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A response to Dr. Elizabeth Loftus' presentation on false memories and false beliefs – with particular reference to her study on dream interpretation[1]

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Abstract

Dr. Loftus' work illustrates experimentally some of the conditions in which memory and beliefs about the past can be distorted through misinformation. Clinicians should aim to avoid or minimise the influence of suggestion and to be aware of the inevitable potential for suggestion in any therapeutic endeavour.

The focus of analysis is upon the patient's implicit procedural assumptions about self in relation to intimate others, particularly as these become discernible in relation of the analyst. Where reconstruction of development is considered, this is usually in relation to internal events within the patient's mind.

Key-words*: Implicit memory; Explicit memory.*

The influence of suggestion and misinformation upon a person's subjective explicit memory and beliefs about the past is well established. Dr. Loftus' work has been of great importance in demonstrating this. The dream misinformation study by Dr. Loftus and colleagues (Mazzoni *et al.*, 1999) is a valuable attempt to demonstrate how a misinformation paradigm could apply in a context resembling a clinical situation. Therapeutic endeavours that include direct or inadvertent suggestion regarding early experiences can, almost certainly, lead to distorted or confabulated memories or, at least, to false beliefs about the past.

As Donald Spence emphasised to us in 1982 – in his book *Narrative Truth and Historical Truth* – a plausible reconstruction that seems to fit the clinical picture and the transference does not necessarily correspond to actual events.

Mark Solms argued[1] earlier that part of the function of psychoanalysis is the integration of split off parts of

[1] Neuroscientific and Psychoanalytic Perspectives on Memory – New York Academy of Medicine, 20-22 April 2001.

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the mind, including memories. Whilst I would agree with this, the task of inferring historical developmental experience, on the basis of the clinical phenomena of the consulting room, is by no means straightforward. We cannot make an implicit memory "explicit" – and we cannot infer with certain accuracy the historical origin of an apparent implicit memory if the postulated experience was hitherto unknown to the patient; to try to do so would risk confabulation[2].

Certainly an analyst may offer thoughts about a patient's childhood experience and development[3], but I think these should be presented in such a way that it is clear they are speculative hypotheses. It seems to me that the tolerance of uncertainty and ambiquity, and eschewing of premature closure and dogmatic conclusion, are fundamental features of the psychoanalytic stance.

However, Dr. Loftus' account of Freud and of the clinical interpretation of dreams – as outlined in her dream misinformation study – is misleading in certain respects. For example, Freud did not claim that dreams are a "vehicle for unearthing specific traumatic experience" (quotation from Mazzoni *et al.*, 1999). Moreover, the suggestion by Loftus (Mazzoni *et al.*, 1999) that: "the subset of clinicians who work in the area of trauma view dreams being 'exact replicas' of the traumatic experiences" certainly does not correspond to the psychoanalytic view – although many analysts might consider it possible that elements of traumatic experience do appear in dreams. The problem clearly is that without additional evidence it is impossible to determine whether a dream scene in any way corresponds to an actual externally-derived experience[4].

The dream misinformation study involved a group of volunteers being offered spurious interpretations claiming that certain dream contents indicated that particular kinds of experiences had taken place in childhood; this procedure resulted in a

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[1] Opening remarks of the conference.

[2] As Howard Shevrin pointed out in his later presentation, Freud reconstructed a hypothesised primal scene – observation of parental intercourse – as a factor in the development of the Wolf Man's infantile neurosis, but acknowledged that this could have been a phantasy rather than an actual historical event: "It is a matter of indifference in this connection whether we choose to regard it as a primal *scene* or as a primal *phantasy*". An Infantile Neurosis. SE. XVII p 120.

[3] Enquiry into a patient's childhood experiences is also a feature of contemporary cognitive therapy, especially in its increasingly dominant 'schema focussed' variants.

