

Forgetting

The overview that follows is offered to help the trier of fact understand forgetting — why memories become unavailable or inaccessible over time, the different mechanisms that produce that loss, and what forgetting does and does not tell a court. Forgetting is central to litigation: witnesses fail to recall details, give incomplete accounts, and sometimes recover information later, and each of these is routinely treated as a sign of unreliability or dishonesty. Its purpose is to define the terms a court is likely to encounter, to summarize the research on how forgetting works, and to do so in plain language and without favoring any party. The shape of the forgetting curve over time is treated in the companion paper on delayed recall; this paper concerns the mechanisms of forgetting.

What Forgetting Is — and Is Not

Forgetting is normal, pervasive, and largely adaptive; a memory system that retained everything would be unusable. It is also more varied than the everyday word suggests. A useful distinction separates whether a memory is still stored at all (its availability) from whether it can be reached at a given moment (its accessibility). Much of what we call forgetting is a failure of access — the information is still there but cannot be retrieved without the right cue — rather than a permanent erasure (Tulving & Pearlstone, 1966). Two consequences matter for the law. First, the absence of a memory is not proof that the event did not occur; a person may simply have failed to encode or to retrieve it. Second, gaps and omissions are the normal condition of memory, not in themselves evidence that a witness is lying.

Encoding Failure and the Limits of Attention

A great deal of everyday forgetting is not loss at all but a failure to form the memory in the first place. Information that is not attended to is not encoded, and what was never encoded cannot later be recalled, no matter how it is questioned. People fail to encode for ordinary reasons — distraction, divided attention, fatigue, or simple lack of interest at the time. For witnesses this is decisive: a person preoccupied, frightened, focused on a weapon, or exposed to an event only briefly may never have registered the very details later sought, so that the “forgetting” reflects a gap that was present from the start rather than a memory that faded.

Decay and the Shape of Forgetting

Some forgetting does reflect the weakening of stored memories over time. The loss is not steady: it is rapid at first and then slows, so that most of what will be forgotten is forgotten early, after which surviving memories are comparatively durable (Rubin & Wenzel, 1996). The detailed shape of this retention function, and its implications for the timing of interviews, are developed in the companion paper on delayed recall. The point here is simply that time alone degrades memory, and that the degradation falls hardest on specific, peripheral detail while the gist of an event is more resistant.

Interference

Memories also interfere with one another, and interference is among the most important causes of forgetting (Underwood, 1957). In retroactive interference, newer learning disrupts memory for older material; in proactive interference, older memories disrupt the retention of newer ones. The practical effect is that similar experiences blur together: a person who has repeatedly encountered comparable events — a recurring kind of transaction, or repeated instances of similar conduct — tends to retain a general script rather than a sharp memory of any single occasion, and may confidently but wrongly assign a detail from one occasion to another. Post-event information can interfere in the same way, displacing or blurring the original memory.

Retrieval Failure: Cues and Context

Because much forgetting is a failure of access rather than of storage, the cues available at the moment of recall strongly affect what can be retrieved. Memory is best when the conditions of retrieval match those of encoding — a principle vividly shown by a study in which divers who learned words underwater recalled them better underwater, and those who learned on land recalled better on land (Godden & Baddeley, 1975). The constructive use of this principle is the basis for mentally reinstating the context of an event during a structured interview, which can recover details that seemed forgotten. The same principle carries a caution: cues can recover genuine memories, but leading or suggestive cues can also implant or distort them, so the manner of cueing matters.

Retrieval-Induced Forgetting

Counterintuitively, the act of remembering can itself cause forgetting. When a person retrieves some items from a set, related items that are not retrieved become harder to recall later — a phenomenon called retrieval-induced forgetting (Anderson, Bjork, & Bjork, 1994). This has a direct forensic application. An interview, or a witness's own repeated recounting, that focuses on some details of an event can suppress memory for other, unmentioned details. The effect also spreads through conversation: when one person recounts an event and another listens, the listener too tends to forget related details that went unmentioned — socially shared retrieval-induced forgetting (Cuc, Koppel, & Hirst, 2007). Selective questioning and co-witness discussion can therefore shape not only what is remembered but what is forgotten, which is one more reason to obtain complete, open-ended accounts early and to keep witnesses' accounts independent.

