the exchange of information.<sup>12</sup> It is also highly valued in academic and professional life. Both legal and health professionals tend to overemphasise explicit memory at the expense of implicit memory.<sup>13</sup> Explicit memory *'barely hints at the submerged strata of primal implicit experience that moves and motivates us in ways that the conscious mind can only begin to imagine'*.<sup>14</sup>

Western culture and ideology celebrate the conscious mind in which we are aware and *'in control'* of our intentions and actions.<sup>15</sup> The liberal ideology of Western societies privileges thought, cognition and *'reason'* as a feature of purposeful, autonomous individuals.<sup>16</sup>

<sup>7</sup> Peter Levine, *Trauma and Memory: Brain and Body in a Search for the Living Past* (Berkeley, CA: North Atlantic Books, 2015), p.15.

<sup>8</sup> John Arden referencing C.R. Brewin, 2005, 'PTSD, Neurodynamics and Memory', *Psychotherapy in Australia* (Vol.17, No.2, 2011), pp.14-24.

<sup>9</sup> Arden, 'PTSD, Neurodynamics and Memory', *ibid*.

<sup>10</sup> Levine, *Trauma and Memory*, p.21.

<sup>11</sup> Levine, *Trauma and Memory*, p.31.

<sup>12</sup> Levine, *ibid*, p.16; Roediger et al, 'A Typology of Memory Terms', *ibid*.

<sup>13</sup> As Levine says: '[p]erhaps more than we might wish to admit, many therapists are influenced by common misconceptions about the nature of memory. Traditionally, both academic and clinical psychologists have tended to study what has been called *'verbally accessible memory'*. This *'declarative'* form of memory is called upon and rewarded in elementary, middle, and high school, as well as in undergraduate and graduate studies. No small wonder then that psychologists and psychotherapists, as products of academia, tend to reflexively identify with this particular kind of conscious memory.' (Levine, *Trauma and Memory*, p.xxii).

<sup>14</sup> Levine, *Trauma and Memory*, p.xxii.

<sup>15</sup> For elaboration and powerful critique of this conception, see John Ralston Saul, *Voltaire's Bastards: The Dictatorship of Reason in the West* (New York: Simon and Schuster [1992] 2013).

<sup>16</sup> Ralston Saul, *ibid*. A landmark text draws a notable link between emphasis on the autonomous self and the high rates of depression in Western societies (Christopher Peterson, Steven Maier & Martin Seligman, *Learned Helplessness: A Theory for the Age of Personal Control*, New York: Oxford University Press, 1993).

A culture which elevates intentionality, purposeful action, and control tends to shy away from the reality of *unconscious* processes, and the myriad aspects of life and functioning over which we have no conscious control.

A range of activities occur unconsciously (e.g. sleeping). But reference to 'the unconscious' can disturb our view of ourselves as rational, purposeful, and active agents in our own lives.

Not taking sufficient account of *unreflective, habitual, unconscious processes and memory*<sup>27</sup> underestimates their role and power:

'[R]ecent discoveries in the field of brain science allow us to understand the differences between implicit and explicit memory, as well as to grasp how implicit memory can influence our present without our awareness that something from the past is affecting us'.  
(Siegel, 2010: 149)

### ***DIFFERENT TYPES OF MEMORY: EXPLICIT AND IMPLICIT***

- Memory is not a single entity which only relates to conscious recall. *Different types* of memory are associated with complex *neural networks* and stored in different areas of the brain
- 'Explicit' memory is *conscious* while 'implicit' memory is largely *unconscious*
- *Explicit* (conscious) memory can generally be expressed verbally while *implicit* (largely unconscious) memory is not verbalised
- *Implicit* memories are elicited by environmental cue/s such as a fragrance, sight or sound, and embodied in activities (e.g. sleeping) which occur without conscious awareness
- Everyday and academic/professional use of the word 'memory' generally refers only to conscious, explicit memory. This ignores the ongoing power of implicit memories which '*are primarily organized around emotions and/or skills or 'procedures' – things that the body does automatically*'. (Levine, 2015: 21)

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<sup>27</sup> Which reflects the underpinning liberal ideology of Western societies in which thought, cognition and 'reason' are regarded as the salient characteristics of the autonomous individual (Ralston Saul, *ibid*; Peterson, Maier & Seligman, *ibid*). Also see Iain McGilchrist, *The Master and his Emissary: The Divided Brain and the Making of the Western World* (New Haven: Yale University Press, 2009).



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## Subcategories of explicit and implicit memory

Each of explicit and implicit memory include 'at least two broad subcategories'.<sup>18</sup> The following information is primarily drawn from the work of American trauma researcher and clinician Peter Levine, because his account of the subsystems of memory is particularly clear and succinct.<sup>19</sup>

### Explicit memory: *declarative* and *episodic*

Explicit memory can be classified into two main subcategories: *declarative* and *episodic*.<sup>20</sup>

#### Explicit memory subcategory 1: 'declarative'

*Declarative* (also called 'semantic') memory is the most familiar form of explicit (i.e. conscious) memory. Declarative memories are described by Levine as 'the laundry and shopping lists of the memory world'.<sup>21</sup> This is the only type of memory that can be actively and deliberately called up (and 'declared'). Declarative memories 'allow us to consciously remember things and to tell reasonably factual stories about them...with beginnings, middles, and ends'.<sup>22</sup> Their main function is 'to communicate discrete pieces of information' to others.<sup>23</sup> As the most conscious and voluntary types of memory, declarative memories are also 'the least compelling and enlivening' and can be described as 'cold' for this reason.<sup>24</sup>

#### Explicit memory subcategory 2: 'episodic'

By contrast, *episodic* memory (also called 'autobiographical'<sup>25</sup> or 'narrative') can be described as 'warm' and textured.<sup>26</sup> Rather than being called up deliberately, episodic memory 'emerges somewhat spontaneously as representative vignettes from our lives [and] generally convey a vague feeling tone, often infused with a dreamlike quality'<sup>27</sup>: 'Episodic memories are often infused with feeling tones and vitality, whether of positive or negative valence, and richly encode our personal life experiences'.<sup>28</sup>

Less conscious than the 'shopping list' type of declarative memories (but 'more conscious...than implicit memories'), it is common to 'hazily drift with episodic memories, in and out of recollection'.<sup>29</sup> Episodic memory refers both to 'memory for particular events situated in space and time', and to 'the underlying cognitive processes and neural mechanisms involved in remembering these events'.<sup>30</sup>

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<sup>18</sup> Peter Levine, 'The Fabric of Memory', ch.2 in Levine, *Trauma and Memory* (Berkeley, CA: North Atlantic Books, 2015), p.15.

<sup>19</sup> Levine, *Trauma and Memory*, *ibid*. Readers seeking further information and detail regarding the neurology of memory should consult Byrne, ed. *Learning and Memory: A Comprehensive Reference*, *ibid*, and the reference list and additional sources which inform this paper.

<sup>20</sup> Levine, 'The Fabric of Memory', p.15.

<sup>21</sup> Levine, 'The Fabric of Memory', pp.15-16.

<sup>22</sup> Levine, 'The Fabric of Memory', p.16.

<sup>23</sup> Levine, 'The Fabric of Memory', p.16.

<sup>24</sup> Levine, 'The Fabric of Memory', p. 16.

<sup>25</sup> As per the visual infographic 'How Trauma Impacts Four Different Types of Memory', NICABM, 2017 [www.nicabm.com](http://www.nicabm.com) and other sources referenced in this document.

<sup>26</sup> Levine, 'The Fabric of Memory', p.16.

<sup>27</sup> Levine, 'The Fabric of Memory', p.17.

<sup>28</sup> Levine, 'The Fabric of Memory', p.16.

<sup>29</sup> Levine, 'The Fabric of Memory', p.17.

<sup>30</sup> Roediger et al, 'A Typology of Memory Terms', *ibid*, p.15.

It thus forms 'a dynamic interface between the 'rational' (explicit/declarative) and 'irrational' (implicit/emotional) realms'; an 'intermediary function' which promotes the formation of coherent narratives<sup>31</sup> that helps us 'make sense' of our lives and which is essential both to general well-being and to trauma recovery.<sup>32</sup>

Levine notes that while our earliest episodic memories are widely considered to date from around the age of three and a half (i.e. when the hippocampus, part of the limbic system in the brain, 'becomes significantly functional') there is evidence that they may date from an even earlier age.<sup>33</sup>

## Implicit memory: 'emotional' and 'procedural'

Implicit memory is very different from both declarative and episodic explicit memory:

[Implicit] memories cannot be called up deliberately or accessed as 'dreamy' reminiscences. Instead, they arise as a collage of sensations, emotions, and behaviours. Implicit memories appear and disappear surreptitiously, usually far outside the bounds of our conscious awareness. They are primarily organised around emotions and/or skills, or 'procedures'- things that the body does automatically (sometimes called 'action patterns')

(Levine, 2015: 21)

The two subcategories of implicit memory – i.e. 'emotional' and 'procedural' – intermingle. But Levine initially describes them separately, because while '*emotional*' memories powerfully impact human behaviour, the impacts of '*procedural*' memories are even greater.<sup>34</sup> Procedural memories are also those most deeply implicated in the context of traumatic memory.

### Implicit memory subcategory 1: 'emotional'

'It is crucial to appreciate that emotional memories are experienced in the body as physical sensations'.

(Levine, 2015:22)

All mammals universally share the instincts of emotions (as described by Levine and referencing Darwin).<sup>35</sup> They are generally depicted as encompassing *joy, sadness, fear, anger, disgust* and *surprise*.<sup>36</sup> As such, they provide 'both relevant survival and social-based data to inform appropriate responses in any given situation'.<sup>37</sup> Emotions put us in touch with what we are feeling and help us signal our feelings and needs to others. Not only do we share our emotions through facial and postural

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<sup>31</sup> Levine, 'The Fabric of Memory', p.16.

<sup>32</sup> Levine, 'The Fabric of Memory', pp.16-17; also see Daniel J. Siegel, 'An Interpersonal Neurobiology of Psychotherapy: The Developing Mind and the Resolution of Trauma', in Marion Solomon and Dan Siegel, *Healing Trauma* (New York: Norton, 2003), p.16.

<sup>33</sup> Levine, 'The Fabric of Memory', p.20. With his mother's corroboration, Levine dates his own earliest memories to around two and a half years (ibid, pp.20-21).

<sup>34</sup> Levine, 'The Fabric of Memory', p.22.

<sup>35</sup> Levine, 'The Fabric of Memory', p.22.

<sup>36</sup> Levine, 'The Fabric of Memory', p.22. Significantly, Levine includes *curiosity, excitement, gladness* and *triumph* among these innate emotions (ibid)

<sup>37</sup> Levine, 'The Fabric of Memory', p.22.

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expression, but also through 'the patterned feedback to our brain from receptors in our activated facial and postural muscles' as well as 'feedback from our autonomic nervous system'.<sup>38</sup>

Emotional resonance (the capacity to respond to the emotions of others) and higher-order functions such as reflecting and planning help us share our internal worlds ('inter-subjectivity').<sup>39</sup> It is important to recall that emotions and emotional memories '*are experienced in the body as physical sensations*'.

<sup>40</sup> This key point, often lost when conscious, explicit memory alone<sup>41</sup> is emphasised is critical to understanding of trauma and traumatic memory.

## Implicit memory subcategory 2: 'procedural'

'[T]he deepest strata of memory [is] the embedded layer of procedural memories'

(Levine, 2015: 24)

'While emotional memories are 'flags', procedural memories are the impulses, movements, and internal body sensations that guide us through the *how to* of our various actions, skills, attractions, and repulsions'.

