Explanations for Forgetting;

Proactive and Retroactive Interference

Retrieval Failure due to Absence of Cues

Interference is an explanation for forgetting in long-term memory. The theory states that interference occurs when information that is similar gets in the way of information trying to be recalled. McGeoch and McDonald (1931) found that interference is worse for similar memories, especially when new information is replacing old information.

The reason similarity might affect recall, could be either because previously stored information makes new similar information difficult to store (proactive), or because new information overwrites previous similar information (retroactive).

Retroactive Interference - is when more recent information gets in the way of trying to recall older information. Therefore, the old information is forgotten.

Proactive Interference - is when old information prevents the recall of newer information, therefore new information is forgotten.

Baddeley and Hitch (1977) offer evidence for retroactive inference after asking rugby union players to recall the names of the teams they had played against earlier in the season. They found that players who had played the most games forgot proportionately more games than those who had played fewer games due to injury. This shows that the learning of new information (new team names) interfered with the memory of old information (earlier team names).

Keppel and Underwood (1962) examined the effect of proactive interference on long-term memory, in an experiment that resembles Peterson and Peterson (1959). Participants were presented with meaningless three-letter consonant trigrams (e.g. WNL) at different intervals (3, 6, 9 second, etc). To prevent rehearsal the participants had to count backwards in threes before recalling. They found that participants typically remembered the trigrams that were presented first, irrespective of the interval length. They concluded that proactive interference occurred, as memory for the earlier consonants, which had transferred to long-term memory (past info), was interfering with the memory for new consonants, due to the similarity of the information presented.

Retrieval Failure - is a form of forgetting which occurs when we do not have the necessary cues to access memory. This suggests that forgetting is an accessibility issue not an availability issue.

A cue is a trigger of information that allows us to access a memory. A cue acts as a reminder and helps aid our memory. A lack of cues results in retrieval failure. Eysenck and Keane (2010) suggest that retrieval failure is the main reason for forgetting in LTM.

Retrieval due to absence of cues is sometimes called 'cue-dependent forgetting'. This can also explain forgetting in LTM. There are two types of cue dependency; state-dependent and context-dependent.

State-dependent

Recall is greater when learning and recall is completed in the same state (emotional/ physical).

Carter and Cassaday (1998) gave antihistamine drugs to their participants creating a different internal physiological state to normal. They found when participants were in the same state for learning and recall, memory was better. In another study for state-dependent memory, Aggleton and Waskett (1999) found that smell can act as a cue in helping people remember more.

Context-dependent

Recall is greater when learning and recall is completed in the same context.

Godden and Baddeley (1975) studied a group of divers, giving memory tests underwater and on land. They found that when learning and recall was in the same context, memory was better.

However, Godden and Baddeley (1980) replicated their experiment but changed the type of test used. Instead, they gave participants a recognition test not a recall test. Here they found no context-dependent effect, suggesting that retrieval failure is a limited explanation for forgetting as it only explains forgetting from recall and not from recognition.

Tulving (1983) found that for cues to be helpful, they must be present at encoding (learning) and present at retrieval (recall). He subsequently developed the encoding specificity principle after his research into retrieval failure. The encoding specificity principle is the general principle that matching the encoding contexts of information at recall assists in the retrieval of episodic memories.