



Reconsidering therapeutic action: Loewald, cognitive neuroscience and the integration of memory's duality

Jefferson A. Singer and Martin A. Conway

Department of Psychology, Connecticut College, New London, CT 06320, USA

– jasin@conncoll.edu

Institute of Psychological Sciences, The University of Leeds, Leeds, LS2 9JT,

UK – M.A.Conway@leeds.ac.uk

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Both Loewald's relational theory of memory and the Self-Memory System (SMS) of cognitive neuroscience describe a dual memory system, one system that is experience-near sensory-perceptual, and the other, symbolic and conceptual. In contrast to perspectives that locate therapeutic action in either altering implicit procedural memories or interpreting explicit historical content, we argue that psychological health emerges from effective integration of both memory systems, achieved through a combination of transference dynamics and analytic insight. We support this position by elaborating four key assumptions of the Loewaldian and SMS perspectives, followed by application to a clinical example. We highlight the power of certain integrative autobiographical memories called 'self-defining memories' in assisting an understanding of transference dynamics and providing metaphoric touchstones to guide subsequent treatment.

Keywords: memory, Loewald, self-defining, memories, cognitive, neuroscience, self-memory, system

A canonical moment in psychoanalysis occurs when a patient shares an emotional and vivid memory with the therapist for the first time. How psychoanalysts have understood the role of memory disclosure in therapeutic progress has shifted many times over the last 100 years. In the earliest psychoanalytic formulations, the recounting of a charged memory was conceptualized as an abreactive release, a cathartic expression of a repressed instinctual desire (Breuer and Freud, 1893–95). As Freud's thinking evolved, he focused more on the 'concealing' or screening aspects of memories (Freud, 1899) rather than their ostensible revelations. Similar to dreams the manifest content of memories tended to be fragmented and often distorted patchworks that contained latent meanings that required more extensive analysis and interpretation.

Subsequent analysts continued to place more emphasis on the memory as a conduit to unconscious material rather than as meaningful in and of itself (e.g. Fenichel, 1927). In the 1940s and 1950s, drawing on ego psychology (Hartmann, 1939), Rapaport (1942, 1951) and Klein (1956) promoted a 'new look' at explicit memory content, emphasizing its potential as a window into the personality and defenses of the individual. Both Martin Mayman (1968) and Robert Langs (1965a, 1965b) developed scoring systems for coding personality themes and defenses in early memories.

As object relations, self psychology, and relational psychoanalysis (Fairbairn, 1954; Greenberg and Mitchell, 1983; Hoffman, 1998; Kohut, 1971; Loewald, 1960; Mitchell, 1988; Ogden, 2004; Stolorow and Atwood, 1992; Winnicott, 1960) took center stage in the last decades of the previous century, attention to transference patterns in the therapeutic relationship dominated over memory interpretation and analysis. In the “running battle ... between interpretation/insight and relational experience as focal points of therapeutic action ...” (Fosshage, 2005, p. 534), advocates for the prioritizing of the role of subtle often unconscious relational dynamics between analysand and analyst were clearly in ascendance. Fonagy (1999) made the most forceful statement for the ‘relational experience’ position:

Memory is of tremendous importance, but as a mediator, a valuable channel for communicating about the nature of internal representations of object relationships, not as an account of history, be it accurate or inaccurate. It is the flesh on the skeleton of the internal structure, but should not be confused with the structure itself – the procedures underpinning ways of experiencing the self with the object.

(Fonagy, 1999, p. 217)

In making this claim for ‘procedural patterns’ of object relations as the true site of therapeutic action, Fonagy recruited cognitive science models of autobiographical memory that make distinctions between explicit (declarative) memory and implicit (procedural) memory (Schacter, 1992a, 1992b). The implicit procedural memory system is subcortical and non-conscious, consisting of over-learned and habitual routines that can be instantiated without awareness. Obvious examples are writing with a pencil, riding a bike, saying the alphabet. Fonagy, along with Stern *et al.* (1998; Nahum *et al.*, 2002), Clyman (1991), Gabbard and Westen (2003), Rustin and Sekaer (2004), and Mancina (2006), among others, located early repetitive patterns of self-with-other interaction in this procedural memory system. In the most extreme version of his argument, Fonagy asserted that the activation of these procedures is where intervention needs to be directed and that recovery of repressed memories for the sake of illuminating historical detail is a bit of a fool’s errand. By bringing to awareness the subtle influences of the patient’s relational routines, therapist and patient can gradually circumvent the grip they have over the patient’s reactive emotions and inadvertent actions. Simply articulating an emotional memory may be a helpful step in precipitating a relational pattern, but this disclosure in and of itself is unlikely to be the engine of change.

In contrast to Fonagy’s strong stance against ‘archeological’ models of memory recovery and analysis, Mancina took a more integrative position, indicating that explicit autobiographical memory can inform our understanding of implicit relational patterns, just as these unconscious patterns give emotional resonance and urgency to our explicit recollection and understanding of events (see also Davis, 2001; Vivona, 2009). Autobiographical memories can provide a shared navigational chart that gives more conscious control and direction to the treatment rather than what can be, at times, the rudderless listing of intersubjective and non-conscious ‘communications’ and ‘understandings.’

If the work on implicit memory can facilitate the emergence of phantasies and memories stored in the explicit memory, so the work of reconstruction, which relies on the autobiographic memory, can facilitate the emergence in the transference and in the dreams of the most archaic experiences, with their relevant phantasies and defenses, stored in the implicit memory of the patient.

(Mancia, 2006, p. 94)

Taking into account more recent writings of the Boston Change Process Study Group (2008) that move away from an earlier dichotomous position, it would seem that this more balanced perspective on the virtues of both implicit and 'reflective-verbal' modes of knowing and expression is in ascendance and a source of increasing interest both for psychoanalytic theory and cognitive science. For example, Vivona (2009, p. 1351) asserted that moments of meeting between patient and therapist are not simply "embodied simulations" in which each party's mirror neurons are in sync, and change happens wordlessly and without symbolic thought. Rather, growth is most apt to emerge through "embodied language" when the physical and verbal realms are in congress and the dyad is alive to both worlds. Or, as the Boston Change Process Study Group has suggested: "... The gestalt of implicit experience, emergent reflective verbalization, and the relation between these two ..., all three taken together, make up meaning" (2008, p. 144).

The goal of this article is to advance this integrative position in which both therapeutic action and psychological health are a function of the therapist's and the patient's capacity to embrace the duality of memory – its more unconscious sensory elements and its more conscious, representational and articulated dimensions. In doing so, we also posit an alternative view of how relational psychoanalysis and cognitive neuroscience might link together in contrast to the earlier proposals of Clyman, Fonagy, and Nahum *et al.* (2002) that had equated implicit relational patterns with cognitive science's implicit or procedural memory. Despite the superficial analogy that suggests a logical connection (i.e. a set of actions that appear routinized and take place typically out of awareness), we see relational memories and implicit relational interactions as involving much different and more complex cognitive structures than the sensory-motor routines connected with brushing one's teeth or turning the pedals of a bicycle

To support this integrative position, we provide a synthesis of Hans Loewald's foundational work on memory in psychoanalysis with our own contemporary cognitive neuroscience model of autobiographical memory and self (Conway and Pleydell-Pearce, 2000; Conway *et al.*, 2004). This synthesis incorporates unconscious aspects of memory along with more explicit declarative memory. In contrast to an emphasis on procedural memory, it posits a largely unconscious episodic memory system that is our initial memory system, but which continues to play an important role in remembered experience, even after we develop a more abstract and logical mode of recollecting events. The body of this article explores this model of memory and elaborates the linkages between Loewald's view of memory and our own, providing clinical, laboratory and neuroscientific support for an

integrated model, which also draws on a relational view of psychological development. In the concluding section of this paper, we present a brief case history and illustrate the clinical implications of our integrative model of memory and its role in therapeutic action.

Background to Loewald

Hans Loewald (1906–93), German émigré to the United States and former student of Heidegger, was a pivotal figure in psychoanalysis whose re-conceptualization of Freudian ideas has had an enduring influence on a wide range of contemporary psychoanalytic theory, including object relations and relational theories of psychoanalysis (Chodorow, 2003, 2009; Mitchell, 2000; Ogden, 2006; Whitebook, 2004; see also earlier important discussions of his work in Cooper, 1988; Teicholz, 1999). For example, as laid out by Mitchell (2000), Loewald's writings (e.g. Loewald, 1980) can clearly be seen as providing a basis for contemporary meta- and clinical theories of relationality and intersubjectivity (Ogden, 2004; Stolorow and Atwood, 1992). His classic article, *On the therapeutic action of psychoanalysis* (Loewald, 1960) is often cited by relational psychoanalysts as a landmark moment in shifting the psychoanalytic *Weltanschauung* from a rigid commitment to therapeutic neutrality and objectivity to an acceptance of a more interpersonally-engaged and subjective therapeutic practice.