(Levine, 2015:25)

The initial conceptualisation of *procedural* memory (sometimes described as non-declarative) referenced 'knowing how' as distinct from the declarative memory function of 'knowing that': <sup>42</sup> 'For example, we know *that* Washington, D.C., is the capital of the United States, but we know *how* to tie our shoes'.<sup>43</sup>

As memory researchers point out, procedural memory 'was originally intended to cover motor skills, such as tying shoes, riding a bicycle, or typing... but it was broadened to cover mental as well as physical procedures'.<sup>44</sup> Levine subdivides the subcategory of 'procedural' implicit memory into three groupings:

- (i) learned motor actions
- (ii) hardwired emergency responses
- (iii) response tendencies of *approach or avoidance* and *attraction or repulsion*

The first grouping of *learned motor actions* describes the 'action patterns' of skills such as dancing, skiing and bike riding. As Levine points out, such 'action patterns' can also be refined and 'continuously modified by higher brain regions'<sup>45</sup> (e.g. synchronisation of tango steps in a dance routine).

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<sup>38</sup> Levine, 'The Fabric of Memory', p.24.

<sup>39</sup> Levine, 'The Fabric of Memory', pp.23-24.

<sup>40</sup> Levine, 'The Fabric of Memory', p. 22.

<sup>41</sup> i.e. the more 'familiar' and verbally accessible variety of memory which, as Levine also underlines, is privileged in public and professional culture alike (Levine, *Trauma and Memory*, p.xxii, and see previous and subsequent discussion).

<sup>42</sup> Roediger et al (referencing Ryle, 1949 for the initial conceptualisation), 'A Typology of Memory Terms', *ibid*, p.10.

<sup>43</sup> Roediger et al, 'A Typology of Memory Terms', *ibid*; emphasis added,

<sup>44</sup> Roediger et al (referencing Ryle, 1949), 'A Typology of Memory Terms', *ibid*, p.10.

<sup>45</sup> Levine, 'Procedural memory', in *Trauma and Memory*, p.25.

The second grouping of *hardwired emergency responses* relates to the basic instinctual survival responses in the face of threat. They include the 'fixed action patterns' of 'bracing, contracting, fighting, fleeing, and freezing, as well as the setting and maintenance of territorial boundaries'.<sup>46</sup> 'It is also the case that 'compelling instinctual emergency responses play a crucial role in the formation and resolution of traumatic memories':<sup>47</sup> *'Of all the memory subsystems, those of the instinctual survival reactions are the deepest, most compelling, and in times of threat and stress, generally override the other implicit and explicit memory subtypes'*.<sup>48</sup>

Levine describes a third grouping of procedural memory. The response tendencies of *approach/avoidance* and *attraction or repulsion* are 'the action blueprints of all living organisms' and 'form the underlying primitive motivational rudders in our lives'.<sup>49</sup> *Avoidance* mechanisms include 'the motor acts of stiffening, retracting, and contracting', while 'mechanisms of *approach* involve expanding, extending, and reaching'.<sup>50</sup>

'Patterns of attraction include reaching for a person close to us or moving toward things we want in our lives. Those patterns of avoidance include steering clear of foods that don't smell or taste right, or avoiding individuals who seem 'emotionally toxic' to us'.

(Levine, 2015: 26)

Delineating the groupings within procedural memory is critical to understanding traumatic memory as well as aspects of functioning essential to maintaining well-being.

Understanding the core distinction between explicit and implicit memory, and their various subcategories and groupings, helps build our awareness of the contrasting and complementary functions of the subsystems of memory.

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<sup>46</sup> Levine, 'Procedural memory', p.25.

<sup>47</sup> Levine, 'Procedural memory', p.25.

<sup>48</sup> Levine, *Trauma and Memory*, p.37.

<sup>49</sup> Levine, 'Procedural memory', 26; emphasis added.

<sup>50</sup> Levine, 'Procedural memory', p.26.

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## Explicit and implicit memory involve different areas and processes of the brain

*Conscious explicit* and *unconscious implicit* memory involve different areas of the brain and neural functioning.

The 'behavioural reactions'<sup>51</sup> of *implicit procedural* memory are 'bottom up'; i.e. they derive from the subcortical region of the brain which evolved first. Implicit, somatic memory (e.g. '*the smells and tastes and sounds of home and parents*'<sup>52</sup>) starts earlier in life and before cognition develops. *Implicit memories begin to form even before birth.*<sup>53</sup>

By contrast, *explicit* conscious memory develops along with the hippocampus in the second year of life.<sup>54</sup>

*By that time we have absorbed considerable sensory input, including* from our earliest pre-verbal experiences with our early caregivers. Such experience does not simply 'disappear' when the hippocampus develops, when we begin to verbalise, and when we become capable of conscious thought and recall: '*all aspects of the self are forms of implicit memory stored in neural networks that organize emotion, sensation, and behaviour*'.<sup>55</sup>

The hippocampus encodes and consolidates conscious, explicit memory. We need to pay attention for this to occur (i.e. for conscious memory to form). By contrast, implicit, unconscious memory is encoded *without the need for focused attention*.<sup>56</sup>

*Implicit memory is laid down before explicit memory. The pre-verbal, pre-cognitive experiences and sensations of infancy form the foundation of subsequent cognitive development. We feel before we think.*

### **MEMORY, BRAIN DEVELOPMENT AND STRUCTURE**

- Conscious recall depends on the development of the hippocampus in the second year of life. *We develop implicit* memory before explicit memory.
- Health and legal professionals and society as a whole often regard explicit memory and verbalisation as more important than *implicit memory* (Levine, 2015) which is *activated and develops first* but not expressed in words.
- Implicit, pre-verbal memories do not 'disappear' when the hippocampus develops, when we start to verbalise, and when we become capable of conscious thought and recall. Rather they are stored in different neural networks.
- In contrast to conscious, explicit memory - which requires focused attention to consolidate - implicit memory is absorbed and encoded outside of awareness.

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<sup>51</sup> Daniel J. Siegel, *Pocket Guide to Interpersonal Neurobiology* (New York: Norton, 2012), p.30-3.

<sup>52</sup> Daniel J. Siegel, *Mindsight: Change Your Brain and Your Life* (Melbourne: Scribe, 2010), pp.149-150.

<sup>53</sup> Siegel, *Mindsight*, p.149. While implicit memories are encoded throughout life, 'in the first eighteen months many researchers believe we encode only implicitly' (ibid).

<sup>54</sup> Siegel, *Pocket Guide to Interpersonal Neurobiology*, p.30-2.

<sup>55</sup> Louis Cozolino, *The Neuroscience of Psychotherapy: Building and Rebuilding the Human Brain* (New York: Norton), p.233.

<sup>56</sup> Siegel, *Pocket Guide to Interpersonal Neurobiology*, p.30-4 and *Mindsight*, p.151.

Memory is not, therefore, 'a discrete phenomenon, a fixed construction, cemented permanently onto a stone foundation'.<sup>57</sup> As discussed, it is complex and involves different types and subcategories which function in different ways.

It is also vitally impacted by the three processes of *encoding*, *consolidation*, and *retrieval*.

- The first of these - *encoding* (also known as *formation*) describes the original neural laying down of memory
- The second - *consolidation* (also known as *retention*) relates to the stabilisation and storage of memory (a process to which the hippocampus is central) after its initial encoding
- The third – *retrieval* (also known as *recall*) describes the remembering, revival or restoration to consciousness of the memory which was first encoded and subsequently consolidated

It is critical to be aware that '[w]hen memories are retrieved, they are susceptible to change, such that future retrievals call upon the changed information'.<sup>58</sup> The term for this is reconsolidation', which 'ensures the restabilisation and updating of memories':<sup>59</sup>

'People shape their memories of past events into cohesive and coherent personal narratives. *Reliable memory reports about the core actions and features of an event are often accompanied by minor inconsistencies. Normal adult autobiographical memory often includes self-contradictions* about dates, times and the number of people present at an event. People are particularly poor at reconstructing the time frame of an event. As a result, common errors arise through transposing a memory from one time frame to another'

(Goodman-Delahunty et al, 2017: 49, referencing the British Psychological Society Research Board, *Guidelines on Memory and the Law: Recommendations from the Scientific Study of Human Memory*, British Psychological Society 2010, 2, pp.10-11; emphasis added).

Research substantiates that '[m]emory is a reconstructive process', such that 'no memory is a literal account, nor an exact replica, of an experience or event'.<sup>60</sup> Rather '[m]emory is dynamic and complex'.<sup>61</sup>

*Basic understanding of the nature of memory and its subtypes, of the processes of encoding, consolidation and retrieval, and of implicit, procedural memory in particular, is needed to be trauma-informed* (i.e. attuned to the possibility of trauma and the sensitivities of trauma survivors).

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<sup>57</sup> Levine, *Trauma and Memory*, p.2.

<sup>58</sup> Jenny Ann Rydberg, 'Research and Clinical Issues in Trauma and Dissociation', *European Journal of Trauma and Dissociation* (Vol.1, Issue 2, 2017), p.94 (emphasis added).

<sup>59</sup> Rydberg, *ibid*; and see Cristina Alberini & Joseph LeDoux, 'Memory Reconsolidation', *Current Biology*, 23, 17, 2013, & Alberini, 'The Role of Reconsolidation and the Dynamic Process of Long-Term Memory Formation and Storage', *Frontiers in Behavioral Neuroscience*, 5, 12, 2011.

<sup>60</sup> Jane Goodman-Delahunty et al, *Empirical Guidance on the Effects of Child Sexual Abuse on Memory and Complainants' Evidence* (Commonwealth of Australia, 2017), p.46.

<sup>61</sup> Goodman-Delahunty et al, *ibid*.

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# Traumatic memory

*An event only becomes a trauma when overwhelming emotions interfere with proper memory processing.*

(van der Kolk, 2015: xi)

*Trauma impedes the processing of experience into narrative memory...Once [implicit, procedural, traumatic memories] are converted into declarative memory, they can be known to be past.*

(Howell, 2005: 200)

Traumatic memories are a particularly intense and devastating form of *implicit* memory. The pleasant implicit memory of a happy summer's day - elicited by the smell of freshly mown grass - is vastly different from a *traumatic* implicit memory which 'triggers' extreme agitation and activates 'survival' responses. A trigger such as an environmental prompt (in this case the smell of freshly mown grass) can re-traumatise someone who was assaulted in a field in which the grass had just been cut.

Trauma 'triggers' may seem minor to those who do not experience them in that way. But *the traumatised person remains vulnerable as long as the trauma remains unresolved*.<sup>62</sup> Such triggers vary from person to person. They can also be shared as collective experience (for example, the sound of a car backfiring which can elicit the implicit memory of gunfire for combat veterans).

Traumatic memory tends to return in *fragments*. The 'nonverbal memory fragments'<sup>63</sup> of unprocessed trauma differ significantly from the explicit memory of conscious recall.

*'Relived' traumatic memories erupt involuntarily as raw tatters of experience, suddenly imposing themselves on the vulnerable sufferer. These shards seem to come out of nowhere, cutting into their victim's lives, whether waking or sleeping*.<sup>64</sup>

*'In sharp contrast to gratifying or even troublesome memories, which can generally be formed and revisited as coherent narratives, traumatic memories tend to arise as fragmented splinters of inchoate and indigestible sensations, emotions, images, smells, tastes, thoughts...'*

(Levine, 2015:7)

Intrusion of 'fragmented splinters' of traumatic memory - even years after the precipitating events - can cause shock and distress.

Implicit trauma memories can re-traumatise a person in the present even if the person knows that the danger was in the past. This is because *'the imprints of trauma are stored, not as narratives about bad things that happened...in the past, but as physical sensations that are experienced as immediate life threats – right now'*.<sup>65</sup>

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<sup>62</sup> The repetition and re-enactment of traumatic experience until it is assimilated or 'integrated' is a well-established and recurrent theme within the clinical and research literature: 'Every contemporary study of traumatic memories has essentially corroborated Janet's and Freud's initial observations that traumatic memories persist primarily as implicit, behavioural and somatic memories, and only secondarily as vague, overgeneral, fragmented, incomplete and disorganized narratives' (van de Kolk, 'Posttraumatic Stress Disorder and the Nature of Trauma', in Solomon & Siegel, *Healing Trauma*, *ibid*, pp.176). Also see subsequent sections 'The body remembers; how traumatic memory is expressed' and 'Somatic (body) memory, trauma and repetition'.

