

# Events forgotten

1. The greatest amount of forgetting occurs directly after finishing the learning task.
2. The greatest amount of forgetting occurs rapidly, during the first day.
3. Forgetting is still sizable during the first fourteen days.
4. Forgetting slows down after two weeks, but again there is not much left to forget.
5. Remembering what you have heard is usually more difficult than remembering what you have read.
6. Forgetting is sometimes incorrectly labelled. Normally the causes are
  - 1) Pseudo-Forgetting - You never had it forgetting
  - 2) Mental Blur forgetting.

Your brain is the only organ in your body that can't feel pain. Because of this, brain surgery can be carried out without a general anaesthetic. You are given something to numb the scalp and skull, and then the surgeon can drill through. But, if the drill slipped and started to gouge into your brain, you wouldn't feel a thing. The lack of pain receptors is a real bonus for brain surgeons. Instead of having a patient who just lies there like a sack of meat, they have somebody who can tell them what's happening as they probe and snip.

In 1935 a neurosurgeon named Wilder Penfield started some experimental work at McGill University in Montreal, Canada. A patient lay in the operating theatre with the top of her skull off while Dr Penfield inserted slim electrodes into her brain. The idea was to trigger a small electric current through each electrode in turn, thus stimulating the area of the brain in which it was buried. That way, he could learn which parts of the brain did what.

When everything was in place, he sent in the first little jolt of electricity and asked the patient what was happening. She told him her ear felt funny. Another little jolt and her foot twitched. And so on. Then something strange happened. He sent in a jolt and the patient reported she was back in childhood, hearing her mother call to her to come into the kitchen. This had happened thirty years before, but every detail was still there - the wind in her hair, the expression on her mother's face, each word spoken ... everything. It had all been stored perfectly in the woman's memory.

Dr Penfield continued his experiments, up to 1960 and showed again and again, with patient after patient, that he could bring up memories so vivid people actually thought they were reliving bits of their past. He checked their stories where he was able and found what the patients remembered after those little jolts was what had really happened to them, sometimes many years ago. It seems that all of us come equipped with the perfect photographic memory. We literally store every detail of everything we see, hear, touch, taste and smell. So with the perfect photographic memory, why do we forget things?

Earlier this century, Psychologists came up with two main theories. The first was that memory traces simply fade with time. This sounds sensible and likely since most things seem to fade with time. Sensible or not, experiments finally showed this theory to be wrong. Memory traces don't fade. Penfield and others have shown

clearly they last forever. The second main theory is known as the interference theory of forgetting. The idea behind this was that old memories are sometimes crowded out by new ones. This seems wrong as well because if new memories push out old ones, then the more we learn; the more we are going to forget.

## THEORIES OF FORGETTING

### Retroactive Interference

This kind of interference occurs when new learning interferes with the recall of old learning. For example the person who has recently learnt German may only think of German words when they try to think of something in French.

### Proactive Interference

This kind of interference occurs when old knowledge interferes with the recall of new knowledge.

For example someone who has previously learned French may not recall the newly learnt German terms instead.

### Interactive Interference

In Interactive interference, older knowledge and newer knowledge tend to make recall of intermediate knowledge difficult.

### Reactive Interference

This kind of interference arises when negative/positive feelings and/ or attitudes hamper the acquisition of new knowledge.

The earliest ideas about how we forget things were that memories in the brain gradually decay if they are not strengthened by being recalled however this idea has been virtually impossible to investigate. There are some cases where we can remember events very clearly that we have not thought of for years, and others where we are unable to remember things that we see every day. Our inability to recall accurately objects that are very familiar to us is one of the oddest phenomena of forgetting.

Freud (1901) believed the reason we forget things is because to do so protects the ego from threat we repress memories which might be disturbing and we also repress anything that might indirectly cue us into disturbing memories. This is motivated forgetting, a manifestation of some unconscious wish, fulfilment, for example forgetting that you have a dental appointment. A severe blow or wound to the head may result in loss of memory for the events leading up to the accident. It is thought to interfere with a period of consolidation, needed for new information to become established in memory stores.

Yarnell and Lynch (1973) studied American football players who experienced concussion as a result of collisions in the field. The players were asked questions immediately after the injury and again twenty minutes later. It was found that immediately after the injury, the players could recall the strategy which their team had been using, but that this memory had disappeared completely twenty minutes later. Amnesia may result from brain damage or disease. Anterograde amnesia is when the individual is unable to store new memories following brain disease or injury it has been known to result from a surgical accident, but its most common source is Korsakoff's syndrome, brought about by long term alcoholism accompanied by inadequate nutrition. It can also result from Alzheimer's disease and Huntington's

chorea.

Sacks (1985) interviewed a man named Jimmy in 1975 whose mind seemed to have stopped in the year 1945. When interviewed he had no awareness that it was not still 1945. Jimmy was unable to hold any information in recent memory, when Sacks left the room for a few minutes, he had to reintroduce himself on his return. Records show Jimmy had been in the Navy and as a result of prolonged and heavy drinking had developed Korsakoff's Syndrome. The amnesia caused by the brain damage from the alcohol had eaten backwards through his life, as happens in other cases of Korsakoff's, stopping at the year 1945.