Wherever one might choose to trace the imprint of his influence, all recent appreciations of Loewald's metapsychology converge on his synthetic exposition of psychic development. In harmony with Classical theory, Loewald persisted in emphasizing the libidinal demands within the developing infant, but did not associate cathexis with energy discharge. Instead, he posited a duality of libidinal forces, one toward a primary state of fusion between self and object, internal and external reality, and the other toward an emerging autonomy of secondary ego function that allows for individuation, bounded thought and behavior, and self-definition distinct from original fusion with the object world. Most importantly, and radically, he did not see this secondary function as superseding the primary one, as much of Classical theory or ego psychological perspectives would endorse, but rather envisioned the two forces as remaining in communication and reciprocal influence over the adult lifespan (see Mitchell's (2000, pp. 18–20) analysis of this point; also Castoriadis, 1991). His vision of both effective therapeutic action and psychological health required an ongoing interchange between the primary sensory–imagery mode of experience and the more language-based and abstract representational mode.

One area of Loewald's thought that has yet to be fully acknowledged in this ongoing re-assessment of his contributions is his theory of memory. Although observations and insights about memory and its role in both ego development and clinical treatment are pervasive in his work (Loewald, 1955, 1960, 1962, 1973a, 1973b, 1979), his article, *Perspectives on memory* (Loewald, 1976) is the most detailed exposition of how he understood the psychogenesis of memory and its role in the mature and healthy ego. In this article he traces memory from its origins in the perceptual registrations of

the infant through the increasing differentiation of ego structures that culminate in the oedipal period. Key to his depiction of memory are two memory modalities that parallel his emphasis on primary and secondary modes of processing – an unconscious and sensory-based system (*enactive remembering*) and the other, a conscious, verbal and meaning-making system (*representational remembering*). As he charts the development of an integrated adult memory system, one can extract the following major assumptions that guide his understanding of memory:

- Much more is registered and retained in memory than we consciously realize.
- Two instinctual forces of union and differentiation in the infant lead to the development of primary and secondary process within the ego.
- Adult memory retains the dual memory system of enactive and representational remembering.
- Loewaldian 'repression' consists of enactive memories that have not been linked with representational meanings.

We believe that these assumptions provide a useful framework for understanding memory processes within relational psychoanalysis. Yet, even more, they provide a valuable bridge that connects a relational psychoanalytic perspective to a cognitive neuroscientific theory of autobiographical memory – the Self-Memory System (Conway, 2005; Conway and Pleydell-Pearce, 2000; Conway *et al.*, 2004; Conway and Williams, 2008). Both the Self-Memory System (SMS) and Loewald's theory of memory propose a dual memory system and both emphasize the distinctive adaptive functions of each system, while simultaneously highlighting their synergistic relationship. Each theory espouses a view that the fully functioning human being has a capacity to integrate information that is obtained in a non-conscious and sensory–perceptual *near* fashion with more abstract internal schemata that reflect symbolic and representational thought processes. For the Self-Memory System, the experience-near processing occurs in the *episodic memory system*, and schematic processing is achieved through the semantic categories and self-structures of the *long-term self*. Since it is likely that the Self-Memory System is unfamiliar to most psychoanalytic theorists and practitioners, we provide a brief overview of the model before outlining its connections to Loewald's theory.

Background to the self-memory system (SMS)

The SMS is a conceptual framework for autobiographical memory that specifies the interrelationships of self and memory with an emphasis on the role of short-term and long-term goals in the encoding, retention, and later construction of personal memories. It postulates a working self that is task-driven and focused on short-term goals with a primarily inhibitory relationship to intrusions from the long-term self. Connected to the working self is an episodic memory system that operates at a largely unconscious level and whose role is to produce brief sensory–perceptual–affective–summary records of experience which become available for possible integration into the long-term self (Conway, 2008, 2009).

The long-term self consists of semantic knowledge and self-structures that include self-representations, other representations and relationship schemas. Patients with amnesia due to certain types of organic brain damage may lose access to specific episodic memories but nonetheless retain access to semantic knowledge and conceptual aspects of the self (see Conway and Fthenaki, 2002, for a review). Within the SMS specific autobiographical memories including affectively-laden autobiographical memories such as 'self-defining memories' (Blagov and Singer, 2004; Singer *et al.*, 2007), are constructed from episodic memories, personal knowledge about one's life, and semantic knowledge from the long-term self.

The SMS consists then of two types of memory systems. There is the episodic memory system which is *experience-near* and contains summary records of experience. In contrast, the long-term self is *experience-distant* and contains records of generic and conceptual knowledge of a person's life. During the course of a day many episodic memories are formed, possibly in response to changes in goal orientation as task demands direct and re-direct attention (Williams *et al.*, 2007; Zacks, *et al.*, 2007). These episodic memories are not necessarily retained unless more extensive linkage to the long-term self is instantiated.

The overall purpose of the SMS is to meet two competing demands that allow for adaptive goal functioning in the individual. For the individual to respond to current exigencies from stimuli and yet also plan for future action and contingencies, the SMS must keep an *experience-near* reality-based record of ongoing goal activity and simultaneously maintain a coherent and stable record of the self's interaction with the world that extends beyond the present moment. The episodic memory system and the long-term self must be kept in a relative equilibrium that shifts with the requirements of particular external and internal priorities. If the system shifts too much in the direction of episodic memory system, the individual would be flooded with sensory-perceptual event images that are not integrated with contextual knowledge or self structures. If it shifts too much toward the direction of the long-term self, the memory system may reject contradictory external information and distort reality in the direction of a rigid self-schema.

To illustrate the problem of excessive dependence on episodic memories without coherent integration, consider the patient, AKP, who suffered from damage to his temporal lobes (Moulin *et al.*, 2004). AKP suffered the unusual syndrome of *déjà vécu*: the feeling of having lived the present moment before. This memory disorder can be distinguished from *déjà vu*, which is the sensation of having seen something before. AKP would make patently false claims that he had already read the day's newspaper that had just been set in front of him, that he had conducted an interview previously in a room in which he was being interviewed for the first time, or that all television programs that he watched were repeats. Further analysis of this disorder suggests that critical connections between the temporal lobes and the frontal cortex had been disrupted. These connections allow for the sequencing and integration of sensory-perceptual experiences into the larger context of the long-term self. With these connections damaged, AKP had no capacity for

differentiating the formation of new episodic memories from older ones. Lacking this discriminative function, he confabulated new episodic memories as already experienced past experiences – *déjà vécu*.

At the other extreme, many Post-Traumatic Stress Disorder patients may recall a false episodic memory in order to retain a more coherent and stable long-term self that has been threatened by the traumatic event. For example, a woman who witnessed the 9/11 destruction of the World Trade Center had a vivid false memory of seeing herself high above the ground, observing the collision of the plane with the towers far below her. This memory was intrusive and associated with an intense and disruptive sense of guilt. After a course of cognitive-behavioral therapy, she was able to regain a more accurate memory that located her at the street level where she had actually been and allowed feelings of fear and anger from that day to surface. She also no longer saw herself in the memory but experienced it from the vantage point of being a participant. Prior to the treatment, her long-term self had imposed the distant observer perspective on her episodic memory in order to shield her from affect-laden destabilizing episodic memories of the powerful negative emotions that had swept over her at the time of the traumatic event.

The preceding examples illustrate how these two memory systems require reciprocal input and integration in order to keep the individual's overall memory system functioning effectively and thereby maintain an optimal subjective sense of well-being. In the following sections, we illustrate how this integration of a dual memory system is also central to Loewald's psychoanalytic model of memory.

Four assumptions of the Loewaldian and SMS models of memory

1. Much more is registered and retained than we consciously realize

For Loewald, the mind's registration process of the external environment (and later the internal world as well) is a bit like a whale imbibing a large section of the sea. The memory system takes in much more than it can put to immediate use and, while some registered stimuli are ephemera ejected from the spout of thought, it retains in the great mouth of the unconscious far more than awareness can encompass. Loewald (1976) calls this reservoir of unconscious memory traces the "timelessness of the unconscious" (p. 151).

A corollary of this idea is that in infantile memory there is essentially no difference between registration and retention. Loewald saw the infant's cognitive system as boundary-less and instinctual. It makes no differentiation between external and internal, object and self, past and present. As stimuli, sensations, and feelings are registered or encoded, they are retained without a sense of separation or distance from the initial experience. There are memories but no organizing structures in long-term memory – no higher order ego to slot and categorize these recollections. Borrowing from a more contemporary model of 'multiple code' processing (Bucci, 2000), we might

characterize the infant and the developing child as remembering in ‘subsymbolic’ and ‘symbolic imagistic’ modes that are likely to be retained in a non-conscious manner, lacking an organizing language and logic.