<sup>63</sup> Pat Ogden et al, *Trauma and the Body* (New York: Norton, 2006), p.267.

<sup>64</sup> Levine, *Traumatic Memory*, p.8.

<sup>65</sup> Bessel van der Kolk, 'Foreword', Levine, *Trauma and Memory*, p.xi-xii.

Like all implicit memories, trauma memory is carried and experienced *in and by the body* ('Starting with the earlier students of traumatic stress and continuing with the most recent neuroscience research, scientists have noted *a critical relationship between bodily action and memory*<sup>66</sup>). The disruptive devastating physical and psychological impacts of traumatic memories are different from the mild and/or pleasurable sensations which accompany *non*-traumatic implicit memories.

High levels of cortisol released during extreme stress impede functioning of the hippocampus. This means that *trauma inhibits consolidation of explicit memory* (and '[t]he fact that acute stress impairs memory encoding is well supported in the research literature').<sup>67</sup> During periods of extreme stress, the amygdala is activated and adrenaline is released which heightens and intensifies *implicit* memory:<sup>68</sup>

'[T]rauma can lead....to the profile of blocked explicit processing and enhanced implicit processing'.

(Siegel, 2012: 30-4)

This could also help explain 'flashbacks' (sudden re-experiencing of past experience common to many people with trauma histories) in which 'there is little or no explicit memory of the original event, yet the implicit memories that surface as flashbacks or as other forms of free-floating implicit memory fragments are incredibly vivid'.<sup>69</sup>

'Flashbacks, intrusive bodily sensations... and images of traumatic events that 'seem to come out of nowhere' are all elements of this blocked explicit/enhanced implicit processing'.

(Siegel, 2012: 30-5)

As Siegel explains, '[b]y seeing how different kinds of memory depend on different regions of the brain we can finally make sense of the juxtaposition of enhanced implicit memory and blocked explicit memory that occurs during trauma'.<sup>70</sup>

In different ways, trauma impacts the four different subcategories of memory i.e. declarative/semantic, episodic, emotional and procedural.<sup>71</sup>

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<sup>66</sup> van der Kolk, 'Foreword', in Levine, *Trauma and Memory*, ibid, xiii (emphasis added).

<sup>67</sup> M. Rose Barlow, Kathy Pezdek & Iris Blandon-Gitlin, 'Trauma and Memory', ch.16 in Steven Gold, ed. *APA Handbook of Trauma Psychology: Foundations in Knowledge* (American Psychological Association, Washington, D.C., 2017), p. 308.

<sup>68</sup> Siegel, *Mindsight*, p.157. As Cozolino (ibid, p.271) likewise points out, '[a]ctivation of the amygdala (and the related physiological and biological changes) is at the heart of the modulation of emotional and traumatic memory (Cahill & McGaugh, 1998). The release of norepinephrine during the stress response seems to heighten the activation of the amygdala, thus reinforcing and intensifying memories for traumatic events' (McGaugh, 1990). Also see Arden, 'PTSD, Neurodynamics and Memory', ibid.

<sup>69</sup> Siegel, *Mindsight*, p.157.

<sup>70</sup> Siegel, *Mindsight*, p.157.

<sup>71</sup> Also see the visual infographic 'How Trauma Impacts Four Different Types of Memory', NICABM, 2017 [www.nicabm.com](http://www.nicabm.com)



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### ***TRAUMATIC MEMORY***

- Traumatic memory is *implicit*, stored as physical sensations rather than as narrative memory of the past. It is '*experienced as immediate life threats – right now*' (van der Kolk, 2015; xi-xii).
- Extreme stress releases extra cortisol which impedes functioning of the hippocampus and thereby inhibits consolidation of *explicit* memory.
- At the same time, trauma activates the amygdala and releases adrenaline which together intensify *implicit* memory.

## ‘The body remembers’:<sup>72</sup> how traumatic memory is expressed

*‘Over a century ago, [Pierre Janet] recognized that traumatized people are unable to tell their stories in words, as we conventionally understand memory, but are often compelled to re-enact them, often remaining unaware of what their behaviour is saying’.*

(Howell, 2005: 56-57)

The phrase ‘actions speak louder than words’ resonates in relation to trauma. The cliché ‘a picture paints a thousand words’ also conveys the power of representing events in images rather than words. Words are not always the best way to describe our experiences, especially emotional ones. When experience is traumatic, we often can’t use words at all.

People are ‘compelled to re-enact’ the memory of trauma, *‘often remaining unaware of what their behaviour is saying’*.<sup>73</sup> This confirms the underpinning trauma-informed principle of the need to consider *what has happened* to a person rather than what is ‘wrong’ with them, as a way of understanding behaviour which might initially appear mystifying.

Current neuroscientific research confirms ‘the century old finding’ that trauma is experienced in the body and is often remembered by *behavioural re-enactment*.

(van der Kolk, 2015; xiii)

Pathologising and/or blaming a person who is not consciously aware of what they are doing - and who is experiencing a traumatic re-enactment - is unempathic and unhelpful.

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<sup>72</sup> This is also the title of a pioneering text in the trauma field; see Babette Rothschild, *The Body Remembers: The Psychophysiology of Trauma and Trauma Treatment* (New York: Norton, 2000). Also see Bessel van der Kolk, *The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma* (New York: Viking, 2014).

<sup>73</sup> Elizabeth Howell, *The Dissociative Mind* (New York: Routledge, 2005) pp.256-57.

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## Somatic (body) memory, trauma and repetition

Remembering 'in the form of physical sensations, automatic responses, and involuntary movements'<sup>74</sup> can be excruciating for a trauma survivor. It is also challenging for people - including health and legal professionals - who are in contact with them.

So what is it like to experience and enact trauma memories?

*'[Traumatised people] often complain that their responses to the traumatic events 'just don't make sense. 'I know that I'm ok now, but I react in my body as if the trauma were still happening'. This description captures the experience of nonverbal memory fragments, retriggered by traumatic reminders, that have not been assimilated....'*<sup>75</sup>

Traumatised people are often compelled to take extreme, and sometimes apparently inexplicable, actions to try to cope with their distress. Their responses can range from complete withdrawal to 'unconscious 'acting-out' behaviours'<sup>76</sup>.

Such behaviours may also seem startling, counterproductive, and/or mystifying:

*'[Traumatised people] become obsessed with the horror they consciously want to leave behind, but they keep behaving and feeling as if it is still going on. Unable to put the trauma behind them, their energy is absorbed by keeping their emotions under control at the expense of paying attention to the demands of the present'.<sup>77</sup> Yet such responses 'make sense' when we understand trauma and the nature of traumatic memory.*

When we are overwhelmed by 'bottom up' brain responses, we are 'prone to revert to rigid 'fixed action patterns', i.e. 'the automatic behavioural flight, fight, or freeze responses that are our evolutionary heritage of dealing with threat, and our individual implicit memories of how our own bodies once attempted to cope with the threat of being overwhelmed'.<sup>78</sup> Overwhelming experience cannot be processed consciously. It will be *embodied* (experienced in the body) and *enacted* (expressed through actions) because there is literally no other way in which it can manifest.<sup>79</sup>

People often compulsively repeat actions and behaviours, driven by implicit memory and outside of conscious awareness, to try to resolve their trauma.<sup>80</sup> They attempt to manage the intensity of current experience even when they are objectively safe.

*In attempting to 'complete' unprocessed overwhelming experience, the traumatised person often repeats the dynamics of 'past' trauma, as if the threat is acute and current.*<sup>81</sup>

Sometimes this can also involve 'completing' a *physical movement* response which could not be completed at the time of the original trauma.<sup>82</sup>

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<sup>74</sup> Ogden et al, *Trauma and the Body*, 2006, p.165.

<sup>75</sup> Ogden et al, *Trauma and the Body*, *ibid*, p.266-267.

<sup>76</sup> Levine, *Trauma and Memory*, p. 8.

<sup>77</sup> van der Kolk, 'Foreword', in Levine, *Trauma and Memory*, p.xii.

<sup>78</sup> van der Kolk, 'Foreword', to Ogden et al, *Trauma and the Body*, pp. xx-xxi.

<sup>79</sup> '[E]xperience that is unformulated because it has never been attended to must, of necessity, be enacted' (Howell, *The Dissociative Mind*, p.208; referencing Stern, 2004); 'Enactments.... translate internal experience into action' (David Wallin, *Attachment in Psychotherapy*, New York: The Guilford Press, p.270).

<sup>80</sup> As van der Hart et al point out '[u]nresolved experiences tend to haunt us until they can be finished' (van der Hart et al, *The Haunted Self: Structural Dissociation and the Treatment of Chronic Traumatization* (New York: Norton, 2006), p. 246; also Levine, *ibid*; van der Kolk, *ibid*.

<sup>81</sup> 'Re-enactment represents the organism's attempt to complete the natural cycle of activation and deactivation', Peter Levine, *Waking the Tiger: Healing Trauma* (Berkeley, CA; North Atlantic Books, 1997), p.187;

<sup>82</sup> Levine, *ibid*, van der Kolk, *ibid*. Ogden et al, *ibid*.

We can all identify with repetitive and sometimes problematic behaviours that seem to defy 'our best intentions' (for example, over-indulgence in particular foods or a tendency to procrastinate). If it is often difficult to change behaviour in the *absence* of trauma, how much more difficult is it when trauma is present? Considering this question promotes empathy as well as understanding. It can also be a source of inspiration to realise that '[t]he drive to complete and heal trauma is as powerful and tenacious as the symptoms it creates'.<sup>83</sup>

**'REMEMBERING BY RELIVING': TRAUMA, REPETITION AND  
BEHAVIOURAL RE-ENACTMENT**

- Traumatized people are often unable to put their experiences into words. Rather they are '*compelled to re-enact them, often remaining unaware of what their behaviour is saying*' (Howell, 2005: 56-57)
- Remembering '*in the form of physical sensations, automatic responses, and involuntary movements*' (Ogden et al, 2006: 165) is characteristic of trauma
- Current neuroscientific research upholds the century old finding that trauma is often remembered through behavioural enactment (van der Kolk, 2015)
- The need to resolve traumatic experience can fuel repetitive and compulsive actions and behaviours ('*Unresolved experiences tend to haunt us until they can be finished*'; van der Hart et al, 2006: 246)
- '*Traumatic memories may also take the form of unconscious 'acting-out' behaviours*'. (Levine, 2015: 8)
- To become 'trauma-informed' we need to recognise the relationship between repetitive, problematic behaviour and unresolved trauma.

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<sup>83</sup> Levine, *Waking the Tiger*, p.173.

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# The logic of remembering and the logic of forgetting

*'From the first moments of life, stress shapes the brain in ways that lead us to remember experiences most important for survival'*

(Cozolino, 2002: 285)

*'Disruptions in memory may be adaptive... if trauma and caregiving emanate from the same source'*

(Silberg, 2013: 12)

How reliable is memory? When is it beneficial to remember and when is it preferable to forget? Is it possible to forget important experiences? If implicit, non-conscious memory is stored in the brain, and triggered via environmental and situational cues, do we ever really forget significant life events?

Research into the activity of the brain and the techniques of neuroimaging provide us with new insights<sup>84</sup> and partial answers to these questions.

Because memory is not a single entity it is also important to ask:

- Which type of memory are we talking about?
- To what do particular memories relate?

The idea that extreme (i.e. traumatic) experience could be consciously 'forgotten' has often been met with scepticism. The possibility of 'recovery' of 'forgotten' memories years after the events to which they relate is also challenging. In the context of child sexual abuse, the phenomenon of delayed conscious recall of prior traumatic experience has been especially contentious.

Increased understanding of the impacts of stress - particularly extreme stress - on the brain, the different neural networks in which memories are stored, and the differences between conscious explicit and relatively unconscious implicit memory now sheds considerable light on the phenomenon of delayed conscious recall.

It is now known that *'[s]tress shapes the brain in ways that lead us to remember experiences most important for survival'*<sup>85</sup>.

