

BOOK / MOVIE REVIEW

Human brain midbrain region, late embryonic period, Golgi staining showing early glial cells. This image is property of Zagreb Neuroembriological Collection, Croatian Institute for Brain Research, University of Zagreb School of Medicine. For details see Kostović et al. 1991; Judaš et al. 2011.

MOVIE REVIEW: MEMENTO

Emina Horvat Velić
University of Zagreb, Faculty of Science, Department of Biology

 0000-0002-8861-2719

Memento, a highly praised movie directed by acclaimed British-American director Christopher Nolan, follows a story of a man determined to find justice for his murdered wife. The story itself was written by Nolan's younger brother Jonathan, and at the time was known under the name "Memento Mori." Made in 2000, the film is classified as neo-noir psychological thriller, and appears on the numerous best movies lists. The plot of Memento can at times seem rather confusing, since it is presented in two different narratives; one narrative consists of colour sequences shown in reverse order, and the other of black and white scenes displayed chronologically. The two timelines alternate between each other and intertwine in the end of the film. At the very start of the movie, we are introduced to the protagonist, Leonard Shelby, a man covered in a great deal of tattoos

Anterograde amnesia is a condition where a person afflicted is unable to create new long-term memories after the event that caused amnesia, such as blunt force trauma to the head in Leonard's case.

who also takes large amounts of Polaroid photographs. As the story progresses, we learn that he is on the quest of carrying out his personal vendetta against the attackers who gruesomely killed his wife, and left him to die as well. The reason for Leonard's tattoos, photographs, and abundant notes he carefully leaves to himself is also revealed; due to the violence of the attack, he suffers from anterograde amnesia. Anterograde amnesia is a condition where a person afflicted is unable to create new long-term memories after the event that caused amnesia, such as blunt force trauma to the head in Leonard's case. All long-term memories from before the event remain intact, which is in the strong contrast with similar condition, retrograde amnesia, in which affected individual is not able to remember people, places, and events leading to the incident. It is important to note that in

most cases, patients are still able to learn new things through repetitive practice (often called procedural or nondeclarative memory), such as talking on the phone, although in diminished capacity. Apart from being a consequence of external force, anterograde amnesia can be also caused by alcohol and substance (ab)use, emotional shock, or even encephalitis. The pathophysiology of the amnesia is still relatively unknown, due to the lack of knowledge about the memory storage. However, brain region involved with the

condition is medial temporal lobe, specifically hippocampus. The duration of condition also differentiate, depending on the severity of injury. Rehabilitation process consists of different trainings and approaches, many of which include writing a diary or making copious notes, part of amnesiac's life that Memento documents extraordinarily well. In addition to portraying Leonard's fragile mental state that makes us question not only his current objectives, but also whether his recollections of past are reliable, or

simply figments of his imagination and almost fatalistic wishes, Memento is different in comparison with other films of similar genre, simply because it truthfully portrays the slow agony of losing the principal neurobiological process – a human memory.



Figure 1. Scene from the movie.

Source:

Apertúra. Film-Vizualitás-Elmélet - Győri Zsolt: Memento: a műfajfilm Szindbádja? <http://apertura.hu/2010/tel/gyori>. Accessed January 10, 2017.

FIND OUT MORE:

IMDb

<http://www.imdb.com/title/tt0209144/>

Significant websites

<http://www.memorylossonline.com/spring2002/memlossatmovies.htm>

<https://www.ukessays.com/essays/psychology/memento-antegrade-amnesia.php>

Further reading

Baxendale S. Memories aren't made of this: amnesia at the movies. *BMJ*. 2004;329(7480):1480–1483. Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC535990/>.