Loss of familiarity as an explanation of autobiographical memory loss

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The question this commentary addresses is whether ECT causes permanent memory losses. Beginning with the earliest report soon after the technique was introduced by Kalinowsky at the New York State Psychiatric Institute (Zubin & Barrera 1941) and ending with the most recent review by Max Fink (before the annual meeting of the Biological Psychiatry Society, April 1983), the weight of the evidence seems to lie in the direction of the conclusion that the case for permanent memory impairment is not supported. It appears that short-term memory for material that is presented immediately before treatment is not always retrievable, especially if no time for consolidation was permitted. During the confusional state immediately following treatment, it is difficult to establish the retrieval of memories implanted before treatment; when the confusion period ends, recognition is largely unaffected but not recall. An interesting new feature appears – the loss of familiarity – the jamais vu phenomenon (Zubin & Barrera 1941). But this, too, disappears within three weeks after the end of treatment.

Regarding long-term memory of the autobiographical type, there is some evidence that memory losses may last as long as a year, but there is little evidence that the loss is permanent. Since word association responses represent old memories and some even go back to early childhood, the impact of ECT on word association can serve as a paradigm for its effect on personal autobiographic memories. To this end, a study was conducted by Zeaman (1948) to determine whether the shock treatment interfered with the recall and recognition of the initial word association given before treatment. There was a slight drop in recognition and a loss in the feeling of familiarity. Furthermore, the impact was most pronounced on complex-bound word associations when compared to the complex free. After the end of treatment, the loss of familiarity for newly learned material disappeared. However, for the control series given before the beginning of treatment, loss of familiarity persisted. Is it possible that the loss of personal memories reported by some patients may reflect loss of familiarity rather than destruction of the memory trace? The memories may actually be retrieved but are disowned by the patient because of the loss of familiarity that developed. (See also Zubin 1948a,b.)

Thus, it is possible that even the long-lasting memory losses may not represent destruction of the memory trace.