*In some situations and contexts, 'forgetting' (i.e. lack of conscious recall) of traumatic experience can help, rather than hinder, survival.*

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<sup>84</sup> At the same time, much of this research confirms the earlier findings of the 'first generation' of trauma therapists, as per the previously cited contention that '[e]very contemporary study of traumatic memories has essentially corroborated Janet's and Freud's initial observations that traumatic memories persist primarily as implicit, behavioural and somatic memories, and only secondarily as vague, overgeneral, fragmented, incomplete and disorganized narratives' (van de Kolk, 'Posttraumatic Stress Disorder and the Nature of Trauma', in Solomon & Siegel, *Healing Trauma*, ibid, pp.176).

<sup>85</sup> Cozolino, *The Neuroscience of Psychotherapy*, p.285.

## The protection of ‘forgetting’

Amnesia regarding traumatic experience is not only individual. Collective ‘forgetting’ of confronting incidents - and even of whole historical periods – occurs at cultural, national and international levels.<sup>86</sup> In contrasting contexts and cases, events and experiences may be ‘forgotten’ because they *are* significant rather than because they are not.<sup>87</sup>

Childhood trauma - particularly child abuse by primary caregivers - is the most obvious context in which ‘forgetting’ provides survival value.

*Because children depend on their caregivers for survival, the need to attach to them is paramount, regardless of how the child is treated by them.*

‘[F]orgetting abuse preserves the attachment relationship when the victim depends on the abuser. Although there are various ways to remain blind to betrayal, perhaps the most effective way is to forget the event entirely’

(Freyd & Birrell, 2013: 58)

*Children’s survival need to attach to caregivers explains why even children in abusive caregiving relationships may remain loyal to caregivers. It is to preserve the attachment connection on which their existence depends.*<sup>88</sup>

This also partly explains why ‘[c]hildren who experience [chronic] traumas often forget’.<sup>89</sup> ‘Dozens of studies have demonstrated that children who are extensively abused prior to adolescence frequently exhibit either partial or complete amnesia for the abusive events;’<sup>90</sup> ‘Many studies have demonstrated evidence that it is common to forget, and later remember, parts or all of serious traumatic events such as child sexual abuse’.<sup>91</sup>

It is important to note that traumatic interpersonal experiences are not confined to childhood. Later life experiences can also be minimised, denied and/or not consciously recalled (and see subsequent section).

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<sup>86</sup> As Chu is one of many to point out, ‘[m]emory loss as a component of stressful events is part of our cultural heritage’ (*Rebuilding Shattered Lives*, ibid, p.88). As Herman elaborated in her pioneering text *Trauma and Recovery* (New York: Basic Books, 1992) ‘post traumatic avoidance’ in the form of forgetting of confronting realities is a common human response to protect from overwhelm.

<sup>87</sup> As Bloom underlines, the protective function of forgetting is as much a social as individual defence strategy (Sandra Bloom & Brian Farragher, *Destroying Sanctuary: The Crisis in Human Service Delivery Systems*. New York: Oxford University Press. Silberg, *The Child Survivor* (New York: Routledge, 2013).

<sup>89</sup> Lenore Terr, cited in Chu, *Rebuilding Shattered Lives*, p. 34.

<sup>90</sup> Chu, referencing Brown, Sheflin et al, 1999, *Rebuilding Shattered Lives*, p.61.

<sup>91</sup> Barlow et al, ‘Trauma and Memory’, ibid, p.315, citing S. Wilsnack, S. Wonderlich, et al, ‘Self-Reports of Forgetting and Remembering Childhood Sexual Abuse in a Nationally Representative Sample of US Women’, *Child Abuse and Neglect* (26, 2002), pp.139-147.

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### **REMEMBERING AND 'FORGETTING'**

- While our brains are wired to remember experiences important to survival, in some circumstances 'forgetting' may *assist* survival.
- Childhood 'forgetting' of traumatic experience preserves attachment to adult caregivers on whom children depend to survive (*'Disruptions in memory may be adaptive... if trauma and caregiving emanate from the same source'*; Silberg, 2013: 12).
- The impacts of stress on the brain, the different neural networks in which memory is stored, and differences between conscious, explicit memory and unconscious, implicit memory, shed light on the phenomenon of delayed conscious recall.

## ‘Forgetting’ betrayal

We also need to consider the *context* of extreme traumatic stress. Trust is critical in relationships. Yet it is often violated in complex, interpersonally generated trauma.

The context and experience of *betrayal of trust* further explains the risks and benefits of remembering and ‘forgetting’.

When young children are betrayed by primary caregivers, their need to preserve the care-giving relationship ‘trumps’ their capacity to ‘take protective action’.<sup>92</sup> These circumstances violate the wider ‘social contract’ of trust i.e. that children should be safe with their caregivers. ‘Forgetting’ - even when the child is old enough to consciously remember- can be the most viable option.

*Emotionally and physically dependent children whose brains are still developing are unable to process the enormity of betrayal.*

Yet it is not only children who ‘forget’. The *need*, as well as the desire, to trust is critical in many types of relationships. Even as adults - and in contexts other than child abuse – research confirms a ‘blindness to betrayal’ in interpersonal relationships and a widespread tendency to ‘forget’ instances in which our trust is violated.<sup>93</sup> *This applies particularly when the person being betrayed depends in some way on the person betraying them.*<sup>94</sup>

Dependence in relationships in which betrayal of trust is a risk and for the person betrayed to ‘forget’ and/or not recognise the betrayals at all happens in adulthood as well. Examples include failure to acknowledge an affair or other interpersonal violation when recognising the transgression could spell the end of the relationship on which the wronged party in some way continues to rely.

‘Not seeing’, ‘not knowing’, and ‘not remembering’ violations - even when they are ‘in plain sight’ and painfully and directly experienced - occurs when *the extent of the betrayal of trust may be even more painful and/or may threaten survival.*<sup>95</sup>

While ‘magical thinking’ ( the belief that one’s own thoughts, desires and wishes can influence the outside world) occurs at a particular developmental stage, typically between ages 2 and 7, ‘[a]dults also can engage in a kind of magical thinking when they are trying to gain a sense of control over overwhelming events’.<sup>96</sup>

*‘Betrayal blindness at its inception is based on an extreme need to keep some aspect of a situation intact, whether maintaining a marriage, keeping a family together, or holding onto one’s position in a community....’*

(Freyd & Birrell, 2013:95)

*Related research also suggests that ‘betrayal trauma predicts that citizens who are emotionally and financially dependent on the person lying will be most blind to signs of deception’.*

(Zurbriggen, in Freyd & Birrell, 2013, p.36)

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<sup>92</sup> Silberg, *The Child Survivor*, *ibid*. This also helps explain the ‘freeze’ response of dissociation (‘the escape when there is no escape’ as per previous discussion) which is common in children who are abused or otherwise traumatised.

<sup>93</sup> Jennifer Freyd & Pamela Birrell, *Blind to Betrayal: Why We Fool Ourselves We’re Not Being Fooled* (New Jersey: Wiley and Sons, 2013).

<sup>94</sup> Freyd & Birrell, *Blind to Betrayal*, *ibid*.

<sup>95</sup> Freyd & Birrell, *ibid*, Silberg, *The Child Survivor*, *ibid*.

<sup>96</sup> Chu, *Rebuilding Shattered Lives*, p.34.



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An understanding that the dynamics of 'betrayal blindness' and 'the logic of forgetting' operate in adult intimate relationships (i.e. independent of prior child abuse) helps us understand the need for children to 'forget' the abuse and betrayal of caregivers who harm them.

*Amnesia for childhood trauma e.g. child abuse - including inability to consciously recall it even as 'the body remembers' - protects the attachment bonds required for survival. As previously discussed (see 'The Protection of 'Forgetting' and 'Forgetting' Betrayal') this is even when survival is threatened by attachment to abusive caregivers.*

Amnesia for childhood trauma can also extend into adulthood. While adults are generally no longer literally dependent on caregivers, the retrospective recognition that the duty of care to them was violated by those who should have upheld it may remain painful and confronting.<sup>97</sup>

*'Betrayal blindness' or unawareness is 'a survival strategy'.<sup>98</sup>*

### **BETRAYAL BLINDNESS**

(Freyd & Birrell, 2013)

- 'Betrayal blindness' is defined as unawareness and forgetting and has a survival value (Freyd & Birrell, 2013). It stems from the concept of 'betrayal trauma' (developed to assist understanding of the 'forgetting' of early life abuse (Freyd, 1991) and can be applied across a range of contexts.
- 'Not seeing', 'not knowing', and 'not remembering' traumatic experience is not peculiar to children (*'Adults are also prone to a kind of magical thinking ...to gain a sense of control over overwhelming events'* (Chu, 2011: 34).
- The hallmark of 'betrayal blindness' is the need to preserve a relationship on which one is dependent.
- The dependence of children on adult caregivers means that 'forgetting' traumatic experiences can have survival value in preserving the attachment bond (Silberg, 2013).
- The 'survival strategy' of 'betrayal blindness' is not confined to children but also applies to adult relationships in which dependence of some kind fosters the need to preserve the relationship and can 'trump the need to take protective action' (Freyd & Birrell, 2013, p.56).

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<sup>97</sup> Alice Miller in *The Drama of the Gifted Child: The Search for the True Self* (London, Virago [1979] 1995), elaborated the ensuing psychodynamics of this, which can include adult idealisation of the abusive caregiver. This book was first published in English translation in 1981 to great interest and considerable widespread debate.

<sup>98</sup> Freyd & Birrell, *Blind to Betrayal*, *ibid*, p.95.

## Impacts of ‘betrayal blindness’ and unresolved trauma

The concept of ‘betrayal blindness’ in the context of child sexual abuse and other traumas has major implications. As with other ‘survival’ responses generated by the experience of being overwhelmed, the unresolved trauma of betrayal blindness ‘can also prove toxic to the mind, the body, relationships, and society’.<sup>99</sup>

‘Forgetting’ the trauma of betrayal is double-edged as it can assist survival but can also threaten health.<sup>100</sup> Disruption to the processing of memory as a result of trauma affects a wide range of functioning, including into adult life:

*‘The mind becomes organized around the principle of dissociation from affect [i.e. emotion] which generalizes to not remembering experiences related to the affect or to not feeling pain related to the affect’.*<sup>101</sup>

### ‘Forgetting to remember’ (Silberg, 2013)

...and ‘motivated forgetting’:

*‘I try to forget to remember. It hurts to remember. It gives me bad dreams’* (Billy, 6 yrs old, in Silberg, *ibid*: 98)

While not experiencing pain may seem appealing, people affected in this way are also less able to experience joy.<sup>102</sup> This is a ‘mixed blessing’ which can prevent people from feeling at all. Being cut off from the experience of emotion also deprives us of a vital source of information and affects our well-being. Perceiving the brain to be purely ‘cognitive’ is increasingly recognised to be untenable and experience of emotion is central to healthy functioning in a range of ways.<sup>103</sup>

The benefits *and* the costs of the survival strategy of ‘forgetting’ are clear but the price is high. One example is that a traumatised child can find it difficult to absorb and retain new information. School and education can be affected when the ‘learning brain’ becomes the ‘survival’ brain<sup>104</sup> i.e. when the mental focus and concentration needed to absorb new information is expended on a preoccupation with safety, which is understandable.

Unless the underlying trauma is resolved, the adverse impacts of ‘forgetting’ will impede the developmental trajectory and cause major effects into adult life.

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<sup>99</sup> Freyd & Birrell, *Blind to Betrayal*, p.95

<sup>100</sup> Freyd & Birrell, 2013; Barlow et al, 2017: 321.

<sup>101</sup> Silberg, *The Child Survivor*, p.21. This is because ‘[a]n environment of trauma and impaired caregiving elicits overwhelming negative affect; consequently, the brain selects and reinforces pathways that encourage avoidance of affect and associated traumatic content’ (*ibid*, p.22).

<sup>102</sup> van der Kolk, in Levine, *Trauma and Memory*, p.xv.

<sup>103</sup> See, for example, Joseph LeDoux, *The Emotional Brain* (Simon & Schuster, New York, 1998).

