

Outline and discuss
the principle features
of organic amnesia
essay



**ASSIGN
BUSTER**

An amnesiac is someone who suffers from memory loss, and one of the reasons this might occur is as the result of brain damage.

Organic amnesia is the loss of memory due to physical damage to the brain and is also known as the amnesiac syndrome. Most patients with amnesia show normal intelligence and a short-term memory span, but have impaired recall and recognition for facts and events experienced before or after the critical brain damage (Mayes 1992). One of the several ways that the brain damage can arise, is from Korsakoff's syndrome, which is the consequence of a deficiency in the vitamin Thiamine, associated with chronic alcoholism. It is the most common cause of acute amnesia. Sufferers of the syndrome are unable to recall many items or events of the past. When they are presented with such items, the patient does not feel identifiable with them.

Patients often deny that there is anything wrong with them, and time and place can be disorientating for them. To fill in gaps in their memory they may also confabulate, or make up false bits of memories, that they believe to be true. Other causes of amnesia may result from surgical lesions conducted for the relief of epilepsy, infection of the brain or encephalitis and head injury. Amnesia is linked to causing bilateral damage to a number of structures located in the forebrain; including the temporal lobes of the cortex, and parts of the limbic system underlying the cortex, in particular, the hippocampus, mamillary bodies, and damage to the frontal lobes is also possible. Organic amnesia is characterised by both retrograde and anterograde amnesia. Retrograde amnesia refers to the loss of memory for events before any brain damage was incurred.

Anterograde amnesia is when a patient usually show normal memory for events before the incident responsible for the memory deficit, but has trouble when trying to recall information about events occurring after the incident. Anterograde amnesia is a major characteristic of amnesic syndrome. Memory loss from retrograde amnesia usually occurs when a patient suffers an incident of unconsciousness. This may be from a car accident, or a fall involving a bang to the head. On recovering consciousness the patient may have retrospective memory loss for events extending back several months or years, and these memories will probably be recovered as time passes after the accident.

However, the patient has no memory of the time leading up to the incident, and will most likely suffer from permanent memory loss for these events, and they will not be restored even if the patient makes a full recovery. An explanation for this type of amnesia might be that it is purely a defence mechanism in which the memories are deliberately pushed into the unconscious or forgotten, to prevent the patient being traumatised by the details of a bad accident. Baddeley (1982) however argues that this could not be the case, as this would not explain why only the cases involving concussion lead to such memory loss. Also he suggests that there is evidence to show that the memory loss is not due to failure to take in information leading up to the event. A well reported case of anterograde amnesia is of a man called Henry, who is known only as H.

M in literature. His memory functioning has been extensively studied.

(Milner, 1970; Squire, 1992) H. M.

suffered from epileptic seizures from the age of 16 years. His condition was slowly deteriorating and medication was not helping. At the age of 27 his condition was so severe that he had to give up work. He underwent surgery to remove portions of the temporal lobe and limbic system on both sides of his brain, in order to reduce his symptoms.

The surgery was successful in that it meant his seizures were milder, and controllable with medication. It soon became apparent though that despite the fact all H. M. ' s old memories remained intact; he had difficulty recalling memories that had formed in the ten years previous to the operation.

He was suffering from retrograde amnesia. However, in addition to this H. M. was also unable to retain new information for more than a few minutes. A new fact was retained only briefly, and as soon as distracted, the newly acquired information disappeared as if it had never been presented.

This incapacity to develop new memories after the onset of an illness is anterograde amnesia. S. Corkin, Amaral, Gonzalez, Johnson, & Hyman, (1997) report that H. M.

does not know his age or the current date, and he doesn't know that his parents, who he lived with before the surgery, had passed away. He still however conversed easily and his IQ remained a little above average. H. M.

recognised that something was wrong with him. He was aware that he had no memories of the past several years or even of what he did earlier that day. He described this isolation as " Every day is alone in itself, whatever

enjoyment I've had, and whatever sorrow I've had.... Everything looks clear to me.

.. ut what happened just before? It's like waking from a dream. I just don't remember.

" (B. Milner, 1970, p. 37)H. M.

' s short term memory was still intact, but he was completely unable to transfer new information into his long term memory. H. M. can retain new information as long as he focuses on it, but as soon as he is distracted he forgets the information, and is unable to recall it later. It is reported that destruction in the tissue in the medial temporal lobe can produce severe failure to form new long term memories, although acquisition of short term memories is normal (A.

R. Damasio, Eslinger , Damasio, Van Hoesen, & Cornell, 1985)He generally seemed cognitively normal as he was able to use perceptual and motor skills. Patients like H. M will be entirely normal in their speech and social behaviours. They can quite easily have a conversation about events that may have occurred early in their life, whilst concealing their memory deficit.

It may be that they develop some set responses to questions that they know they will be regularly asked, or some general conversation phrases that they can use to hide the fact that they have no real knowledge subject matter that they are conversing. Clive Wearing is a patient with amnesia caused by damage to the hippocampus. He suffered a brain infection caused by the herpes simplex virus. It damaged parts of his cortex and destroyed his

hippocampus. This left Wearing unable to transfer new information from his short term memory to his long term memory, and as a result lives in snapshots of time, continually believing that he has just awoken from years of unconsciousness.

He therefore reacts to people as if they had been not seen each other for years, even though those people might have paid him a visit minutes earlier. Wearing can still speak and walk, as well as play the organ and conduct, and his musical ability is remarkable well preserved. He can still learn new skills, and these appear to be stored in his long term memory. Whenever he is asked to perform the skill however, he reacts as though he has never attempted to learn it before.

His memory of his early life is patchy, and his ability to recall details of his life extremely poor (Blakemore, 1988; Badeley, 1990). Amnesic patients have great difficulty in retaining episodic and semantic information following the onset of amnesia. Their memory for events and knowledge acquired before onset of the condition tends to remain intact. Their ability to retain declarative information is impaired. Patients do appear, however, to be able to acquire new motor skills, which suggest that their ability to acquire procedural knowledge remains intact.

(Cohen, 1984) When a patient has amnesia not all kinds of memory are disrupted. So, whilst the patient is generally unable to either remember old facts about their life or learn new ones, they do not struggle with tasks such as remembering and learning perceptual and motor skills. So, it would seem that explicit memory which is the type of memory that is manifested in recall

or recognition, in which we consciously recollect the past, breaks down during amnesia, particularly the parts involved in recall and recognition. Implicit memory which is the kind of memory that manifests itself as an improvement on some perceptual, motor, or cognition task, with no conscious recollection of the experiences that lead to the improvement, tends to be protected.

Tasks such as riding a bike and tying shoelaces are motor skills that are maintained, as are perceptual tasks such as the reading of a book. Cohen and Squire (1980) conducted a study and found that when learning to read mirror-reversed words, amnesiac patients improve with practice and the same rate as normal patients, although they may have no memory of participating in earlier practice sessions. They show normal memory for the skill but virtually no memory for the learning episode that developed it.

Amnesia is the term given to a condition of dense memory impairment in which there is no general intellectual difficulty. Patients will often suffer from anterograde amnesia following surgery, like HM, and the patient normally appears to have suffered from damage to both sides of the temporal lobes in the brain and possibly to other brain structures. The patient however will normally be entirely normal in their speech and social behaviours.