[4] Howard Shevrin mentioned some recent brain research that indicated the possibility that true and false memories can, at least in principle, be distinguished by their different 'sensory signatures' in terms of evoked potential. As Dr. Loftus commented, this does not mean that such distinguishing is feasible in practice by the clinician.

greater tendency (compared with a control group) to believe that such events had indeed taken place. However, the clinical psychologist in the Mazzoni study did not behave remotely as psychoanalysts do in relation to dreams. He is described as having "a strong, persuasive personality" and he directly suggested to the participants that dreams are the overt manifestation of events that happened before the age of 3 years. Psychoanalysts do not do this. As I have indicated in more detail in *Freud and False Memory Syndrome* (Mollon, 2000), although Freud did conclude that dreams can contain elements of long forgotten childhood experiences and actual events, his observations of how dreams promiscuously mix material from diverse sources meant that one could never make any reliable inference regarding a childhood event purely on the basis of a dream[5]. Although there are many different nuances of contemporary psychoanalytic theory and technique, the broadly shared assumption regarding dreams is that they reflect the preoccupations, conflicts and interpersonal expectations of what the Sandlers' (1997) called the "present unconscious" – the emotional perceptions, conflicts and anxieties of the person in his current life. Whilst these conflicts may be derived from childhood interpersonal experiences – based on the templates of the past unconscious – they will have acquired an independence and autonomy such that they reflect the person's current engagement with emotional life [Bowlby's (1980) internal working models; Stern's (1985) repeated interactions that have become generalised (RIGs)]. In that sense, the dream will always be about the present rather than the past – although it is true that past experiences will shape the experience of the present. The psychoanalyst will seek the meanings of a dream in relation to the flow of the patient's free-associative discourse – looking for the dream's place in relation to current emotional conflicts – and often locating the dream's significance in the present relationship with the analyst. Moreover, the analyst will always look for quite specific and idiosyncratic meanings for the individual rather than thinking in terms of broad generalisations and clichés; Freud

[5] The extent of Freud's sophisticated scepticism regarding childhood memory is highlighted by the following remarkable quote from his paper on *Screen Memories*: "It may indeed be questioned whether we have any memories at all from our childhood: memories *relating* to our childhood may be all that we possess. Our childhood memories show us our childhood years not as they were but as they appeared at the later periods when the memories were aroused. In these periods of arousal, the childhood memories did not, as people are accustomed to say, emerge; they were formed at that time. And a number of factors, with no regard for historical accuracy, had a part in forming them, as well as in the selection of the memories themselves." [1899. *Screen Memories*. S.E. III. Hogarth Press. P 322].

particularly argued against the trend of popular dream, interpretation along the lines of 'if you dream this it means that'. Psychoanalysis is hard work.

MISLEADING EMPHASIS UPON EXPLICIT MEMORY. REMEMBERING IN REAL LIFE

Traditionally psychologists (both academic and clinical) have studied *explicit* memory – (or what Brewin 2001 calls "verbally accessible memory"). Perhaps this is because it is the most obvious kind of memory. It is what most clinical tests of memory measure. Moreover, it is the kind of memory performance that we learn is important at school. If we have a 'good memory' we can do well in certain kinds of exams and tests. Most memory is not of this kind, but instead falls within the broad category of implicit memory. This seems to have been only gradually recognised by memory researchers, as first one form of implicit memory and then another was identified (beginning with priming phenomena and blindsight, etc.). Psychoanalysis, by contrast, has almost always dealt with implicit memory, although it has not used that name. Freud designated transference – the repetition in relation to the analyst of conflictual patterns of conflict – as a form of remembering, but of course its significance is precisely that it is not explicit remembering.

