Theories of childhood amnesia

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Many people lack the ability to recall specific events from their childhood, such as episodic memories; the time, place and emotions felt during an experience (Tulving, 1984). The term childhood amnesia introduced by Sigmund Freud (1910) refers to the inability to recall memories from the first two years of life, Freud (1910) attributed the cause of CA to repression of traumatic events. Following Freud (1910) several investigators have questioned whether repression can explain every single case of CA. CA is almost universal, thus for Freud to be correct, almost everyone must be repressing traumatic memories which seems extremely implausible. The increasing awareness, and complexity surrounding the cause of CA has led to several explanations regarding the cause of CA. One theory-neurological- attributes the cause of CA to the underdevelopment of brain structures- hippocampus and PFC- essential for forming and retaining episodic memories (Newcombe, Drummey, Fox, Lai & Ottinger- Alberts, 2000; Squire & Schacter, 2003), whereas one theory attributes the cause to the incomplete development of language(Robinson & Robinson, 2007); language allows discussion of memories, which aids the encoding process. Psychological findings support and weaken both theories, it is therefore of utmost importance to fully evaluate both successes and shortcomings of both theories, to better understand the cause of this universal inadequacy.

The neurological theory of CA has been investigated by Piaget (1968) who proposed the idea that the brain structures required to recall memories and form representation- which is essential to form episodic memories -develops at 18-24 months of age. Therefore CA; the inability to form, retain and recall episodic memories is due to the protracted development of these complex

processes (Ullman, 2004; Meltzoff, 1995). If the cause of CA is the prolonged development of the brain structures required to form episodic memories un till 18-24 months, we would expect a two-year-old-child to not remember anything from the first year of their life. Howe and Courage (1993) found children aged two who could accurately recall events that took place one year before. Furthermore, Perris, Myers & Clifton (1990) carried out an experiment involving infants who had experienced an unusual experimental situation 1 or 2 years earlier, the experiment included reaching for objects in a dark room, results show that children who had experienced the discomfort of the dark room before showed less discomfort at the experimental situation than controls, and were more likely to repeat actions they had performed 1-2 years previous. According to the neurological theory CA is a result of prolonged development of the structures required to form episodic memories, this theory is flawed due to conflicting studies which have shown clearly how children, who have not yet reached this stage of development are able to form, retain and recall episodic memories.

The language-development-hypothesis has been investigated by Nelson & Fivush (2004) who compared parents who discussed past memories in a thorough and elaborative manner with children to those who did not. It was found that children who discussed their memories with parents were able to report a greater number of memories than those who did not. The findings in Nelson & Fivush (2004) study indicates that memories which occur before the ability to communicate verbally has developed are at risk of being lost, as the lack of communication prevents children from processing their memories. According to the language-developmental hypothesis the ability

to recall episodic memories requires the development of language; however animals do not possess the ability to communicate linguistically, surely if they are not able to communicate linguistically they should not be able to form episodic memories at all. Clayton, Dickinson & Griffiths (1999) demonstrated how birds may possess episodic-like- components as they were able to locate where they cached different food types. Comparing the findings from Clayton., et al (1999)'s study to Nelson & Fivush' (2004) study the language hypothesis has been undermined due to Clayton., et al (1999) findings. If the ability to recall events post 24 months is due to language development it would be expected for animals- who lack language-to not form memories at all however Clayton., et al (1999) showed clearly how animals who cannot communicate linguistically were able to form episodic memories.

Taking a step back, CA cannot be sufficiently explained by the lack of language or neural development prior to 24 months, many factors have been proven to be influential to the development of CA, such as ethnicity, culture, cognition and society (MacDonald., Reese, & Hayne, 2009). Therefore CA, cannot be and should not be reduced down to two theories. As well as this research in to CA is extremely subjective, and relies on human recall, which is vulnerable to manipulation resulting in inaccurate findings.

In conclusion, the underlying cause of CA remains uncertain, both explanations provide supportive evidence however both explanations are then weakened by contradictory evidence. Neither is able to provide a more compelling explanation for CA than the other. Firstly, contradictory evidence suggests children can actually remember events from before the full

development of the brain. Secondly, the language-developmental hypothesis fails to consider the fact animals can form episodic memories; if language acquisition is required to form recallable memories, then animals should not be able to form memories at all. Thirdly, both explanations provide a rather reduced, limited view of CA, and its cause. Before conclusions can be made regarding the cause of CA, improvements in research is required, CA cannot be understood by looking at biological or developmental theories alone, the human mind is influenced by a range of factors such as ethnicity, culture and society, emotion, and repression, these factors must be considered, it could be that the cause of CA lies within something as simple as lack of rehearsal, not protracted development. As well as this objective methods of studying memory are required such as fMRI, in order to reduce the effects of confounding variables. The cause of CA remains misunderstood, both theories are valuable to a certain extent, however enhancements in research and a broader outlook will enhance the understanding of CA.