<sup>104</sup> Ford in Courtois & Ford, ed. *Treating Complex Traumatic Stress Disorders*, *ibid*.

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## Internal and external: the social context(s) of memory

*'[A]n equally traumatizing aspect of the events  
is social betrayal'*

(Freyd & Birrell, 2013: 57)

*'{B}oth internal and social processes operate to  
keep us unaware'*

(ibid: 95)

The need to consider *the context* of stressful experience includes the need to consider the *social* context of memory. Social factors around memory are often overlooked in favour of neurological, psychological, and developmental frameworks. Yet the social functions of memory are just as important in influencing the encoding, consolidation, retrieval, and reliability of memory.<sup>105</sup>

Although we often believe that interpersonal – and particularly intimate – relationships are detached from the workings of *power*, social contexts and relationships are not immune to them. *Power operates in and influences everyday life* as the following material substantiates.

Western culture perpetuates many dichotomies (i.e. counterposes entities which are implied to be separate but which are related). Common examples include 'mind/body'; 'intellect/emotion'; 'public/private'; 'objective/subjective'; 'masculine/feminine' 'internal'/external'. The enduring legacy of dichotomies has 'real world' implications.

Neuroscience is establishing the extent to which social experience not only *influences* individual and 'private' life, but the activation and processes of neural functioning.<sup>106</sup> Relationality and *interdependence* are central. Human beings are irrevocably social creatures. This is reflected in the construction, wiring, and rewiring of the human brain: 'in a very real sense, the sociocultural environment becomes physically structured in the brains of individuals'.<sup>107</sup>

'Private' life cannot be detached from 'public', and *power* dynamics affect all the contexts in which we interact. This, in turn, sheds light on the dynamics of trauma and memory:

*'One reason that nondisclosure to oneself (or not knowing)  
occurs is exactly because internal and external disclosure  
are so tied together. To the extent that it is not safe to  
disclose externally, it is not safe to know, or disclose  
internally, to oneself'.<sup>108</sup>*

What does it mean to 'know'? Clearly there are different kinds of knowledge and different ways to express it.

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<sup>105</sup> Note, for example, that 'even when a traumatic event is encoded strongly, the accuracy of its retrieval may be compromised when the social context is not optimal at retrieval' (Barlow et al, 'Trauma and Memory', p.309).

<sup>106</sup> Cozolino, *The Neuroscience of Psychotherapy*, ibid.

<sup>107</sup> Ralph Castillo, *Culture and Mental Illness* (Pacific Grove, CA: Brooks/Cole, 1997).

<sup>108</sup> Freyd & Birrell, *Blind to Betrayal*, p.116.

*The privileging in Western societies of consciousness and cognitive knowledge at the expense of subcortical implicit knowledge has limited our understanding and treatment of trauma.*<sup>109</sup>

In order to understand the nature of memory, we need to acknowledge the reality of different types and expressions of knowledge.

*We also need to acknowledge that it is impossible to detach what and how we know from the social context in which we know it.*

The interrelationship of internal/external, self/other, private/public and personal/political has huge ramifications for what and how we know, for what we disclose and are aware of within ourselves, as well as in our relationships, and hence for what and how we remember and forget.

Different kinds of memory mean different ways of knowing. All are shaped by our relational and social experience, which is in turn shaped by power dynamics and our positioning in relation to others.

This again evokes the question posed by Levine –

*'Under which conditions might a memory be a healing force and when might it be destructive?'*<sup>110</sup>

To put it another way, under what conditions is it safe to know our experience?

The social functions of memory involve *dimensions of power and issues of dependence and (in) equality*. Memory is affected, among other things, by 'power hierarchies':<sup>111</sup> *'[s]ocial power not only dictates what is appropriate to say out loud, but even what it is appropriate to remember'*.<sup>112</sup>

'People in situations of low power pay close attention to people further up in the hierarchy, devoting cognitive resources to monitoring and appeasing the other people. These cognitive resources are then less available, leading to decrements in performance attention, and working memory'.<sup>113</sup>

When the memory/ies in question relate to interpersonal trauma, 'monitoring and appeasing other people' may be especially and understandably acute as the need to self-protect may be comparably higher in contexts in which safety, emotional and/or physical, cannot be assured and taken for granted.

Basic knowledge of the effects of stress on the brain, on different types of memory, and on the social functions of memory *which include power dynamics* is critical.

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<sup>109</sup> Levine, *Trauma and Memory*, p.xxii. The privileging of consciousness and cognition (i.e. at the expense of the unconscious and emotion) in the Western political and philosophical tradition is well-recognised among diverse scholars, critics and commentators; see previous discussion.

<sup>110</sup> Levine, *Trauma and Memory*, p.4.

<sup>111</sup> Barlow et al, 'Trauma and Memory', *ibid*, p.320

<sup>112</sup> Barlow et al, 'Trauma and Memory', *ibid*.

<sup>113</sup> Barlow et al, 'Trauma and Memory', *ibid*, p.320, ref. Skagerberg & Wright, 2008.

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## Knowing and not knowing: the centrality of safety

*'We usually think we know something or we don't, but it turns out that there are different ways to 'know' things. We can know them internally and on the level of sensation and behaviour, or we can know them at the level of words'*

(Freyd & Birrell, 2013, p.115)

Memory in all its forms is central to how we develop a continuous identity and sense of self.<sup>114</sup> Yet we also continually question its reliability. This is especially in relation to *traumatic* memory, and to 'recovered' memory of childhood sexual abuse in particular. The *context* of memory is critical.

*Disparity of power and a compromised sense of safety is a recurrent theme in the context of traumatic memory, interpersonal trauma and betrayal trauma (in which dynamics of shame and secrecy also operate).*

Betrayal trauma occurs *'when the people or institutions on which a person depends for survival significantly violate that person's trust or well-being'*.<sup>115</sup>

Put simply, it may not be safe to verbally disclose or personally acknowledge memories of trauma even years after the initial trauma has occurred. *The 'reliability' of memory is shaped by objective social conditions as well as neurobiological underpinnings.*

The effects of extreme stress on the brain, the different types of memory and neural processes involved, the reality of power disparities, and the dynamics of dependence suggest many reasons why the reliability of memory is contested. This is even in instances in which it can be and is

*As traumatic memory is implicit and expressed as 'jumbled fragments' rather than as a coherent verbal narrative<sup>116</sup> - and as the wider social context privileges consciousness, cognition and 'rationality'<sup>117</sup> - it is not surprising there has been controversy around the reliability of traumatic memory.*

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<sup>114</sup> Noting that many theories suggest a relationship between autobiographical memory and identity, the findings of Addis and Tippet 'support the critical role of early adulthood autobiographical memories (16-25 years) in identity, and suggest autobiographical memory loss affects identity' (D. Addis & L. Tippet, 'Memory of Myself: Autobiographical Memory and Identity in Alzheimer's Disease', *Memory* (12, 1, 2004), p.56.

<sup>115</sup> Jennifer Freyd, 'What is a Betrayal Trauma? What is Betrayal Trauma Theory?' <http://dynamic.uoregon.edu/jjf/defineBT.html>

<sup>116</sup> I.e. 'in the form of physical sensations, automatic responses, and involuntary movements' (Odgen et al, *Trauma and the Body*, ibid, p.165).

<sup>117</sup> As per discussion and references in the opening sections of this paper and throughout.

### ***THE RELIABILITY OF MEMORY AND THE ROLE OF SOCIAL CONTEXT***

- Depending on the context and conditions, both remembering and 'forgetting' may be healing and/or destructive
- Social, as well as neurological, factors affect the encoding, retrieval, and reliability of memory
- Social contexts are not divorced from the workings of power
- *'Both internal and external processes operate to keep us unaware'* (Freyd & Birrell, 2013: 95)
- *'To the extent that it is not safe to disclose externally, it is not safe to know, or disclose internally, to oneself'* (Freyd & Birrell, *ibid*: 116).
- We cannot detach questions about the reliability of memory from the role of social context.
- Social contexts are not neutral but are shaped by the workings of power. This, in turn affects, the nature and functions of memory: *'Social power not only dictates what is appropriate to say out loud, but even what it is appropriate to remember'* (Barlow et al, 2017: 320).

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## Recovered memory (delayed onset memory recall)

*'If recovered memory experiences appear counter-intuitive,  
this is in part due to misconceptions about trauma and memory'*

(Brewin, 2012: 149)

Over the last century the phenomenon of traumatic amnesia has been noted in a variety of populations. These include war veterans,<sup>118</sup> Holocaust survivors,<sup>119</sup> and survivors of natural disasters as well as adult survivors of childhood trauma.<sup>120</sup> Significantly, however, accounts of war veterans forgetting and subsequently recalling combat experiences 'have never been as controversial as similar accounts in survivors of child abuse'.<sup>121</sup>

The term *false memory*, which describes apparent recollection of an event or experience that did not occur, was used in the 1990s in the particular context of child sexual abuse in response to a growing number of claims of recollected memories of such abuse.<sup>122</sup> This particular framing has connected the term 'false memory' with issues questioning the authenticity of recovered memory in the context of child sexual abuse.<sup>123</sup> Recent (i.e. current, post 1990s) clinical and neuroscientific research sheds light on the dynamics of *recovered* memory. Yet the stakes of the 'false memory' term, claims and legacy need to be addressed. This is because 'many people have concluded from the false memory research that it is relatively easy to plant false events in memory', whereas 'the data suggest that it is not'.<sup>124</sup>

Even in relation to children, false memories 'are less likely to be planted if the event is implausible, and children have little prior knowledge of the event'.<sup>125</sup> In this context, research in trauma and memory underlines the importance of distinguishing between *false memory* and *memory suggestibility*.<sup>126</sup> Suggestibility relates to 'children's susceptibility to suggestions about non-existent details of actually witnessed events'.<sup>127</sup> By contrast, false memories 'refers to children's memories of entirely new suggested events that never occurred'.<sup>128</sup>

*'Although this distinction between suggested memories and false memories seems like a subtle one in the cognitive literature, it is crucial in forensic contexts because it is the difference between, for example, a child actually being abused but erroneously recalling the sequence of events (i.e. suggestibility) and a child recalling having been sexually abused when he or she had not been (i.e. false memory)'. The first of these situations occurs more commonly: the second is much more unusual'*.<sup>129</sup>

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<sup>118</sup> See, for example, Onno van der Hart et al, 'Trauma-induced Dissociative Amnesia in World War 1 Combat Soldiers', *Australian and New Zealand Journal of Psychiatry* (33, 1, 1999), pp.37-46.

<sup>119</sup> See, for example, W.A. Wagenaar & J. Groeneweg, 'The Memory of Concentration Camp Survivors', *Applied Cognitive Psychology* (4), 1990, pp.77-87.

<sup>120</sup> In fact amnesia and delayed recall in relation to the experience of trauma has been found to be common - 'Post traumatic amnesia extends beyond the experience of sexual and combat trauma and is a protean symptom, which reflects responses to the gamut of traumatic events' (van der Hart et al, 'Trauma-induced Dissociative Amnesia...', *ibid.* Also see D. M. Elliott, 'Traumatic Events: Prevalence and Delayed Recall in the General Population', *Journal of Counselling and Clinical Psychology*, 65, 1999, pp.811-820.

<sup>121</sup> Barlow et al, 'Trauma and Memory', p.324.

<sup>122</sup> The False Memory Syndrome Foundation (FMSF) was founded in 1992 by Peter and Pamela Freyd in response to the claim of their daughter Jennifer (now a leading psychologist and pioneer of the concept of betrayal trauma; see subsequent discussion) that she had been sexually abused by her father. The FMSF became a rallying point and support group for people who claimed they were illegitimately under suspicion of being sexually abusive on the basis of recovered memories which they (i.e. members of the FMSF) claimed to be fantasy.

<sup>123</sup> Distinction needs to be drawn between the claims of the so-called False Memory movement with its focus on child sexual abuse (i.e. the False Memory Syndrome Foundation (FMSF) and its supporters) and the more general phenomenon of 'false memory'. While it is legitimate to question whether recovered memories can be corroborated, it is important to note that not all subsequently recollected memories are able to be verified.