Motivated Forgetting and the Repression Question

People can also forget, to a degree, on purpose. When instructed to stop retrieving a memory, people show reduced later recall of the suppressed material — the “think/no-think” effect — and this intentional suppression engages control regions of the frontal lobes while down-regulating the hippocampus (Anderson & Green, 2001; Anderson & Hanslmayr, 2014). This research is sometimes invoked in the contested debate over repressed and recovered memories of trauma, and it must be described with care. What the laboratory shows is a real but modest reduction in the accessibility of ordinary material under controlled conditions; it does not establish the stronger clinical claim that people routinely banish entire traumatic experiences from memory for years and then recover them intact. That claim remains scientifically disputed and is addressed in its own paper (McNally, 2003). The neutral statement of the science is that intentional suppression can reduce recall to some extent, while the existence and reliability of wholesale repression of trauma are not established.

Forgetting and the Law

The science of forgetting bears on several recurring legal issues. The threshold to testify is low: under Federal Rule of Evidence 601 a witness is competent despite an imperfect memory, and the gaps in an account go to weight rather than admissibility. Most importantly, normal forgetting explains why an honest account is typically incomplete and why a witness's statements change over time, which bears directly on impeachment by prior inconsistent statement (Federal Rule of Evidence 613): some inconsistency and some loss of detail are the ordinary signature of memory, not proof of fabrication, even as details that newly appear after suggestive influence warrant scrutiny. The rules also allow a witness's memory to be refreshed (Federal Rule of Evidence 612), a practice the science counsels handling with care, since a memory “refreshed” by a suggestive prompt may be shaped by the prompt rather than truly recovered.

Courts have increasingly recognized that memory is reconstructive and fallible (State v. Henderson, 2011). Whether an expert may explain the mechanisms of forgetting — encoding failure, interference, retrieval and context effects, retrieval-induced forgetting, and the limits of motivated forgetting — is governed by the rules on scientific and expert evidence: Daubert v. Merrell Dow Pharmaceuticals (1993), Kumho Tire Co. v. Carmichael (1999), and Federal Rule of Evidence 702 in federal court and the states that follow them, and the general-acceptance test of Frye v. United States (1923) elsewhere. Such testimony is offered to inform the trier of fact about why memories are lost and what their loss does and does not signify — not to opine on whether a particular witness genuinely forgot or genuinely remembers, a judgment the law reserves to the fact-finder.

Special Issues in Legal Practice

The principles described above apply with equal force to every party in a legal proceeding. Memory operates the same way regardless of who is asking the questions, and the science summarized here favors no side. What differs between the parties is not the science but the vantage point — the particular places where memory issues tend to surface, and the particular errors each party is best positioned to guard against. The two summaries below identify those recurring issues. They are offered for orientation, not as litigation strategy; in every case the controlling question is what the evidence in that case will, and will not, support, and the expert's role is to inform the trier of fact rather than to advocate for either side.

Special Issues for Prosecutors

For the State, the science of forgetting helps explain why a truthful witness's account is often incomplete or uneven without being unreliable. Gaps, omissions, and a witness's inability to recall peripheral details are the normal product of encoding failure, decay, and interference, and should not be mistaken — by the State or by the jury — for fabrication; a victim's loss of specific detail does not show that the event did not occur. The errors the prosecution is best positioned to guard against are those that needlessly cause or compound forgetting and contamination: delay before the first interview, narrow or selective questioning that can suppress unmentioned details through retrieval-induced forgetting, allowing co-witnesses to discuss the event, and refreshing a witness's recollection with suggestive materials. Obtaining a complete, open-ended account early, and keeping witnesses' accounts independent, both preserves memory and produces the more defensible record.

Special Issues for Defense

For the defense, the recurring task is to show how forgetting bears on the reliability of what a witness now reports — recognizing that an account can be sincere and still be incomplete or distorted. Several mechanisms may be in play: details central to the case may never have been encoded; time and interference may have degraded or blurred the memory, especially across repeated similar events; and the way the account was elicited — selective questioning, co-witness conversation, suggestive cues, or refreshing with leading materials — may have shaped both what is remembered and what is forgotten. Where a previously unavailable memory is said to have been recovered, the defense may probe the conditions of its recovery, mindful that the science of intentional suppression does not establish the reliability of wholesale repression and recovery of trauma. The law contemplates that these matters be placed before the trier of fact through cross-examination, through challenge to the manner of questioning, and, where the governing standard is met, through expert testimony (Daubert v. Merrell Dow Pharmaceuticals, 1993; Frye v. United States, 1923). The aim is not to treat all forgetting as suspect — it is ordinary and expected — but to ensure that what a gap in memory does and does not show is accurately weighed.

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