In agreement with Loewald’s assertions about unconscious remembering, the SMS also challenges conventional ideas about forgetting and decay of episodic memories. Drawing on the distinction between accessibility and availability, the SMS asserts that the sensory–perceptual records of the episodic memory system may become highly inaccessible over time if they are not integrated with the long-term self, but nonetheless remain available at a more unconscious level. Our laboratory has recently employed a highly sensitive body camera that is cued to take a picture of the immediate environment each time the body shifts or sharp movement occurs. When participants wearing these cameras attempt to recall the specifics of locations where they have been days or weeks later, including dates, times, conversations, and activities, they generate few concrete details. However, once prompted by visual cues produced by the body camera, their recall for supposedly ‘forgotten’ details substantially improves. The body camera is a clever way to remind us that much more is encoded and retained than is encompassed by conscious memory (St. Jacques *et al.*, 2010).

What this example also highlights, and here Loewald’s observations are crucial, is that these retained memories when activated may have strong sensory and affective qualities to them. Clearly, the vast majority of inaccessible memories are unlikely to be connected to meaningful or affectively powerful cues, but our work, in sympathy with Loewald, suggests that some of them are. These important, but temporarily inaccessible, memories may be the key to the phenomenon of ‘involuntary recall,’ which takes place when a memory cue suddenly revives a flood of sensory-rich episodic memories that had been previously out of mind (Proust, 1932; Salaman, 1970). As an example the amnesic patient VO, when viewing some photographs taken several weeks earlier in a café at a train station, suddenly remembered that she had become extremely anxious when looking at the flashing lights on a slot machine and had to move her seat so she could not see it. Such a high degree of specificity in recall of a ‘forgotten’ memory is unusual in any one, and especially in an amnesic patient (Loveday and Conway, 2011). It clearly shows that memories may remain available for recall even though they are often inaccessible.

2. Two instinctual forces of union and differentiation in the infant lead to the development of primary and secondary process within the ego

Loewald, in the spirit of ego psychology and object relations, saw the infant’s development as motivated by psychological and relational forces rather than a hydraulic drive reduction system focused on a return to homeostasis:

Instincts are here defined as what Freud called psychic representatives, not as biological forces, and as forces that *ab initio* manifest themselves within and between what gradually differentiate into individual and environment (or ego and objects

...). Instincts remain relational phenomena, rather than being considered energies within a closed system, to be 'discharged' somewhere.

(Loewald, 1976, p. 152)

Development begins in the relational matrix of infant aligned with caregiver and one instinctual pull is always toward the object as a source of nourishment, safety, and comfort (*object cathexis*). Yet the other force propels the organism toward differentiation, initially from the object but increasingly within its own ego system, such that the ego itself develops structures and boundaries within its own internal world (*narcissistic cathexis*). One of Loewald's most original insights was that that these forces, rather than simply being in opposition, were actually synergistic and co-creating. Initially, the infant experiences no differentiation between satisfaction from the mother and its own reverberations in memory of these experiences (e.g. sensory–perceptual–affective episodic memories of sucking the breast or being held). At moments of remembered satisfaction, it is able to withdraw from the object and pursue its own biologically-dictated individuation, which, after all, is the endpoint of its development as an independent organism. In this period of relative separation, the infant's 'primary memory' (episodic memory) is functioning, constructing a world of image and sensory recollection that depicts a timeless and fused 'reality' of self and object, inner and outer worlds. Yet, despite the echoes of this blissful union in memory, actual biological need eventually compels the infant back to the object.

Ironically, the very fact that it possesses a memorial capacity that allows it temporarily to withdraw from the object without protest leads it back to an eventual state of deprivation and object-seeking. The "primary narcissistic oneness" (Loewald, 1976, p. 170) yields again to renewed actual interactions with the object. These interactions, as Loewald observes, do not simply reinforce the satisfaction of union with the object but, through the modeling by the parent of language and gesture, convey a sense to the infant of its own object-ness. By communication with a level of ego organization higher than its own, the infant slowly internalizes concepts of boundary and differentiation that play an evolving role in its construction of memories over future periods of withdrawal and reflection. Interaction with adults encourages the infant to internalize a beginning sense of individuation and differentiation of the object from the self. This differentiation of self and object is paralleled by an increasing differentiation within the internal world of the ego, such that it creates units of separation between its own thoughts and perceptions, between past and present, between its interior world and thoughts about that world. Such differentiation eventuates in the beginnings of conscious thought for the infant. In other words, primary memory requires continual contact with the organizing influences of the object world to reach conscious representation.

[P]arents actively reflect the child to the child by their responsive encounters with him, encounters that become elements in the child's eventual inner reflexivity. It is this mirroring of the child on the part of the parents, a mirroring that inevitably,

because of the parents' higher mental development, reflects 'more' than the child presents, which leads to the development of secondary process.

(Loewald, 1976, p. 168)

What Loewald highlights here is that the shaping interaction with the parent allows for a developing capacity to use logical sequential thought and eventually language to make conscious and manipulate both the external world and the interior world of image, symbol, and wish/fantasy. In Bucci's multiple code model of processing, the child emerges with a "symbolic verbal code" that allows for the interplay of sensation, image, and language (Bucci, 2000, p. 216).

For Loewald the infant's developing memory reflects a synthesis of libidinal theory, object relations, and ego psychology. Its relational instinct to be with others and its ego instinct toward differentiation and cognitive complexity work in tandem as the rhythm of its interactions with and withdrawal from objects both propel development of ego differentiation from the object/external world and within the ego/internal world. The culmination of this early ego development is during the oedipal stage in which the child through intensive object-seeking ultimately masters the most complex forms of internalization that lead to even more sharply defined self–other boundaries and further differentiation of the ego with the emergence of the superego. Possibly, one important development of the cognitive self at this stage is an emergence of the 'I' in time. That is to say, the establishment in memory of a sense of the self traversing a temporal dimension, a time line, with a beginning and an end (see Habermas and Bluck, 2000).

A byproduct of this synthesis, as Loewald notes, is that memory development is inextricably tied to separation and loss:

Memory and 'object loss' are so intimately connected and yet so much in oppositional relation to each other that it often looks as though they are the two sides of the same coin. Although memorial processes often appear to be motivated by object loss, there would be no loss but only emptiness if the object were not already remembered in some form. And yet, one must also say that, in a deeper sense, only by virtue of the differentiation of subject from object – which is the primordial separation – does memory arise.

(Loewald, 1976, p. 160)

Loewald's depiction of the development of the differentiated ego from the interaction of the inner boundary-less perceptual/memorial world with the higher organization of the caregivers' object world bears striking similarities to how the SMS's long-term self develops its capacity to retain and categorize lasting autobiographical memories. In reviews of the literature on the development of infant memory, Bauer (2002, 2004) presents both experimental and neuroanatomical evidence that an implicit non-conscious memory system develops very early in the infant, followed by the emergence of an explicit memory system by the second year of life. As she details, infants have much greater memory capacity and skill than was believed possible by early developmentalists, such as Piaget, but there is still a major

advance in memory function that accords with development in frontal cortex and medial temporal connections as the second year of life begins.

Studies of infants before 9 months of age have demonstrated their ability to show visual habituation and responses to novel stimuli, which suggest that they have retained a basic visual percept. Similarly, 'mobile conjugate reinforcement' studies that employ a paradigm in which the toe of the infant is tied to a mobile, so that the mobile moves with the infant's kick, have demonstrated that infants will repeat this basic operant movement after delays of minutes or hours when re-exposed to the same mobile (depending on their age and availability of prompts [Rovee-Collier, 1997]). Yet both the visual habituation and the mobile studies have found that the infant is only able to make a brief sensory-motoric record of either a visual stimulus or simple operant behavior. Their visual memory is an automatic response to novelty rather than a cognitive awareness that the object is new. Similarly, the infant will no longer retain the operant kicking behavior if even a single element of the mobile is changed or if any changes to the pattern of the crib liner are introduced. The findings from both of these types of investigation of infant memory suggest the existence of a non-conscious iconic form of memory, much like the *experience-near* records of the episodic memory. The infants are not engaging in any kind of generative search and retrieval process in response to a memory cue; there is an implicit matching process with the immediate stimuli that seems to account for their ability to remember the previously encountered stimuli. There is a close *correspondence* to the physical world, but no effort yet toward integration of these stimuli into a *coherent* internal world of the self.

From a neuroanatomical standpoint, it appears that the areas of the brain that mediate recall of visual images and implicit learning – the striatum, cerebellum, and posterior-occipital regions – develop earlier than the parts of the brain that are involved in more conscious or declarative memory – the medial temporal lobe structures, medial diencephalon, limbic/temporal association areas, and the prefrontal cortex (Bauer, 2004). Interestingly, the areas in the frontal and anterior mid-brain regions that interface with the hippocampus in order to integrate sensory and semantic information do not seem to go online until nearly the end of the first year of life. However, the hippocampus, which appears critical to episodic formation, may well be functional at this very early age. Thus, the emerging evidence from neuroscience supports Loewald's proposal of a heavily sensory-motor and unconscious registration-retention network in the infant.