<sup>124</sup> Barlow et al, 'Trauma and Memory', p.312, referencing Lindsay, Hagen, Read, Wade, and Garry (2004). The latter 'reviewed the findings of six published studies that prompted false memories' whereby 'participants are read descriptions of some true events (collected from a parent or close family member) along with some false events (drafted by the researcher). For each event, participants are told that this is what their parent recalled about the event' and are then asked what they recall about it (Barlow et al [ref. Lindsay, Hagen, et al, 2004] 'Trauma and Memory', *ibid.*, p.312).

<sup>125</sup> Barlow et al, 'Trauma and Memory', p.310.

<sup>126</sup> Barlow et al, 'Trauma and Memory', p.307.

<sup>127</sup> Barlow et al, 'Trauma and Memory', p. *ibid.*

<sup>128</sup> Barlow et al, 'Trauma and Memory', *ibid.*

<sup>129</sup> Barlow et al, 'Trauma and Memory', pp.307-8; emphasis added

The above important distinction between ‘false memory’ and ‘suggestibility’ sheds light on the explanation for this. Clearly it is also the case that a child who has experienced cumulative abuse may fail to recall chronology and details of particular instances of it, as distinct from failure to recall that abuse occurred at all. In fact extensive research involving around two thousand children has found ‘that spontaneous false reports of sexual abuse were *too few to study reliably*’.<sup>130</sup>

Significantly, and notwithstanding a flood of research into false memory by the field of cognitive psychology in the 1990s, ‘few researchers...actually studied false memory as the term originally was intended to specifically refer to planting memory for an entirely new event that never was experienced in an individual’s lifetime’.<sup>131</sup> It is also the case that legitimate questions about false memories ‘are being misinformed by imprecise language usage in the research literature’<sup>132</sup> (the distinctions between suggestibility and false memory, and between partial and complete false memory, being cases in point).<sup>133</sup>

With respect to recovered memories of child sexual abuse, it is also important to note the seemingly paradoxical view that ‘trauma survivors face a memory disruption that seems to involve excessive *remembering*, rather than forgetting’.<sup>134</sup> It is likewise important to be aware that as well as in relation to PTSD, ‘[i]ntrusions of unwanted or traumatic memories’ have been studied in obsessive-compulsive disorder and in nonclinical samples.<sup>135</sup>

In fact the experience of ‘[s]udden intrusions of previously unavailable memories’ is precisely what the term ‘recovered memory’ describes (‘Recovered memories are those memories that have been forgotten for a period and then remembered’).<sup>136</sup> Delayed recall of traumatic, implicit memory - i.e. *recovered* memory - usually occurs spontaneously, without warning,<sup>137</sup> in response to a prompt or cue the significance of which the person is initially unaware. In the case of trauma, the memory/ies recovered were previously *dissociated* because they were too overwhelming to process.

Dissociation refers to ‘partial or complete disruption of the normal integration of a person’s psychological functioning’<sup>138</sup> (‘[i]n essence, aspects of psychobiological functioning that should be associated, coordinated, and/or linked are not’).<sup>139</sup> It occurs beyond conscious awareness and control, and varies in type and intensity. As a protective response to overwhelming stress, dissociation is a common feature of diverse forms of trauma,<sup>140</sup> and when deriving from complex (i.e. cumulative, underlying, and interpersonally generated) trauma, the adverse impacts of dissociation can be extensive: ‘*Not only is there amnesia for the trauma, but the person frequently has dissociated that certain basic assumptions about the self, relationships, other people, and the nature of the world have been altered*’.<sup>141</sup>

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<sup>130</sup> Barlow et al, describing the detailed studies of Goodman (2012); ‘Trauma and Memory’ *ibid*, p.308, emphasis added.

<sup>131</sup> Barlow et al, ‘Trauma and Memory’, p. 311.

<sup>132</sup> Barlow et al, ‘Trauma and Memory’, p.312.

<sup>133</sup> For research on the phenomenon of recovered memory as it relates to child sexual abuse, see Ross Cheit, ‘Scholarly Resources’, *Recovered Memory Project: Case Archives, Commentary, and Scholarly Resources*, 2015 <https://blogs.brown.edu/recoveredmemory/scholarly-resources/>

<sup>134</sup> Barlow et al, ‘Trauma and Memory’, p.321; emphasis added.

<sup>135</sup> Barlow et al, *ibid*, referencing Amstadter & Vernon, 2006, Najmi et al, 2010, and Barlow & Goldsmith, 2014.

<sup>136</sup> Barlow et al, ‘Trauma and Memory’, p.322.

<sup>137</sup> I.e. as ‘[s]udden intrusions of previously unavailable memories’; Barlow et al, ‘Trauma and Memory’, p.322.

<sup>138</sup> Paul Dell & John O’Neil, *Dissociation and the Dissociative Disorders* (New York: Routledge, 2009), p.xxi.

<sup>139</sup> David Spiegel, Richard J. Loewenstein, Lewis-Fernandez et al. ‘Dissociative Disorders in DSM-5’, *Depression and Anxiety* 28, 2011, p. 826.

<sup>140</sup> Dissociation is ‘a basic part of the psychobiology of the human trauma response: a protective activation of altered states of consciousness in reaction to overwhelming psychological trauma’ (Richard Loewenstein, citing Frank Putnam, in ‘Dissociative Amnesia and Dissociative Fugue’, 1996, ch.15 in Michelson, Larry K. & Ray, William, J., ed. *Handbook of Dissociation* (New York: Plenum Press, 1991). ‘[A]ll... kinds of trauma, seemingly massive, or ordinary, large, small, occurring in childhood or adulthood, while different and having different effects, cause some degree of dissociation’ (Elizabeth Howell & Sheldon Itzkowitz, *The Dissociative Mind in Psychoanalysis: Understanding and Working with Trauma*, New York: Routledge, 2016, p. 35).

<sup>141</sup> Loewenstein, ‘Dissociative Amnesia and Dissociative Fugue’, *ibid*.



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Sudden intrusion of previously dissociated traumatic memories (i.e. recovered memories) can be retraumatising even though it can pave the way for trauma resolution. Sufficiently strong, recurrent, and/or disabling, traumatic memories, including delayed onset recall (recovered) memories, may lead the person experiencing them to become conscious of what they signify. While the experience can be destabilising at first, it can enable integration of the previously split off (dissociated) memory of experience which was previously too overwhelming to be assimilated.

*With respect to the accuracy of recovered memory/ies, it is critical to be aware that contrary to the implied and overt claims of many 'false memory' proponents, research upholds that recovered memories are no less likely to be reliable than explicit consciously recalled memories which were never forgotten in the first place:*

'Substantial research examining both naturalistic and laboratory situations has demonstrated that recovered memories are equally likely to be accurate as are continuous, never-forgotten memories'

(Barlow et al, 'Trauma and Memory', ref. Chu et al, 1999; Williams, 1995; Dalenberg, 2006, p.322, and see 'Understanding of Memory Needs to be Updated; i.e. upcoming section of this paper).

Despite the strong research base that attests to the equal reliability of recovered memories as compared to 'never forgotten' memories (also see 'Understanding of Memory Needs to be Updated' below) diverse interests and stakeholders seek to perpetuate the 'memory wars' of the 1990s through new forms and permutations.<sup>142</sup> A variation of the prior 'false memory' debates is the contemporary contrast between the 'fantasy' or 'sociocognitive model' (according to which recovered memories are seen as the product of cultural/environmental influence and/or therapist suggestion) and 'the trauma model' which regards them as intrusions of memories which could not previously be assimilated because the experiences were too overwhelming.<sup>143</sup>

The trauma model rests on an understanding of the existence of *implicit* memory and its importance. This needs to be understood in light of current clinical and neuroscientific insights. Reference to implicit memory in general and to traumatic memory in particular needs to inform contemporary commentary as they are currently not generally referenced. Similarly the perception of memory as a single entity rather than being comprised of subsystems needs to be acknowledged, as does the pervasiveness of implicit memory and the overriding power of instinctual survival responses 'of all the memory subtypes'.<sup>144</sup>

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<sup>142</sup> For a helpful collection of papers which discusses the range of complex issues involved, see Robert Belli, ed. *True and False Recovered Memories: Toward a Reconciliation of the Debate* (New York: Springer, 2012).

<sup>143</sup> See, for example, Vissia, Giesen, et al. 'Is it trauma- or fantasy-based? Comparing dissociative identity disorder, post-traumatic stress disorder, simulators, and controls' *Acta Psychiatr* (134, 2, 2016), pp.111-128.

<sup>144</sup> Levine, *Trauma and Memory*, *ibid*, p.37.

### **RECOVERED MEMORY, DISSOCIATION AND CURRENT DEBATES**

- Traumatic amnesia and subsequent recovery of memory has been found in diverse populations including war veterans and Holocaust survivors as well as adult survivors of childhood trauma (*'Post traumatic amnesia... is a protean symptom, which reflects responses to the gamut of traumatic events'*; van der Hart et al, 1999).
- Dissociation - i.e. disruption of psychological functions which are normally connected - is a protective response to overwhelming stress and a common feature of diverse forms of trauma (Howell & Itzkowitz, 2016: 35). Experience too overwhelming to be processed is dissociated, inaccessible to consciousness, and may subsequently intrude unexpectedly (be 'recovered') and consciously recalled.
- Sudden intrusion of memories which were previously unavailable is known as 'recovered' memory: *'Recovered memories are those memories that have been forgotten for a period and then remembered'* (Barlow et al, 2017:322).
- Research confirms the equal reliability of recovered memories which were previously implicit as compared to explicit, consciously recalled memories (Dalenberg, 2006 and see subsequent discussion). These research findings challenge the view – prevalent in the early 1990s, but which continues today – that recovered memories are inherently false as compared to other types of memory
- In the current period, a contrast exists between the 'fantasy' or 'sociocognitive model' (which proposes that recovered memories are the product of cultural/environmental influence and/or therapist suggestion) and 'the trauma model' which sees them as the intrusion of memories which could not be assimilated because the experiences to which they relate were too overwhelming (Vissia, Giesen., et al. 2016). The 'trauma model' rests on an understanding of the nature of traumatic memory in which implicit, dissociated memory is 'split off' from conscious memory and is recovered if/when the previously unavailable memories begin to intrude.

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## Social context, safety, and the dynamics of disclosure

*'[T]he social context in which people disclose affects the process itself... a process that is highly dependent on the reactions of others'*

(Freyd & Birrell, 2013:126)

Dynamics of power, dependence, secrecy and interests are especially strong in relation to memory of child sexual abuse. This is for a number of reasons. They include the challenge to conceptions of the family as a safe – indeed the ideal – context in which children should be raised. They also include the powerful psychological, social and financial investments, which surround both this belief and the policies and structures which uphold it.

It is hard to find words to convey the experience of childhood sexual abuse and other forms of trauma (i.e. even when such experience was not pre-verbal). Disclosure has obvious risks such as not being believed or being stigmatised. These elements, coupled with the long absence of a public discourse around the reality of childhood trauma, mean it is hardly surprising that *'most people who experience childhood sexual abuse do not disclose it until adulthood, and many may never tell at all'*.<sup>145</sup>

Jennifer Freyd (author and key researcher of the concepts of 'betrayal trauma' and 'betrayal blindness') highlights that 'some studies have revealed a pattern of disclosure followed by recanting and redisclosure'.<sup>146</sup> This means that 'when people do disclose, some take it back, and then some go on to disclose again'.<sup>147</sup>

Research which shows a 'pattern' of delayed disclosure, recanting, and subsequent 'recanting of the recanting' may seem to suggest that the memories disclosed are unreliable. Yet this would be a serious misreading of the research. The associated finding is critical:

*'Nondisclosure, delayed disclosure, and retraction are particularly likely in cases in which the perpetrator is close to the victim'*

(Freyd & Birrell, citing multiple sources, *Blind to Betrayal*, *ibid*, p.123)

*'Repeated research findings have shown that memory for abusive events is impaired when the victim was emotionally or otherwise dependent on the perpetrator'. (Schultz, Passmore, & Yoder, 2002)*

(Barlow et al, 'Trauma and Memory', *ibid*, p.321)

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<sup>145</sup> Freyd & Birrell, *Blind to Betrayal*, p.123. For additional references in this area, see Tener & Murphy, 'Adult Disclosure of Child Sexual Abuse: A Literature Review', *Trauma, Violence and Abuse* (16, 4, 2015), pp. 391-400, and Kamala London, Maggie Bruck et al, 'Disclosure of Child Sexual Abuse: What Does the Research Tell Us about the Ways that Children Tell?', *Psychology, Public Policy, and Law*, 2005, and London, Bruck et al, 'Review of the Contemporary Literature in How Children Report Sexual Abuse to Others: Findings, Methodological Issues and Implications for Forensic Interventions', *Memory* (16, 1, 2008), pp.29-47.