Of what value is explicit memory? Developments in relatively recent societal history have meant that having a good explicit memory can be important – in passing exams, in remembering history, dates, giving evidence in court, eyewitness testimony etc.. However, I would speculate that in the longer evolutionary history of the human species, the capacity for good explicit memory of specific events may have had relatively little Darwinian survival value. What may have been of greater importance are forms of procedural remembering – remembering when to be frightened, when to flee and where to, when to fight, how to behave with whom –, etc. These are interpersonal procedural memories – how to proceed in relation to others. The capacity to generalize, to form general models of interaction, would be of more value than would accurate memory of specif ic events. Thus, with reference to childhood interpersonal trauma, the procedural memory of becoming anxious when alone with a man might take precedence over remembering explicitly sexual abuse by a *particular* man. What adaptive value (in a Darwinian sense) could there be in an explicit memory of sexual abuse? Perhaps one function of explicit memory is that it can help us distinguish and counter the tendency to generalize – if we remember explicitly one specific "predator" we may not need to avoid all who might show a superficial resemblance to that one[6]. However, explicit remembering of specific episodes accurately may not have been as important as generalized memories in our evolutionary past.

Clinical example of implicit remembering in fantasy[7]

Rather than discuss a dream, I will consider a sexual fantasy.

Psychoanalysts are inclined to view sexual fantasies and day dreams as similar to night dreams in structure and function. Miss C described a sexual fantasy which she had insisted her boyfriend enact with her. In the fantasy he was her mother's lover and she was aged about 11; he confessed to her (still in the fantasy) that he was really interested in her and had become her mother's lover only in order to be close to Miss C. He had intercourse with her and she imagined the physical experience and pain of an 11 year old girl having sex with a mature man. Miss C found this fantasy enactment intensely sexually exciting. She had not thought of the fantasy before and had certainly never enacted it. Such events had never happened in reality with her mother's lover – of that she had no doubt. However, what had happened was that her mother had left her father when Miss C was aged 10 and had left Miss C behind, quite contrary to the impression previously given that she intended to take Miss C with her; she had stayed with her father, but he too took up with another woman and seemed to have little time for Miss C. When this was discussed in her therapy, Miss C had no difficulty in seeing that her fantasy represented her childhood wish[8] – a triumphant reversal of her actual experience of being humiliatingly abandoned by her mother in favour of her lover. She had never forgotten the events of her parents' separation, but she had forgotten what these *meant* to her, how she felt and how she had fantasized. Her sexual enactment with her boyfriend was her mode of implicit remembering – which could lead to a kind of explicit remembering because the original events were known and had never been forgotten. As may be the case in a dream also, the sexual fantasy contained an allusion to a past experience, but one which was transformed by wish-fulfilment so that it no longer resembled the original situation.

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[6] The mode of 'thought' and 'logic' of the unconscious mind was described by Freud (originally in relation to dreams) and later explored more fully by Matte Blanco. The characteristics of 'infinite sets' and 'symmetry' described by Matte Blanco indicate that at a deep level of the unconscious profound generalization prevails. For example, an instance of mildly intrusive behaviour may be unconsciously represented experienced as equivelent to a violent rape - i.e. assimilated to a set or category of violations, within which all such are treated as equivalent. At more conscious and rational levels of thought the asymmetry of conventional Aristotelian logic prevails, but at deeper levels of unconsciousness (and where intense infantile emotion is engaged), there is increasing prevalence of symmetry and infinite sets. This obviously has a bearing on the question of the role of consciousness in memory.

[7] The patient has given permission for this material to be used here.

[8] This was actually her own insight rather then the therapist's interpretation.

Needless to add, Miss C's transference relationship with the male therapist was full of sexualised endeavours as she attempted to undo the rageful helplessness she had felt when (as she perceived it) her childhood had been ruined by her parents' sexuality.

THREE MODELS OF MEMORY

1. The copy of reality model.
2. Memory as reconstruction – a renewed story telling each time we remember.
3. The dynamic – interactional model.

Although we can remember aspects of externally perceived reality quite well, the idea of there being an accurate memory camcorder continually running in the mind has been rather fully discredited[9]; even so called "flashbulb" memories can be inaccurate. The popular model of memory amongst cognitive scientists is that based on the idea of reconstruction – that remembering is like telling ourselves a story – a story which may change slightly with each telling.