In addition to these procedures, infant memory researchers have also used a 'deferred imitation' paradigm to illustrate the presence of a more representational memory system in older infants that is able to recreate sequences of action that are temporally ordered. In these experiments, infants must repeat an action sequence after the original model has departed and there are no longer visual or physical reminders of the observed sequence. Although infants begin to show some capacity for short-term deferred imitation by 9 months (and some infants for longer-term imitation as well), almost all infants appear to have consolidated this memory skill by the second year, not coincidentally when language abilities are also emerging. The neuroana-

tomical correlates appear to correspond to more developed connections in the hippocampal formation (dentate) and frontal lobes (Bauer, 2004; Nelson, 1995), indicating a more topographically distributed but also more integrated memory system.

Once again, in support of Loewald's theory and the SMS, Sheffield and Hudson (1994; Hudson and Sheffield, 1998) found that as children age from 18 months to 24 months to 3 years, their capacity to re-enact an event based on increasingly symbolic cues improves dramatically. At 18 months, they can be cued by another child on videotape; at 24 months a photograph of the event can cue their recall, and by the age of 3, their recall can be cued by a verbal description. Bauer's review of the literature makes clear that children who have reached the age of 3 or 4 are already processing memory in largely verbal forms and lose accessibility to their earlier pre-verbal, more iconic memories. However, if the children are returned to physical environments in which the original pre-verbal memories were encoded, this contextual support does seem to encourage recall that had not been possible when only verbal cues were accessed (for an early psychoanalytic view of children's memory that anticipated this position, see Schachtel, 1959).

The story then of evolving memory systems in contemporary cognitive neuroscience is the increasing domination of verbal and conceptual recall over the original iconic and implicit system. As Nelson and Fivush (2004) document, the child's autobiographical memory by age 3 and onward is highly influenced by parental and other adults' modeling that takes place in conversations about memories. Parents model the parameters, structure, and motivational emphasis in how memory is narrated and discussed. Parental prompts to children's fledging memories guide them in the direction of expected narrative sequences, causal relationships, event boundaries, and even moral and evaluative attributions.

In Loewald's framework, the higher ego organization of the children's most intimate objects leads to the infant's internalization of event boundaries, time sequences, and symbolic language. This internalization of a more differentiated and representational world is paralleled in the differentiation of the primary (sensory-perceptual/boundary-less) process from the developing secondary process. As this differentiation occurs, the primary narcissistic world of memory grows increasingly less accessible; but it still remains available (given the right supportive context). Relational psychoanalysts would indeed argue that intersubjective encounters in psychotherapy, which Nahum *et al.* (2002) call 'moments of meeting' between analysand and analyst, are exactly when these early forms of 'implicit relational knowing' are revived.

However, in contrast to Fonagy's (1999) and Nahum *et al.*'s (2002) earlier stance that therapeutic action with regard to these activated 'implicit memories' takes place primarily through relationship rather than interpretation, Loewald's conception is much more concerned with a flowing exchange of primary and secondary process thought. Loewald's perspective spells out how a primary libidinal energy toward object relationships could at the same time fuel the infant's capacity for symbolic thought, differentiation and autonomy. The emerging work on adult mediation of narrative memory

development in children serves to validate Loewald in his effort to bridge ego psychology and object relations.

3. *Adult memory retains the dual memory system of enactive and representational remembering*

In both his metapsychology and his clinical theory, Loewald emphasized the importance of the ego's ultimate differentiation into an enduring primary memory system, *enactive remembering*, and the more recent secondary system of *representational memory*. The enactive memory system remains largely unconscious and consists of sensations, feelings, and images that draw on the primary narcissistic state in which there is little differentiation between self and object, internal and external, and past and present. Enactive remembering in the adult emerges in its more unmediated form during transference responses, dreams, fantasies, spiritual epiphanies, 'oceanic feelings' and various forms of creativity including poetry, art, dance and song. For example, the early 20th century art critic, R. H. Wilenski, argued that modern sculpture should seek to convey forms that lie beneath the representational and surface world:

[S]culptors are aiming not at truth to nature in the old sense [e.g. Greek or Roman statues], which they regard as useless at the moment, but at the truth to life in a sense that has long been forgotten.

(Wilenski, 1932, p. 164)

In contrast, representational conceptual memory is the secondary process system of conscious thought, language, subject–object distinctions, abstraction, and logical sequence. It is able to separate the one who remembers not only from the object of its recollection, but from the process itself of remembering. It is likely to rely on the linkage of visual and sensory images to existing categories of knowledge and to fit experience within accepted cultural schemata.

In Loewald's articulation of adult enactive and representational memory, we come to the heart of the SMS's emphasis on the differing functions of the episodic memory system and the long-term self. Within the SMS, the episodic memory system, as a sensory–perceptual record system, provides individuals with a continuous read-out of their interactions with the world. It serves to locate us in the present moment, orienting us in space and physical reality. Without it, we have no retention of what activity we have just completed, what sight we have just viewed, or sentences we have just heard or uttered in reply. The episodic memory system's embeddedness in the world grounds our being and gives texture, feeling, and immediacy to our experience. Yet it is transitory in its response to exigencies of the working self and its memory traces will often be inhibited and decay if assessed as irrelevant to more pressing concerns of the long-term self.

However, when these memory images connect to active goals in the long-term self, they become integrated with semantic knowledge and older memories. When this happens, the episodic memory system combines with the efforts of the self to maintain a coherent conception of both external

reality and the place of the individual in that reality. The long-term self with its store of memories and its semantic self-structures allows the individual to step back from immediate experience and find the commonalities, thematic linkages, and categories that promote a sense of unity across past, present, and future, while also allowing for distinctions and classifications of experience. The ability both to see similarities and make distinctions is the vital ingredient to self-regulation and future action. It generates schemata, guides our attention, aids in evaluation, and allows us to set priorities regarding sequences of action (see again Schachtel [1959] for an early formulation of this idea).

As evidence for the schematic aspects of the long-term self, Schacter and his colleagues have used a false recognition paradigm with functional MRI studies to demonstrate the particular role of the Medial Temporal Lobes (MTL) in ‘gist-processing.’ In these studies, healthy individuals are likely to make false recognition errors if they have been shown a list of semantically-linked words (e.g. tired, rest, slumber, dream) and then are later asked if they have seen a non-previously presented but semantically similar word (e.g. ‘sleep’). Amnesiac individuals with damage in the MTL will not show this recognition bias, indicating that the part of the brain that makes linkages and retains concepts is not operating to instantiate the connections among the related words. Interestingly, these same researchers have also found evidence that when individuals make true recognition judgments (accurate decisions about actual memories), there is activation of occipital and parietal areas, suggesting that the episodic memory system and its ‘sensory-near experiencing’ are called into play (Slotnick and Schacter, 2004).

‘Self-defining memories’ are one sub-type of autobiographical memory that emerges from the integration of the schemas of the long-term self and the sensory-imagery of the episodic memory system; we have demonstrated their critical role in affect generation, meaning-making, and personality assessment (Blagov and Singer, 2004; Moffitt and Singer, 1994; Singer, 2005; Singer and Bonalume, 2010). These memories, whether disclosed or kept inside, are repetitively recalled and vivid in recollection; they share thematic similarities to other affectively intense memories and often connect to enduring themes or unresolved conflicts in individuals’ lives. In Loewaldian terms, they are the synthetic products of enactive and representational memory systems and therefore hold great promise for exploration within the therapeutic relationship. By noting the benefits of communication and balance between the two types of memory systems (enactive/episodic) and (representational/long-term self), we come to Loewald’s last assumption – what happens when there are dissociations between these two forms of memory.

4. Loewaldian ‘repression’ consists of enactive memories that have not been linked with representational meanings

For Loewald an isolation or break-down between the memory systems signals ‘repressed’ imagery, fantasy, and feelings. However, a more contemporary understanding of what Loewald means by repression would be a

dissociation or fragmentation of memory rather than a complete lack of access to the memory. Repeating, acting out and, at its most extreme, delusions or psychotic states are all examples of unfiltered enactive remembering that has lost its moorings from representational meaning. These states signal that individuals are sequestered in primary memory and are unable to step back and reflect on the saturation of affect and imagery in which they are immersed. In contrast, excessive intellectualization and a desiccated hyper-rationality point to an extremity of representational investment. Here, secondary thought processes have become disengaged from any input from enactive memory. There is recall but no remembering, *re-minding* but no re-experiencing.

These ideas about dissociation between enactive and representational memory systems are closely linked to other models of memory that see 'repression' as a form of disconnection rather than banishment of memory content. Bonanno (1990, p. 458) described Bruner's depiction of a developmental tri-partite model of *enactive*, *imagistic* and *conceptual* remembering with enactive memory associated with motoric-action sequences, followed by imagistic memories that rely primarily on visual and other sensory imagery, and lastly, conceptual memories based in language. Bruner's framework was adopted by Geller and colleagues who looked at how patients internalized images of their therapists in one or more of these memorial forms (Geller *et al.*, 1981–82). Bonanno (1990) goes on to discuss how discontinuities of encoding, storage, and/or retrieval of memories in contrasting modes within the tri-partite system might provide insight into how and why individuals lack accessibility to important emotional memories from their lives. Similar to Loewald, he endorses the creative use of metaphor within therapeutic dialogue as a way of bridging the imagistic-sensory world of enactive remembering and the domain of meaning associated with representational processing.