<sup>146</sup> Freyd & Birrell, citing Sorenson & Snow, 1991, *Blind to Betrayal*, p.123,

<sup>147</sup> Freyd & Birrell, citing Sorenson & Snow, 1991, *ibid*.

It is important to recognise that disclosure is '*often not a single event*'. The process of disclosure is affected by social context with relevant issues around safety, repercussions of disclosure, and the fact that disclosure is '*highly dependent on the reactions of others*'

(Freyd & Birrell, 2013:126; emphasis added)

All these factors need to be considered in relation to the 'reliability' of the memory/ies disclosed.

As noted in the previous section of this paper, we need to consider the *social context and circumstances* – including the associated power dynamics - in which memory is shaped, accessed and disclosed, which in turn affects the operation and processes of memory.<sup>148</sup>

*Disclosure of traumatic memories is highly dependent on the safety of the context in which disclosure is received and responded to.*

This further underlines the relationship between memory and power ('*social power not only dictates what it is appropriate to say out loud, but even what it is appropriate to remember*').<sup>149</sup> As noted previously, when the context of disclosure relates to child sexual abuse, the dynamics of power, inequality and potential absence of safety can be particularly strong in ways which impact memory: '*When parents, or any institutions of power, make it clear that trauma is not to be talked about or even thought about, memory can decline*'.<sup>150</sup> This also includes for adult survivors as well as, most obviously, children who are objectively dependent.<sup>151</sup>

*Failure to take account of the social context in which memory is generated, disparities of power, and the implications and potential repercussions of disclosure of traumatic memories, oversimplify debate about the reliability of memory in general and of 'recovered' memories of child sexual abuse in particular.*

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<sup>148</sup> In this context, it is pertinent to note Freyd's concept of 'shareability', according to which 'information we have never shared with others is organised differently than information we have shared' (Freyd, 1981 in Freyd & Birrell, *Blind to Betrayal*, p.115).

<sup>149</sup> Barlow et al, 'Trauma and Memory', *ibid*, p.320 and as previously cited. As these researchers note, '[a]ctors who portray confidence in their own statements can sway less-confident or low-power participants to doubt or distort their memories to fit in with others' statements' (*ibid*) and parental power over children can likewise affect the memory of children (as per the above quoted finding; Barlow, et al, 'Trauma and Memory', *ibid*, p.320).

<sup>150</sup> Barlow et al, 'Trauma and Memory', *ibid*, p.320.

<sup>151</sup> See, for example, Lindsay Malloy et al. 'Expected Consequences of Disclosure Revealed in Investigative Interviews with Suspected Victims of Child Sexual Abuse', *Applied Developmental Science* (Vol.15, Issue 1, 2011), pp. 8-19, and Sarah E. Ullman, 'Relationship to Perpetrator, Disclosure, Social Reactions, & PTSD Symptoms in Child Sexual Abuse Survivors', *Journal of Child Sexual Abuse* (Vol.16, Issue 1, 2007), pp.19-36. An earlier small sample study which interviewed thirty children who allegedly experienced abuse by non-family members found that 'willingness to disclose abuse promptly and spontaneously decreased when they [i.e. the alleged child victims] expected negative reactions, especially when the abuse was more severe' (Irit Hershkowitz et al, 'Exploring the Disclosure of Child Sexual Abuse with Alleged Victims and their Parents', *Child Abuse and Neglect*, Vol, 31 2007, pp.111-123).

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### ***SOCIAL CONTEXT, SAFETY, THE DYNAMICS OF DISCLOSURE***

- The process of disclosure of traumatic memory 'is highly dependent on the reactions of others' (Freyd & Birrell, 2013: 126)
- '[M]ost people who experience childhood sexual abuse do not disclose it until adulthood, and many may never tell at all' (Freyd & Birrell, 2013, p.123)
- Disparities of power affect both the safety of disclosure and the nature of what is recalled: 'Actors who portray confidence in their own statements can sway less-confident or low-power participants to doubt or distort their memories to fit in with others' statements' (Barlow et al, 2017: 320); ('[s]ocial power not only dictates what it is appropriate to say out loud, but even what it is appropriate to remember'; Barlow et al, 2017: ibid)
- '*Nondisclosure, delayed disclosure, and retraction are particularly likely in cases in which the perpetrator is close to the victim*' (Freyd & Birrell, 2013, p.123)

## Understanding of memory needs to be updated

Understanding of the nature of memory urgently needs to be updated in light of current clinical and neuroscientific findings. We also need to pay attention to the *social contexts* in which *different types of memory* are generated, shared and/or disclosed.

Current research establishes that memory is not 'a discrete phenomenon, a fixed construction, cemented permanently onto a stone foundation'.<sup>152</sup> The process of recall involves a degree of reconstruction<sup>153</sup>, and the way we are feeling at the time the memories are recalled can influence both what and how we remember.<sup>154</sup> This is the case for recollection in general, and certainly in the context of recollection of trauma: 'the accuracy of memory for highly traumatic events depends on the socioemotional context in which they occur'.<sup>155</sup>

As van der Kolk underlines, '[t]he key factor is our level of arousal',<sup>156</sup> and in the case of traumatic memory the arousal level is high. Processing, resolving, and integrating the 'split off' implicit memory/lies of trauma is dependent upon the ability to become and maintain calm in response to 'images, thoughts, sounds, or physical sensations that remind you of the past'.<sup>157</sup> It also involves a level of verbalisation of what was unable to be expressed in words before ('*If you've been hurt, you need to acknowledge and name what happened to you*').<sup>158</sup> This is an ability which also entails movement to a different area of the brain.<sup>159</sup>

The implications of the current clinical and neuroscientific research for effective trauma treatment and therapy are enormous. For example, 'a careful clinical recognition of, and *ability to distinguish between and work with, memory that is declarative or explicitly held in a conscious, narrative verbal format and nonverbal, implicit memory that is evoked by traumatic reminders is vital*'.<sup>160</sup> So, too, is ability to assist the client to remain within 'the window of tolerance'<sup>161</sup>; i.e. the level of arousal at which feeling can be tolerated without overwhelm as fragments of memory are integrated and as 'the 'transfer' of memory from situationally accessible memory to verbally accessible memory' increases.<sup>162</sup>

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<sup>152</sup> Levine, *Trauma and Memory*, p.2.

<sup>153</sup> In fact evidence suggests that autobiographical memory necessarily entails construction (i.e. rather than being a simple and literal record of experiences which occurred), that conversation and interaction with caregivers structures the experience of children, and is internalised in the child's mental representation and subsequent recall. This is not a new finding (see, for example, K. Nelson, 'The Psychological and Social Origins of Autobiographical Memory', *Psychological Science* (4, 1993), pp.1-8). Note that 'development of a concept of self is a prerequisite to accurate autobiographical memory, and because a concept of self is not in place until approximately 24 months of age, this is the age at which accurate accounts of autobiographical memory become evident' (Barlow et al, 'Trauma and Memory', *ibid*, p.308). Memories are also constructed to the extent that they are 'attributions that we make about our mental experiences based on their subjective qualities, our prior knowledge and beliefs, our motives and goals, and the social context' (M.K. Johnson, 'Memory and Reality', *American Psychologist*, 61, 2006, p.760).

<sup>154</sup> 'A considerable body of research points to state dependence in learning, memory, and recall. That is, when a person is in one emotional and physiological state, it is more difficult to access memories and experiences of a different state' (Eich & Metcalfe, 1989; Tobias et. al, 1992; van der Kolk, 1994) in Chu, *Rebuilding Shattered Lives*, p.101). also Levine, *Trauma and Memory*, p.3. For a detailed account of the significance of this point more generally, see Frank Putnam, *The Way We Are: How States of Mind Influence Our Identities, Personality and Potential for Change* (New York: IPBooks, 2016).

<sup>155</sup> Barlow et al, 'Trauma and Memory', *ibid*, p.310, and as per previous discussion.

<sup>156</sup> van der Kolk, *The Body Keeps the Score*, *ibid*, p.177.

<sup>157</sup> van der Kolk, *The Body Keeps the Score*, *ibid*, pp.205-6.

<sup>158</sup> van der Kolk, *The Body Keeps the Score*, *ibid*, p.234.

<sup>159</sup> '[R]ealization results in an autobiographical narrative memory of traumatic events' (van der Hart et al, *The Haunted Self*, *ibid*, p.318); 'The intention of memory work is not just to disrupt procedural learning or to effect a verbal account of previously nonverbal memory, but also to bring nonverbal memory into a domain that is regulated by a different part of the brain' (Siegel, 1999, 1995; cited in Ogden et al, *Trauma and the Body*, *ibid*, p.239).

<sup>160</sup> Ogden et al, *Trauma and the Body*, *ibid*, p.236; emphasis added.

<sup>161</sup> 'The three zones of arousal: A simple model for understanding the regulation of autonomic arousal' (Ogden et. al, ref. Siegel, 1999, *Trauma and the Body*, *ibid*, p. 27).

<sup>162</sup> Ogden et al, *Trauma and the Body*, *ibid*, 243..This work takes place 'at the upper and lower edges of the window of tolerance, accessing enough of the traumatic material to work with, but not so much that the client becomes dysregulated, dissociated, and retraumatized' (*ibid*)

Yet these important findings are not reflected in many contemporary debates and conversations about memory. This also applies to many current *psychology textbooks*, which likewise do not adequately consider the distinction between *explicit* and *implicit* memory, and hence are not informed by current research in their depiction of traumatic memory.<sup>163</sup>

Given the centrality of memory to a coherent and continuous sense of self,<sup>164</sup> it is anomalous, as Brand and McEwen highlight, that in their accounts of 'false memory' some current psychology textbooks 'are devoted to discrediting the accuracy of memory' per se.<sup>165</sup>

So what are the research findings with respect to the accuracy of different types of memory? Is conscious recall more reliable than implicit, environmentally triggered memories?

*Neither explicit nor implicit memory is infallible.* As noted in the previous section on recovered memory, research establishes that both types of memory can be 'unreliable' as well as 'reliable'.<sup>166</sup> Research also establishes unequivocally that across a range of samples, '*recovered* [i.e. implicit, traumatic] *memories and continuous* [i.e. explicit] *memories were equally accurate*'.<sup>167</sup> ('Across many studies, approximately 75-79% of the details in human memory for trauma *and for many other types of life events* are accurate').<sup>168</sup>

Numerous cases in various parts of the world have demonstrated that recovered memories have been verified and corroborated by independent evidence or admissions of guilt by perpetrators or findings of guilt by courts.<sup>169</sup> As Barlow et al. elaborate, key studies of the mid and late 1990s (which include what is still regarded as '[o]ne of the best' longitudinal studies of recovered memory which found 'that recovered versus continually available memories did not differ in the number of inconsistencies with the contemporaneous evidence')<sup>170</sup> continue to be cited. This is along with 'many other sources' by contemporary researchers such as Constance Dalenberg who writes authoritatively in this area.<sup>171</sup>

Another such study<sup>172</sup> conducted in an inpatient mental health unit examined 90 women ('most of whom had experienced childhood trauma'). It found 'that most of the participants who recovered previously forgotten memories of childhood sexual abuse attempted to find corroborating evidence to support their memories', and that '[o]f those who sought corroboration, 89% of participants found this evidence'.<sup>173</sup>

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<sup>163</sup> See Sam Wilgus et al. 'Coverage of Child Maltreatment in Abnormal Psychology Textbooks: Reviewing the Adequacy of the Content', *Psychological Trauma: Theory, Research, Practice, and Policy* (American Psychological Association, 2015) and Bethany L. Brand & Linda McEwen, 'Coverage of Child Maltreatment and Its Effects in Three Introductory Psychology Textbooks', Division 56, *Trauma Psychological Association*, *Trauma Psychology News* (Fall, 2014), pp.8-11.