However, the model I find most relevant to psychoanalysis, and which takes full account of implicit memory, is derived from the proposals of the neuroscientist Gerald Edelman [in his remarkable book *The Remembered Present* (1989) regarding neural Darwinism and the idea of memory as recategorisation]. Edelman theorises that neurons develop networks of sensory-motor coordination through a process of competition and natural selection (as neural map networks are repeatedly evoked and enhanced through re-entrant signalling according to emotional value in terms of basic biological needs). Current situations evoke previously established neural maps – the present is thus categorised in terms of the past – but the present experience also alters the neural maps (like Piaget's combined processes of assimilation and accommodation). Thus Edelman describes this form of memory as recategorisation. What is envisaged here is quite unlike any view of memory as static information in storage. Memory is a response – of the whole organism (an *embodied* memory) – evoked by the activation of previously facilitated global mappings. A past mental and bodily state is brought to bear on a present situation – thereby linking experiences that have felt the same. There is no necessity in this model for any assumption that memory is an accurate record of events. This very property of being inaccurate in a literal sense allows an optimal ability to generalize and adapt to new situations. Memory as recategorisation may involve a misperception of both the present and the past – and yet there is real experience in both past and present.

[9] Douglas Watt emphasised that the brain does not 'record' events, but encodes experience in various ways. The distinction between recording and encoding is subtle but important.

Miss C

I return to Miss C and further material that seems to relate to her feeling of having been abandoned by her parents as a result of their sexual relationships.

Whenever Miss C hears about or thinks about any of her boyfriend's ex-girlfriends, she experiences an image of him in intercourse with this woman and suffers intense rage, jealousy and envy, feeling quite out of control. At such times she also imagines that he wishes to get rid of her and throw her out on the street – i.e., she categorises the present in terms of her childhood belief that her parents wanted to get rid of her, and as if she were encountering multiple "primal scenes" simultaneously. In exploring these reactions in her therapy, Miss C associated to her childhood experience when she felt tormented by her mother's sexuality, acutely and ragefully aware of her mother's preoccupation with her lover, and feeling an agony of exclusion. She recalled intercepting this man's phone calls to her mother and shouting abuse at him. Miss C's preferred position is to be the one who is sexually powerful and triumphant – the one who is sexuality rather than its victim – seducing and abandoning men, thereby placing the other in the position of the excluded, deprived, helpless and needy one.

With analytic help, Miss C realises what she is "remembering" – her categorisation of the present in terms of the past. Prior to this understanding, she was responding in terms of implicit procedural memories, which include reciprocal role relationships and defensive strategies to remain at the dominant rather than needy / vulnerable polarity. Without the analytic reconstruction which places her implicit procedural memories in a historical context (albeit one which is already known in its basic facts), she is unable to understand the source and affective intensity of her repetitive patterns of relating.

There is no "recovered memory" of an event – but a new understanding of an earlier experience.

TRANSFERENCE

Transference can be understood as the categorisation of the present within a set or schema derived from past experience[10]. Through transference "work", there is a modification in the categorisation of the present, which in turn modifies the internal world – the internal procedures in relation to the self. Psychoanalysis works by, in a sense, altering the past through modifying the categorisations in the present that are derived

[10] Douglas Watt, in his presentation, described transference as 'right hemisphere social cognition' – an idea which nicely captures the emotional categorisation and 'infinite sets' processing of the right hemisphere.

from the past. This may be a partial explanation of the common phenomenon that as the negative transference is worked through the patient often begins to recall more positive aspects of the parents.

TRAUMA MEMORY – A SPECIAL CASE?