In the SMS the dissociation of memory systems can be understood as efforts by the long-term self to maintain stability in the face of episodic memories that challenge the integrity of the self-image or undermine its positive self-concept. In response to the long-term self's press for this stable image, the working self can impair access to episodic memories and other autobiographical knowledge that might threaten existing self-structures. Selective attention and subsequent failure to rehearse disruptive or discrepant memory images could both be mechanisms that keep threatening material inaccessible and unintegrated into the long-term self.

For example, a patient who had undergone a serious leg injury from a car accident could remember everything from the episode except that she had spoken to her husband from the hospital. This amnesia persisted until with therapy she was able to reconstruct her thought process during the call to her husband. She realized that a terrifying memory about a friend's father who had had a leg amputation after a similar accident had gone through her head during the course of the brief conversation with her husband. Her later inability to remember the telephone call was associated with her memory system's protection against the integration of this chilling image into the autobiographical knowledge base of the long-term self (Conway, 2005).

Integration of the dual memory system as a form of therapeutic action: Clinical theory

The prior sections have served to demonstrate valuable overlaps and parallels in Loewald's ideas about memory and the SMS in cognitive neuroscience. Loewald ended his paper by pointing out that the goal of analysis and of healthy mature life more generally was to achieve a meaningful integration of our past, present, and future that allows for heightened understanding of ourselves and our relations to others. More recently, psychoanalysts, who share this integrative perspective, have written: "Consonance between explicit and implicit autobiographical memories likely contributes to an increased sense of self-coherence ..." (Fosshage, 2005, p. 523). How indeed may analysts facilitate this integration of a patient's enactive/episodic and representational/long-term self memory systems in order to realize this goal of psychological health?

Both memory interpretation/analysis and attention to implicit relational dynamics are necessary components of this integration. Implicit relational knowing must be combined with the patient's continued cultivation of secondary process understanding and insight, assisted by the analyst. In effect, the analyst is the 'horse whisperer' of additional ego development in the patient, as manifest through meaningful and affectively-laden integration of enactive and representational memory. According to a Loewaldian perspective, the key to this cross-fertilization of memory is an appropriate understanding and use of the transference relationship.

In the previously mentioned paper on the action of psychoanalysis, Loewald (1960) explicates how transference is a manifestation of enactive remembering. The patient repeats within the therapeutic hour unarticulated sensations, feelings, and behaviors that stem from early caregiver interactions. As the patient enacts these memories, it is the responsibility of the analyst to engage his or her representational memory system as a way of mediating the patient's efforts to make sense of the present interaction. By modeling this more complex memory system through interpretation of the transference to the patient, the analyst recapitulates the tutelary function of the parent in both caring for and enhancing the patient's functioning. Through the analyst's mediation the patient learns to remember rather than to repeat, not by repression of the enacted transference, but by *linkage of the transferential images and feelings with the representational world*. In other words, the patient connects a representational language with the unconscious remembering that has been played out in the transference relationship. This capacity to engage both enactive and representational memory is not simply the superficial labeling of implicit relations (where the 'real action' is); rather it is a way of transferring a capacity for volitional choice and control to the patient, who, without suppressing the enactive mode, is now empowered to give more conscious and adaptive direction to feelings and actions that were previously unbounded (for support of this position, see Goldberg, 2000; Holmes, 2000; Vivona, 2009).

As Chodorow (2003) and Loewald himself (1960) pointed out, many proponents of ego psychology saw the purpose of mature development (and, by

association, the goal of successful analysis) as the subduing and removal of the influence of primary process thought on rational and clear-headed secondary process (where 'id was, there shall ego be'). Loewald radically challenged this dismissal of the primary form of memory. When we call on this memory system, we de-differentiate from the object of our recollection and return to the fused internal world that sees no boundaries between subject and object. In Loewald's lyrical phrase, we are returning to the "original density" of memory (Loewald, 1976, p. 168), similar to the fluidity of Piaget's pre-operational stage in which imaginative possibilities are limitless (as exemplified by Saint-Exupéry's 'little prince'). As seductive as this timeless and experience-rich world might be, we obviously cannot live in it and function as adults in an object world that demands distinctions, boundaries, plans, and sequential actions. Yet, as Loewald observes, neither can we live without it:

Without such transference – of the intensity of the unconscious, of the infantile ways of experiencing life that have no language and little organization, but the indestructibility and power of the origins of life – to the preconscious and to present-day life and contemporary objects ... human life becomes sterile and an empty shell.

(Loewald, 1960, p. 250)

On the other hand, we need secondary process not simply to divide us from the object and 'external reality,' but to think meaningfully about ourselves. Just as our parents' words and reactions to us served as a mirror to see ourselves as objects, our internalization of this mirroring perspective becomes our own self-consciousness. In taking in their view of us, we learn to view ourselves and come to an understanding of how to participate in the act of self-reflection. Without representational memory, we lose the ability to react to and extract meaning from the intuitive messages that enactive memory provides to us. The sensory and affective saturation of enactive memory brings us closer to the pulse of life, but the abstractive capacity of representational memory brings us nearer to the realm of meaning and goal-directed behavior. The integration of the two is the apex of therapeutic action. To illustrate this point of view within the context of an analysis, we present the case of Ivan and then elaborate on a critical memory that emerged in the course of his psychotherapy.

Ivan and the siren song of lethargy

Ivan was a 23 year-old college student of Eastern European background. His parents had both moved to the United States as adults. Ivan grew up with his maternal grandmother in the home; she never learned to speak English and organized her life around his care and feeding. Her excessive doting on Ivan earned him the nickname of "Prince Ivan" within the family. The therapist first treated Ivan when he was 14 years old after his parents divorced in the wake of a scandal. His father, who had been an upright financial analyst, revealed to his mother that he had gambled away all their money at the local casino and left them in near bankruptcy. This was a

devastating fall for the father who had always projected an air of imperious confidence and elegance (Ivan had a strong image of his father dressed in an immaculate white suit). Within a year, his father, shamed and living apart from the family, had died of a heart attack.

Ivan's initial presentation in therapy was stoic and, to some extent, in denial with regard to the extent of damage his father's behavior had caused. His immediate anger was more directed at the hovering attention that his mother and grandmother displayed toward his school work and social habits. Despite great intellectual ability, Ivan often procrastinated around his school work and sometimes told white lies about homework and due dates in order to deflect their "nagging" focus on him. Ivan also kept the therapist at a distance and, while some alliance was achieved, there was a distinct lack of emotional immediacy in the relationship. The therapy slowly petered out after a year's time.

Ivan's mother maintained sporadic contact with the therapist over the next few years until Ivan was at the end of the second semester of his first year of college. She called with a devastating tale to tell – Ivan had lied to her and failed to attend his classes throughout the entire second semester. He had spent almost all his time with a girlfriend from another college and maxed out his credit cards with lavish gifts and restaurant bills. Once his deception was revealed, he had fallen into a deep depression, highlighted by staying in bed and a sense of overwhelming exhaustion. The mother explained that she needed a referral in the city where his college was located and that Ivan would not be allowed to return to his studies until he had demonstrated more stable mental health. The therapist provided a referral and no more was heard from the family until the second semester of Ivan's senior year at the same school.

In a quintessential example of repetition–compulsion, Ivan had engaged in yet another deception. He had marched in graduation with his mother and grandmother in attendance; everyone had celebrated his impending completion of his studies (he had been allowed to walk even though he ostensibly had one more summer course to complete). However, when the full grade report arrived the following week, the truth emerged – once again he had failed to attend his classes for the majority of the semester and had repeatedly lied about his school status. He returned home in full disgrace, but for the first time was eager to engage in therapy in order to make sense of the self-destructive course his life had taken.

Despite his expressed intentions to make good use of his treatment, he continued to display a highly intellectualized and emotionally flat manner that conveyed a world-weariness about the possibility of change. Having taken some psychology courses, Ivan was open to making interpretive connections between his past and current behavior. He could see how his sense of loss with regard to his father was caught up with ambivalent feelings of admiration and anger at his father's double betrayal (i.e. first the gambling and then his sudden death). Similarly, he talked candidly about his equal ambivalence at the "princely" treatment he received from his mother/grandmother, which clearly resulted in his passive–aggressive responses. Despite these 'insights' over the first months of treatment, he made little tangible

progress in taking the necessary steps to register for online courses that would allow him to finish his university degree. Although he expressed great satisfaction with the therapy and displayed a strong overt positive transference in a way that he had not done in the previous times in treatment, his continuing emotional isolation and procrastination engendered strong countertransference responses of frustration and powerlessness in the therapist.