<sup>164</sup> See, for example, Addis & Tippett, 'Memory of Myself: Autobiographical Memory and Identity in Alzheimer's Disease', *ibid*.

<sup>165</sup> Brand & McEwen, 'Coverage of Child Maltreatment and Its Effects in Three Introductory Psychology Textbooks', p.8

<sup>166</sup> Barlow et al, 'Trauma and Memory', *ibid*, p.322, ref. Chu et al, 1999; Williams, 1995; Dalenberg, 2006; also see 'Recovered memory: delayed onset memory recall' (previous section).

<sup>167</sup> Brand & McEwen, 'Coverage of Child Maltreatment and Its Effects in Three Introductory Psychology Textbooks', p.9. A recent study has also demonstrated that Dissociative Identity Disorder (DID) patients are not more suggestible or prone to develop false memories than PTSD patients, actors simulating DID, and/or healthy controls. The findings support a trauma-related understanding of DID and are at odds with the so called socio-cognitive / fantasy model of DID (Vissia, E. M., Giesen, M. E., et al. 'Is it trauma- or fantasy-based? Comparing dissociative identity disorder, post-traumatic stress disorder, simulators, and controls' *Acta Psychiatr*, 134, 2, 2016, pp.111-128.

<sup>168</sup> Dalenberg, 2006 (original emphasis) cited in Barlow et al, 'Trauma and Memory', *ibid*, p.322.

<sup>169</sup> <https://blogs.brown.edu/recoveredmemory/case-archive/legal-cases/>

<sup>170</sup> I.e. L.M. Williams, 'Recovered Memories of Abuse in Women with Documented Child Sexual Victimization Histories', *Journal of Traumatic Stress*, 8, 1995, pp.649-673; discussed in Barlow et al, 'Trauma and Memory', *ibid*, p.322.

<sup>171</sup> Constance Dalenberg, 'Recovered Memory and the Daubert Criteria: Recovered Memory as professionally tested, peer reviewed, and accepted in the relevant scientific community', *Trauma, Violence, and Abuse* (7, 2006), pp.274-310, discussed in Barlow et al, 'Trauma and Memory', *ibid*, p.322.

<sup>172</sup> James Chu et al, 'Memories of Childhood Abuse: Dissociation, Amnesia, and Corroboration', *American Journal of Psychiatry*, 156, 1999, pp.749-755.

<sup>173</sup> Chu et al, 'Memories of Childhood Abuse', *ibid*, as discussed and presented in Barlow et al, 'Trauma and Memory', *ibid*, p.322 (emphasis added). As Barlow et al also discuss, an earlier study found that 'a large majority (74%) of patients...sought corroboration of their recovered memories of child sexual abuse and did find confirmation, with an additional 9% finding evidence that was suggestive but not conclusive' (Barlow et al, 'Trauma and Memory', *ibid*, p.322, referencing (Herman & Schatzow, 1987).

*'Memories that are recovered – those that were forgotten and subsequently recalled – can often be corroborated and are no more likely to be confabulated than are continuous memories'*

Chu, 2011, p.80 (citing ' (Dalenberg, 1996; Kluft, 1995; Lewis, Yeager, Swiza, Pincus & Lewis, 1997); also Dalenberg et al, 2012.

Neurological impacts do not occur in a vacuum but are generated by relational experience and its dynamics. Awareness of the differences between implicit and explicit memory, of the effects of stress on memory, and on *the social context in which it is generated, retrieved and expressed* is critical to becoming trauma-informed, and to informed pathways to support and justice for those affected by interpersonal trauma.

### **KEY POINTS ABOUT THE RELIABILITY OF MEMORY**

- Current research establishes that memory is not fixed and unchanging and that the process of memory retrieval inevitably imparts a degree of memory reconstruction
- The fact that neither explicit nor implicit memory is infallible does not mean that either is necessarily unreliable
- The use of the term 'memory' to describe conscious, explicit memory only (i.e. non-inclusive of reference to implicit/ unconscious memory) is apparent in many psychology textbooks
- In their critique of 'false memory' in relation to delayed recall of child sexual abuse, psychology textbooks are often not adequately informed about the nature of traumatic (implicit) memory and problematically cast doubt on the reliability of memory per se (Brand & McEwen, 2014)
- Research on a range of samples has shown that recovered (implicit) memory can be as accurate as continuous (implicit) memory (Dalenberg et al. 2012)



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## Ongoing research and implications around the intergenerational transmission of traumatic memory

On an adjacent note, it is important to be aware that the transmission of trauma within and across generations is now well established.<sup>174</sup> Research is proceeding into the neural and social interplay around such transmission:

*'[R]esearch over the past few years has not only chronicled the existence of such conduction but has demonstrated some of the epigenetic, molecular, and biochemical mechanisms responsible for such transmission'.<sup>175</sup>*

The implications of such research for enhanced understanding of the intergenerational impacts of traumatic memory are enormous. And while beyond the scope of this report to consider, they highlight the need for 'trauma-informed' awareness that such research exists and continues to grow.

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<sup>174</sup> 'The intergenerational transmission of trauma is a well-known fact in the psychological literature', (Freyd & Birrell, *Blind to Betrayal*, p. 110, citing Rachel Yehuda et al. 'Childhood Trauma and Risk for PTSD: Relationship to Intergenerational Effects of Trauma, Parental PTSD, and Cortisol Excretion', *Development and Psychopathology*, 13 (3) 2001, pp.733-753.

<sup>175</sup> Levine, *Trauma and Memory*, p.161.

## Concluding comments

This paper, which introduces and discusses the nature of memory with a particular emphasis on traumatic memory, confirms that memory is indeed 'dynamic and complex'.<sup>176</sup> It further confirms that research findings regarding the nature of memory need to be widely known both to better understand and better assist the many people who experience the impacts of traumatic memory. Given the high costs to the individuals directly affected, to the people with whom they interact, to the services with which they have contact, and to society as a whole, awareness of current research findings in relation to key types, functions, and processes of memory is critical to becoming 'trauma-informed'.

The paper has presented a wide array of material in relation to diverse aspects of the topic. As key points are summarised at the end of the various subheadings it is not necessary to reiterate them in these concluding comments. They can be reconsulted at any time either as a refresher or to stimulate further consideration and discussion.

In conclusion, it is essential for us all to be aware that memory is not a single entity but comprised of different types of memory which relate to different parts of the brain. The major distinction is between *explicit* (conscious, verbal) and *implicit* (relatively unconscious and non-verbal) memory and traumatic memory is a devastating form of *implicit* memory. It is critical to take account of this key distinction to clarify professional and popular conceptualisations and commentary on memory. This will aid interaction with, and recovery of, the many people who experience the impacts of traumatic memory at enormous individual and social cost (i.e. to all of us).

Research upholds that '[c]ontrary to the widespread myth that traumatic events are seldom if ever forgotten, much trauma is not remembered until something happens to bring it to mind'.<sup>177</sup> As this paper has discussed, a range of factors influence the process by which traumatic - as all - memories are recalled. These include *social context/s* which incorporate the workings of power (i.e. recollection or retrieval of memory is not a purely neurological phenomenon).

It is now confirmed that trauma 'can disrupt and affect memory in many ways',<sup>178</sup> and that severe trauma 'can interact with memory at any one or more' of its various stages.<sup>179</sup> At the same time, and seemingly also counterintuitively, research findings in relation to trauma suggest 'a memory disruption that seems to involve excessive *remembering*, rather than 'forgetting',<sup>180</sup> i.e. trauma can lead to loss of conscious (explicit) recall but to subsequent intrusion of *implicit*, unassimilated memories which were too overwhelming to be consolidated into explicit memory at the time.

*The important distinction between explicit, conscious and implicit, relatively unconscious memory helps us understand this phenomenon* (i.e. the nature of traumatic memory; that what may be consciously 'forgotten' may be remembered *implicitly* via sensation, movement and behaviour at an *unconscious* level).

The key distinction between explicit and implicit memory also assists understanding of the substantiated phenomenon of *recovered* (delayed onset recall) memories, i.e. intrusion of previously unavailable memories which 'have been forgotten for a period and then remembered'<sup>181</sup> which also occurs outside of trauma and in the general population.<sup>182</sup> Research findings in relation to recovered memory are consistent with research findings on the workings of memory: 'understanding memory

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<sup>176</sup> Goodman-Delahunty et al, *Empirical Guidance on the Effects of Child Sexual Abuse on Memory and Complainants' Evidence*, *ibid*, p.46.

<sup>177</sup> Brewin, 'A Theoretical Framework for Understanding Recovered Memory Experiences', *ibid*, p.165.

<sup>178</sup> Barlow et al, 'Trauma and Memory', *ibid*, p.315.

<sup>179</sup> Barlow et al, *ibid*.

<sup>180</sup> Barlow et al, 'Trauma and Memory', *ibid*, p.321; emphasis added.

<sup>181</sup> Barlow et al, 'Trauma and Memory', *ibid*, p.322.

<sup>182</sup> Barlow et al, *ibid*, p.321, referencing Amstadter & Vernon, 2006, Najmi et al, 2010, and Barlow & Goldsmith, 2014.

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for traumatic events does not require proposing any special mechanisms of memory that act differently than normal psychological mechanisms and processes'.<sup>183</sup>

This underlines the additional key point that when any memory is retrieved, it is 'susceptible to change, such that future retrievals call upon the changed information'<sup>184</sup> ('no memory is a literal account, nor an exact replica, of an experience or event').<sup>185</sup> This also accounts for the research findings which uphold that '[m]emories that are recovered – those that were forgotten and subsequently recalled – can often be corroborated and are no more likely to be confabulated than are continuous memories';<sup>186</sup> 'The cognitive processes that underlie everyday memory are the same processes that lead to errors in processing traumatic memories...Like any memory, the availability of memory for traumatic events depends on how it is assessed'.<sup>187</sup>

*Consistent with the content of this paper which address the social context of memory, betrayal trauma, the survival value of (explicit, conscious) 'forgetting', the impact on memory of power disparities, and the centrality of safety - emotional as well as physical - to disclosure of traumatic experience and memories, assessment of the reliability of memory/ies must also control for all these factors.*

While the topic of memory in general and traumatic memory in particular is challenging, the stakes of understanding the key points of this paper are high. Basic and widespread understanding of the above points is critical to becoming trauma-informed, to safe less destabilising interactions with people who experience the impacts of trauma, and to enhanced service provision and legal and justice processes for the many people who have trauma histories.

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<sup>183</sup> Barlow et al, 'Trauma and Memory', *ibid*, p.323; Brewin, 'A Theoretical Framework for Understanding Recovered Memory Experiences', *ibid*, p.149.

<sup>184</sup> Rydberg, 'Research and Clinical Issues in Trauma and Dissociation...', *ibid*, p.94.

<sup>185</sup> Goodman-Delahunty et al, *Empirical Guidance on the Effects of Child Sexual Abuse on Memory and Complainants' Evidence*, *ibid*, p.46.

<sup>186</sup> Chu, *Rebuilding the Shattered Self*, *ibid*, p.80 (citing Dalenberg, 1996; Kluft, 1995; Lewis, Yeager, Swiza, Pincus & Lewis, 1997); also Dalenberg et al, 2012).

<sup>187</sup> Barlow, 'Trauma and Memory', *ibid*, p.323, referencing Sivers, 2002.



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