In general, psychoanalysts would agree with Dr. Loftus regarding the need for caution regarding inferences about childhood experiences that are not explicitly remembered. The focus of analysis is upon the patient's implicit procedural assumptions about self in relation to intimate others, particularly as these become discernible in relation to the analyst (Fonagy, 1999)[11]. Where reconstruction of development is considered, this is usually in relation to internal events within the patient's mind.

However, although the emphasis upon generalized implicit memories, giving rise to the templates which organise the 'present unconscious' might seem to offer psychoanalysts a confortable way out of dilemmas regarding the reliability of episodic memories from childhood, there remains a problem. How are we to view intrusive trauma memory (or apparent memory) especially when this takes the form of the emergence of sensory-motor experience (often as a "here and now" reliving) in certain states of mind whilst these are seemingly not easily or spontaneously retrieved in other states? Those who have been subject to extensive interpersonal trauma as children may have many areas of experience which have not been fully integrated into autobiographical memory. Some studies suggest that this may be the result of an interference with hippocampal processing (perhaps due to the effect of stress-induced glucocorticoids) (see review by Brewin, 2001)[12]. The resulting trauma information may be situationally accessible but not verbally accessible. It may be reactivated by trauma cues, but may fail to be inhibited by higher level cortical representations of the current context.

Processing of trauma experience may be prematurely inhibited, espe-

[11] Responding to Howard Shevrin's comment that the notion of a "procedural unconscious" could be taken to mean an "automated unconscious" (if the idea of procedural memory is understood as the term is usually employed by cognitive psychologists), I think we would have to say that the psychodynamic procedures include complex constellations of wish / fear / defence as well as patterns of reciprocal role relationships involving defensive strategies to stay in one role position and avoid another.

[12] This suggests another way of viewing the mode of thought of the unconscious mind (as described by Freud and later Matte Blanco) – the hypothesis that it makes use of experience without hippocampal processing, thus removing the context of time and place, etc. Could we say that the deep unconscious mind is "pre-hippocampal"?

cially if combined with cognitive avoidance. This may result in an indefinite postponement of the processing of memories. However, situationally accessible memories may still be activated by stronger or unanticipated reminders of the trauma. This may result in delayed onset PTSD – perhaps years later.

Brewin argues that in successful therapeutic strategies which engage the cortex acting through the hippocampus to bring about extinction, the sensory motor memories can be assimilated to autobiographical memory:

> "Instead of reminders being processed by a memory system that does not discriminate between present and past time, the more sophisticated processing afforded by the hippocampus, with its access to the whole of autobiographical memory, will enable the event to be located in its appropriate context." [Brewin, 2001 p. 381]

Clearly there may be many therapeutic strategies that could bring conscious thought and reflection to bear on incompletely processed trauma memory (including psychoanalysis, cognitive therapy, and EMDR [13]).

However, if the original trauma is unknown, perhaps because it occurred very early and prior to the development of autobiographical memory, then we still have a problem of knowing in what context to place the apparent sensory-motor trauma memory.

CONCLUSION

Dr. Loftus' work illustrates experimentally some of the conditions in which memory and beliefs about the past can be distorted through misinformation (e.g., by making an alleged event appear plausible, by suggesting that event with authority, and by encouraging repeated imaginings of such an event). Clinicians should aim to avoid or minimise the in-fluence of suggestion and to be aware of the inevitable potential for suggestion in any therapeutic endeavour (and to help patients to be aware of these). In many ways the discipline of psychoanalysis inherently does address such issues, being concerned in very detailed and subtle ways with the relationship between patient and analyst. Moreover, much of the work of analysis is focused upon the "here and now transference relationship" that expresses the "present unconscious" with its generalized implicit memories and defensive procedures. However, I do not see any simple, clear or easy answers to the clinical task of responding to apparent memories of trauma which emerge during psychotherapy or psychoanalysis. The only point of which I feel certain is the need to avoid false certainty.

[13] Mollon, P. 2001. Psychoanalytic Perspectives on Accelerated Information Processing (EMDR). In Press. *British Journal of Psychotherapy*.

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