When the therapist commented on Ivan's emotional flatness in discussing the university failures and his family's own tragedies, Ivan confessed that he felt intense shame about having deceived his mother. The therapist asked him to stay with this feeling and to describe it for him in physical terms. Ivan said that it was a "clammy" horrible feeling – that he was uncomfortable in his own skin. The more he focused on it, the more he entered into a dreamy or derealized state. He also felt a sense of exhaustion, as if he could immediately go to sleep. There was an overarching sense of paralysis, of not being able to move.

Suddenly, he recalled a memory that made him even more ashamed. He had thought about this many times, but had never shared it with anyone but his mother. In telling the memory to the therapist he was also acknowledging that he had kept this aspect of himself hidden from the therapist over the nearly 10 years they had known each other:

I was 11 years old and playing basketball with one of my close friends. He suddenly asked me what my worst secret was. I told him that I didn't know what he meant. He said: "Well, my worst secret is that I am a bed-wetter and my mom told me that your mom told her that you are one too." I was completely crushed. I had never told anyone and had kept this a deathly secret from all of the kids I knew. It was the greatest moment of shame I had ever felt. I told him he was a liar and refused to play with him any more. I felt then what I used to feel after I wet the bed. There is a word in my language – *silā* – it means a cold clammy feeling – literally to be disgusted in your own skin. I would feel that flooding me when I would wake up and feel the wet sheets. I would feel that sense of being out of my body and I would just shift away from the wet part of the bed and be overwhelmed by sleep. I knew that if I slept I could put the whole horrible *silā* out of my mind.

As Ivan spoke, there was indeed a 'moment of meeting' in which the therapist's emotional connection to him was finally energized – there was a palpable sense of shared pain and sorrow moving between them. Compacted in this recollection were all the components of Ivan's repetitive struggles – parental intrusiveness, parental betrayal, lies and deception, failed autonomy, passivity in the face of obstacle, shame and paralysis, derealization and exhaustion. Ivan's memory was a narrative enactment of his 'implicit relational knowing' – his unconscious way of being which he had already revived and begun to display in the transference. As evidence of this, he had resorted to the language of his parents – the first language he had heard spoken – to describe the emotional experience of his most elemental and paralyzing shame.

Yet neither the implicit relational knowing (that emerged in the physical experience or embodiment of the memory) nor the reflective-verbal insight, regarding the memory's relationship to subsequent experiences of shame, was in and of itself sufficient for therapeutic action to occur. Both the

activation of the implicit bodily pattern and the shared interpretation of this powerful explicit memory were needed to build greater ego strength in Ivan and diminish his self-destructive behavior. In Loewald's terms, and in the terms of SMS, Ivan and the therapist were working together to create a moment in which enactive remembering and a powerful sensory image from the episodic memory system with its concomitant unconscious emotional sequence were integrated with representational memory and the long-term self. This integration of primary and secondary process – this synthesis of the tension between these modes of knowing and remembering – was mediated by the intertwining of Ivan's regressed ego with the higher order ego of the therapist. However, this integration could not have been possible if the therapist had not encouraged a shift in the therapeutic moment to a place of feeling and sensation that opened up a vital channel of memory. In this sense the therapist had to model the safety of temporarily leaving the bounded domain of the verbal representational world and encourage a leap back into the ocean of sense and feeling. Yet Loewald's emphasis on the communication between the two memory systems makes clear that the activation of the older relational pattern is not enough. The translation into language assists in the patient's growth:

Language, in its most specific function in analysis, as interpretation, is thus a creative act similar to that in poetry, where language is found for phenomena, contexts, connections, experiences not previously known and speakable. New phenomena and new experiences are made available as a result of reorganization of material according to hitherto unknown principles, contexts, and connections.

(Loewald, 1960, p. 242)

Within the framework of the SMS, Ivan's bed-wetting memory is a self-defining memory that encapsulates an affective pattern and enduring conflict in his life. It draws upon the sensory-perceptual imagery of the episodic memory system, the semantic knowledge and self-schemata of the long-term self, and even the procedural/implicit memory system to create an integrated and highly concentrated psychological touchstone. In the context of therapy, it serves as a metaphor that can be an immediate reminder of a maladaptive pattern in his life and can be repeatedly returned to as a guidepost for both patient and therapist (for clinical examples of this approach, see Singer, 1997, 2001, 2004, 2005, 2006; Singer *et al.*, 2008; Singer and Blagov, 2004a, 2004b; Singer and Labunko-Messier, 2010; Singer and Salovey, 1993, 1996; Singer and Singer, 1992; see also Greenberg, 2004, for the concept of an 'emotional handle'). Integrating memory systems, it offers accessibility from multiple routes of cueing and retrieval, as well as an emotional intensity from the density of its connection to these different modes of experiences. In Bucci's terms, all three processing codes – subsymbolic, nonverbal symbolic, and symbolic – are in play. When such memories are accessed in treatment, we are a long way from the blandness of Freudian 'screen memories' and triviality of memory content, as depicted by Fonagy (1999).

With this memory revealed, Ivan did not suddenly change his behavior either in or outside the therapy. For some months after this session, he

continued to drag his feet in pursuing his coursework, and he often complained of fatigue to the point of seeking to cancel or reschedule sessions. He tested both the commitment and the boundary-setting of the therapist. He explored the fine line between being cared about and being indulged. Yet, as he occasionally 'soiled' his therapy, the therapist and he were able to return to the explicit imagery and the script-like pattern of the memory to serve as a cautionary tale. It provided a representational language in which to monitor and take control of his more self-destructive tendencies. It allowed the dyad to work through themes of shame, self-loathing, defensive grandiosity and feared betrayal. And Ivan got better. Mid-way through his summer course and succeeding in it, he returned spontaneously to a discussion of the memory and asked how much his sharing of it had helped. When the question was turned back to him, he said the memory had given him a way of seeing a sequence of feelings, thoughts, and actions that he had carried with him over many years but that he had not been able to perceive or articulate. Now, in linking the memory to its representational meaning, he had gained both insight and greater control. In Loewald's memorable phrase, "The ghosts of the unconscious are laid and let to rest as ancestors whose power is taken over and transformed into the newer intensity of present life, of the secondary process and contemporary objects" (Loewald, 1960, p. 249).

Conclusion

This article provides a synthesis of Loewaldian psychoanalysis and contemporary cognitive neuroscience in order to argue for the value of an integrated memory system that privileges neither implicit relational knowing nor recovery of repressed historical content. Rather it articulates a framework that sees the necessity of drawing on both unconscious and conscious memory systems – on both nonverbal and verbal modes of representation and communication. When we access Loewald's 'enactive memory,' we are tapping into the sensory origins of life and our earliest relationships to others and the larger world. In the same way, when we integrate episodic memories that register the sights, smells, and sounds of the world with the 'representational memory' of our long-term self that draws on the power of our abstracting and symbolizing capacity for metaphor and logic, we create a synthesis that does justice to the intricacy of both the living world and the psychological one inside us. Receptive to both sense and sensibility, we achieve an affectionate and clarifying unity. In this unity, we realize a kind of psychological wisdom that honors both unconscious and conscious, image and word, emotion and reason.

Translations of summary

Die therapeutische Wirkung in neuerlicher Betrachtung: Loewald, kognitive Neurowissenschaft und die Integration des dualen Gedächtnisses. Sowohl Loewalds relationale Theorie des Gedächtnisses als auch das Self-Memory System (SMS) der kognitiven Neurowissenschaften beschreiben ein duales Erinnerungssystem, nämlich ein Gedächtnis, das erfahrungsnah und sensorisch-perzeptiv ist, und ein zweites, symbolisches und konzeptuelles Gedächtnis. Im Unterschied zu Erklärungsansätzen, die die therapeutische Wirkung entweder an der Veränderung impliziter, prozeduraler Erinnerungen festmachen

oder aber an der Deutung des expliziten biographischen Materials, behaupten wir, dass psychische Gesundheit aus einer erfolgreichen Integration beider Gedächtnissysteme resultiert; erzielt wird diese Integration durch die Verbindung von Übertragungsdynamik und analytischer Einsicht. Wir belegen dies, indem wir vier zentrale Annahmen der Loewaldschen und der SMS-Perspektive untersuchen und unsere Erkenntnisse im Anschluss daran auf ein klinisches Beispiel anwenden. Wir zeigen, dass bestimmte integrative autobiographische Erinnerungen, die wir als „selbst-definitive Erinnerungen“ bezeichnen, das Verständnis der Übertragungsdynamik erleichtern und als metaphorische Richtschnur für die weitere Behandlung dienen können.

Reconsiderando la acción terapéutica: Loewald, la neurociencia cognitiva y la integración de la dualidad de la memoria. Tanto la teoría relacional de la memoria de Loewald como el *Self-memory System* (Sistema de memoria de sí mismo) (SMS) de la neurociencia cognitiva describen un sistema dual de memoria: un sistema se halla cercano a la experiencia y es sensorio-perceptivo, y el otro es simbólico y conceptual. En contraste con los enfoques que sitúan la acción terapéutica en la alteración de los recuerdos procedimentales implícitos o en la interpretación del contenido histórico explícito, nosotros sostenemos que la salud psicológica surge de la integración eficaz de ambos sistemas de memoria. Dicha integración se logra mediante una combinación de la dinámica transferencial y el *insight* analítico. Fundamentamos esta posición mediante el desarrollo de cuatro supuestos clave para las perspectivas loewaldiana y del SMS, seguido de su aplicación a un ejemplo clínico. Resaltamos la capacidad de ciertos recuerdos autobiográficos integrativos, llamados 'recuerdos autodefinitorios', de ayudar a la comprensión de la dinámica transferencial y proporcionar piedras de toque metafóricas que guíen el tratamiento posterior.

Nouvelles considérations sur l'action thérapeutique: Loewald, les neurosciences cognitives et l'intégration de la dualité de la mémoire. Aussi bien la théorie relationnelle de la mémoire de Loewald que le modèle cognitif des neurosciences du Système d'auto-mémoire (SMS) décrivent la mémoire comme un système à double niveau, avec d'une part l'expérience sensorielle et perceptive, et de l'autre le registre symbolique et conceptuel. Contrairement aux conceptions qui situent l'action thérapeutique soit du côté de la transformation des souvenirs implicites, soit du côté de l'interprétation des contenus historiques explicites, nous soutenons que la santé psychique est le résultat de l'intégration effective de ces deux systèmes de la mémoire à laquelle la combinaison de la dynamique transférentielle et de l'*insight* analytique permet d'aboutir. Nous nous étayons sur l'élaboration de quatre hypothèses de base issues des perspectives de Loewald et du SMS et leur application à un exemple clinique. Nous mettons l'accent sur la contribution importante de certains souvenirs autobiographiques appelés «souvenirs d'auto-définition» qui aident à la compréhension de la dynamique du transfert et fournissent un point d'appui au déroulement ultérieur du traitement grâce aux références métaphoriques qui en découlent.

Nuove considerazioni sull'azione terapeutica: integrazione dei modelli di memoria duplice di Loewald e della Neuroscienza. Sia la teoria relazionale di Loewald sia la teoria SMS (Self-Memory System) della neuroscienza cognitiva descrivono un modello mnestico duplice composto dalla sfera percettiva dell'esperienza diretta e dalla sfera concettuale e simbolica. Contrariamente ad altre prospettive – che concentrano l'azione terapeutica unicamente su interventi a livello della memoria procedurale implicita, oppure unicamente sull'interpretazione della memoria storica implicita - proponiamo che la salute psicologica emerga dall'efficace integrazione di entrambi i tipi di memoria; tale integrazione sarebbe raggiunta componendo l'esperienza delle dinamiche transferenziali con l'*insight* analitico. Supportiamo questa nostra posizione attraverso l'elaborazione di quattro assunti fondamentali derivati dalla prospettiva loewaldiana e da quella SMS, che illustriamo poi con un esempio clinico. Poniamo l'accento su certe memorie autobiografiche integrative, definite 'ricordi di auto-definizione' che hanno la capacità di facilitare la comprensione delle dinamiche transferenziali e che costituiscono una valida guida nel portare avanti il trattamento.

References

- Bauer PJ (2002). Early memory development. In: Goswami U, editor. *Handbook of childhood cognitive development*, 128–46. London: Blackwell.
- Bauer PJ (2004). Getting explicit memory off the ground: Steps toward construction of a neuro-developmental account of changes in the first two years of life. *Dev Rev* 24:347–73.
- Blagov PS, Singer JA (2004). Four dimensions of self-defining memories (specificity, meaning, content, and affect) and their relationship to self-restraint, distress, and repressive defensiveness. *J Pers* 72:481–511.
- Bonanno GA (1990). Repression, accessibility, and the translation of private experience. *Psychoanal Psychol* 7:453–73.

- Boston Change Process Study Group (2008). Forms of relational meaning: Issues in the relations between the implicit and reflective-verbal domains. *Psychoanal Dialog* **18**:125–48.
- Breuer J, Freud S (1893–95). Studies on hysteria. SE **2**.
- Bucci W (2000). The need for a 'psychoanalytic psychology' in the cognitive science field. *Psychoanal Psychol* **17**:203–24.
- Castoriadis C (1991). Interview with Paul Gordon. *Free Associations* **2**:483–506.
- Chodorow NJ (2003). The psychoanalytic vision of Hans Loewald. *Int J Psychoanal* **84**:897–913.
- Chodorow NJ (2009). A different universe: Reading Loewald through 'On the therapeutic action of psychoanalysis'. *Psychoanal Q* **78**:983–1011.
- Clyman RB (1991). The procedural organization of emotions: A contribution of cognitive science to the psychoanalytic theory of therapeutic action. *J Am Psychoanal Assoc* **39**(Suppl.):349–82.
- Conway MA (2005). Memory and the self. *J Memory Lang* **53**:594–628.
- Conway MA (2008). Exploring episodic memory. In: Dere E, Easton A, Nadel L, Huston JP, editors. *Handbook of episodic memory*, vol. 18, 19–29. Amsterdam: Elsevier.
- Conway MA (2009). Episodic memories. *Neuropsychologia* **47**:2305–13.
- Conway MA, Fthenaki A (2002). Disruption and loss of autobiographical memory. In: Boller F, Grafman J, Rizzolatti G, Cermak L, editors. *Handbook of neurology*, **7**, 281–312. Amsterdam: Elsevier.
- Conway MA, Pleydell-Pearce CW (2000). The construction of autobiographical memories in the self-memory system. *Psychol Rev* **107**:261–88.
- Conway MA, Singer JA, Tagini A (2004). The self and autobiographical memory: Correspondence and coherence. *Soc Cogn* **22**:495–537.
- Conway MA, Williams HL (2008). The nature of autobiographical memory. In: Roediger HL III, editor. *Cognitive psychology of memory*. Vol. 2 of *Learning and memory: A comprehensive reference*, **4** vols (Byrne J, editor), 71–103. Oxford: Elsevier.
- Cooper A (1988). Our changing views of the therapeutic action of psychoanalysis: Comparing Strachey and Loewald. *Psychoanal Q* **75**:15–27.
- Davis JT (2001). Revisiting psychoanalytic interpretations of the past: An examination of declarative and non-declarative memory processes. *Int J Psychoanal* **82**:449–62.
- Fairbairn WRD (1954). *An object relations theory of the personality*. New York, NY: Basic Books.
- Fenichel O (1927/1953). The economic function of screen memories. In: *Collected papers*, vol. 1, 113–16. New York, NY: Norton.
- Fonagy P (1999). Memory and therapeutic action. *Int J Psychoanal* **80**:215–23.
- Fosshage JL (2005). The explicit and implicit domains in psychoanalytic change. *Psychoanal Inq* **25**:516–39.
- Freud S (1899). Screen memories. SE **3**:301–22.
- Gabbard GO, Westen D (2003). Rethinking therapeutic action. *Int J Psychoanal* **84**:823–41.
- Geller JD, Cooley RS, Hartley D (1981–82). Images of the psychotherapist: A theoretical and methodological perspective. *Imagination, Cognition and Personality* **1**:123–33.
- Goldberg A (2000). Memory and therapeutic action. *Int J Psychoanal* **81**:593–94.
- Greenberg L (2004). Emotion-focused therapy. *Clin Psychol Psychother* **11**:3–16.
- Greenberg JR, Mitchell SA (1983). *Object relations in psychoanalytic theory*. Cambridge, MA: Harvard UP.
- Habermas J, Bluck S (2000). Getting a life: The emergence of the life story in adolescence. *Psychol Bull* **126**:748–69.
- Hartmann H (1939). *Ego psychology and the problem of adaptation*. New York, NY: International UP.
- Hoffman IZ (1998). *Ritual and spontaneity in the psychoanalytic process: A dialectical–constructivist view*. Hillsdale, NJ: Analytic Press.
- Holmes J (2000). Memory and therapeutic action. *Int J Psychoanal* **81**:353–54.
- Hudson JA, Sheffield EG (1998). Déjà vu all over again: Effects of reenactment on toddlers' event memory. *Child Dev* **69**:51–67.
- Klein GS (1956). Perception, motives, and personality: A clinical perspective. In: McCary JL, editor. *Psychology of personality*, 121–99. New York, NY: Logos Press.
- Kohut E (1971). *The analysis of the self*. New York, NY: International UP.
- Langs RJ (1965a). Earliest memories and personality. *Arch Gen Psychiatry* **12**:379–90.
- Langs RJ (1965b). First memories and characterological diagnosis. *J Nerv Ment Dis* **144**:318–20.
- Loewald HW (1955). Hypnoid state, repression, abreaction, and recollection. In: Loewald HW. *Papers on psychoanalysis*, 33–42. New Haven, CT: Yale UP, 1980.
- Loewald HW (1960). On the therapeutic action of psychoanalysis. In: Loewald HW. *Papers on psychoanalysis*, 221–56. New Haven, CT: Yale UP, 1980.
- Loewald HW (1962). Internalization, separation, mourning, and the superego. In: Loewald HW. *Papers on psychoanalysis*, 257–76. New Haven, CT: Yale UP, 1980.
- Loewald HW (1973a). On internalization. In: Loewald HW. *Papers on psychoanalysis*, 69–86. New Haven, CT: Yale UP, 1980.

- Loewald HW (1973b). Some considerations on repetition and repetition compulsion. In: Loewald HW. *Papers on psychoanalysis*, 87–101. New Haven, CT: Yale UP, 1980.
- Loewald HW (1976). Perspectives on memory. In: Loewald HW. *Papers on psychoanalysis*, 148–73. New Haven, CT: Yale UP, 1980.
- Loewald HW (1979). Reflections on the psychoanalytic process and its therapeutic potential. In: Loewald HW. *Papers on psychoanalysis*, 372–83. New Haven, CT: Yale UP, 1980.
- Loewald HW (1980). *Papers on psychoanalysis*. New Haven, CT: Yale UP.
- Loveday C, Conway MA (2011). Re-establishing access to ‘forgotten’ memories in an amnesic patient. in press.
- Mancia M (2006). Implicit memory and early unrepressed unconscious: Their role in the therapeutic process (How the neurosciences can contribute to psychoanalysis). *Int J Psychoanal* **87**:83–103.
- Mayman M (1968). Earliest memories and character structure. *J Proj Tech Pers Assess* **32**:303–16.
- Mitchell SA (1988). *Relational concepts in psychoanalysis*. Cambridge, MA: Harvard UP.
- Mitchell SA (2000). *Relationality: From attachment to intersubjectivity*. New York, NY: Analytic Press.
- Moffitt KH, Singer JA (1994). Continuity in the life story: Self-defining memories, affect, and approach/avoidance personal strivings. *J Personality* **62**:21–43.
- Moulin JAC, Conway MA, Thompson R, James N, Jones RW (2004). Disordered memory awareness: Recollective confabulation in two cases of persistent *déjà vécu*. *Neuropsychologia* **43**:1362–78.
- Nahum JP, Bruschiweiler-Stern N, Harrison AM, Lyons-Ruth K, Morgan AC, Sander LW, Stern DN, Tronick EZ (2002). Explicating the implicit: The local level and the microprocesses of change in the analytic situation: The Boston Change Process Study Group (CPSG). *Int J Psychoanal* **83**:1051–62.
- Nelson CA (1995). The ontogeny of human memory: A cognitive neuroscience perspective. *Dev Psychol* **31**:723–38.
- Nelson K, Fivush R (2004). The emergence of autobiographical memory: A social-cultural developmental model. *Psychol Rev* **111**:486–511.
- Ogden TH (2004). The analytic third: Implications for psychoanalytic theory and technique. *Psychoanal Q* **73**:167–95.
- Ogden TH (2006). Reading Loewald: Oedipus reconceived. *Int J Psychoanal* **87**:651–66.
- Proust M (1932). *Remembrance of things past*, Blossom FA, translator. New York, NY: Boni.
- Rapaport D (1942). *Emotions and memory*. Baltimore, MD: Williams & Wilkins.
- Rapaport D, editor (1951). *Organization and pathology of thought*. New York, NY: Columbia UP.
- Rovee-Collier C (1997). Dissociations in infant memory: Rethinking the development of implicit and explicit memory systems. *Psychol Rev* **104**:467–98.
- Rustin J, Sakaer C (2004). From the neuroscience of memory to psychoanalytic interaction. *Psychoanal Psychol* **21**:70–82.
- Salaman E (1970). *A collection of moments: A study of involuntary memories*. London: Longman.
- Schachtel EG (1959). *Metamorphosis*. New York, NY: Basic Books.
- Schacter DL (1992a). Priming and multiple memory systems: Perceptual mechanisms of implicit memory. *J Cognitive Neurosci* **4**:244–56.
- Schacter DL (1992b). Understanding implicit memory: A cognitive neuroscience approach. *Am Psychol* **47**:559–69.
- Sheffield EG, Hudson JA (1994). Reactivation of toddlers’ event memory. *Memory* **2**:447–65.
- Singer JA (1997). *Message in a bottle: Stories of men and addiction*. New York, NY: Free Press.
- Singer JA (2001). Living in the amber cloud: a life story analysis of a heroin addict. In: McAdams DP, Josselson R, Lieblich A editors. *Turns in the road: Narrative studies of lives in transition*, 253–77. Washington, DC: American Psychological Association.
- Singer JA (2004). A love story: Using self-defining memories in couples therapy. In: Josselson R, McAdams DP, Josselson R, Lieblich A, editors. *Healing plots: Narrative and psychotherapy*, 189–208. Washington DC: APA.
- Singer JA (2005). *Personality and psychotherapy: Treating the whole person*. New York, NY: Guilford.
- Singer JA (2006). Memory, emotion, and psychotherapy: Maximizing the positive functions of self-defining memories. In: Uttl R, Siegenthaler A, Ohta N, editors. *Memory and emotion: Interdisciplinary perspectives*, 211–32. Oxford: Blackwell.
- Singer JA, Blagov PS (2004a). Self-defining memories, narrative identity and psychotherapy: A conceptual model, empirical investigation and case report. In: Angus LE, McLeod J, editors. *Handbook of narrative and psychotherapy: Practice, theory and research*, 229–46. Thousand Oaks, CA: Sage.
- Singer JA, Blagov P (2004b). The integrative function of narrative processing: Autobiographical memories, self-defining memories and the life story of identity. In: Beike D, Lampinen J, Behrend D, editors. *The self and memory*, 117–38. New York, NY: Psychology Press.
- Singer JA, Baddeley JL, Frantsve L (2008). Supervision in person-centered and narrative psychotherapy. In Hess AK, Hess KD, Hess TH, editors. *Psychotherapy supervision: Theory, research, and practice* (2nd ed). pp. 114–36. New York: Wiley.

- Singer JA, Bonalume L (2010). Autobiographical memory narratives in psychotherapy: A coding system applied to the case of Cynthia. *Pragmatic Case Studies in Psychotherapy* 6:134–88.
- Singer JA, Labunko-Messier B (2010). Using self-defining memories in couples treatment for older adults. In: Kenyon G, Bohlmeijer E, Randall W, editors. *Storying later life: Issues, investigations, and interventions in narrative gerontology*, 213–39. New York, NY: Oxford UP.
- Singer JA, Rexhaj B, Baddeley JL (2007). Older, wiser, happier? Comparing older adults' and college students' self-defining memories. *Memory* 15:886–98.
- Singer JA, Salovey P (1993). *The remembered self: Emotion, memory, and personality*. New York, NY: Free Press.
- Singer JA, Salovey P (1996). Motivated memory: Self-defining memories, goals, and affect regulation. In: Martin L, Tesser A, editors. *Striving and feeling*, 229–50. New York, NY: Erlbaum.
- Singer JA, Singer JL (1992). Transference in psychotherapy and daily life: Implications of current memory and social cognition research. In: Barron JW, Eagle MN, Wolitzky DL, editors. *Interface of psychoanalysis and psychology*, 516–38. Washington, DC: APA.
- Slotnick SD, Schacter DL (2004). A sensory signature that distinguishes true from false memories. *Nature Neurosci* 7:664–72.
- St Jacques PL, Conway MA, Lowder MW, Cabeza R (2010). Watching My Mind Unfold versus Yours: An fMRI Study Using a Novel Camera Technology to Examine Neural Differences in Self-projection of Self versus Other Perspectives. *J Cogn Neurosci*. doi: 10.1112/jocn.2010.1518.
- Stern DN, Sander L, Nahum J, Harrison A, Lyons-Ruth K, Morgan A, Bruschiweiler-Stern N, Tronick E (1998). Non-interpretive mechanisms in psychoanalytic therapy: The 'something more' than interpretation. *Int J Psychoanal* 79:903–21.
- Stolorow RD, Atwood GE (1992). *Contexts of being: The intersubjective foundations of psychological life*. Hillsdale, NJ: Analytic Press.
- Teicholz JG (1999). *Kohut, Loewald, and the postmoderns*. Hillsdale, NJ: Analytic Press.
- Vivona J (2009). Embodied language in neuroscience and psychoanalysis. *J Am Psychoanal Assoc* 57:1327–60.
- Whitebook J (2004). Hans Loewald: A radical conservative. *Int J Psychoanal* 85:97–116.
- Wilenski RH (1932). *The meaning of modern sculpture*. London: Faber and Faber.
- Williams HL, Conway MA, Baddeley AD (2007). The boundaries of episodic memories. In: Shipley TF, Zacks JM, editors. *Understanding events: How humans see, represent, and act on events*, 231–53. New York, NY: Oxford UP.
- Winnicott DW (1960). The theory of the parent–infant relationship. In: *The maturational processes and the facilitating environment: Studies in the theory of emotional development*, 37–55. London: Hogarth, 1965.
- Zacks JM, Speer NK, Swallow KM, Braver TS, Reynolds JR (2007). Event perception: A mind/brain perspective. *Psychol Bull* 133:273–93.

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