

Mummifying Alan

This documentary was made with the intended purpose of education and scientific advancement, targeted towards those interested in learning about the methods used within this recorded process. To provide a wider knowledge to the process of mummification through a practical experiment in which the affects can be witnessed using methods to replicate the processes used in Ancient Egypt.

The main purpose of this documentary is to gain and show new knowledge on the mummification process and the effects of these steps. The intended purpose of creating this documentary is to conduct the steps of this process and show the audience the methodology in which the ancient Egyptians deem necessary in funerary practices. They believed that a preserved body allows for an intact soul to travel to and from the afterlife. It has been seen in practice across multiple dynasties that mummification has occurred both naturally and artificially. This documentary focuses on the use of a natron bath, in which is most likely to replicate the mummification conditions the scientists aim to achieve.

Prior to watching this documentary, I have knowledge on the contents and what to expect when watching. I am knowledgeable in experimental methodology, including bodies left to science; from learning about experiments, such as body farms, preservation techniques, and how these types of things help progress the understanding of the human body and the conditions of bodies found across the world.

The subject of this documentary is creating a modern mummy with the same methodology of those from Ancient Egypt and replicating this for scientific and historical purposes. My understanding is that the process is similar to the idea of modern preservation of remains in the funerary process. I have learned in previous classes that this method involves natron, and is essentially a dehydration technique in preserving the remains of the person that has died.

The documentary is centred on a man named Alan Billis who passed and left his body to this experiment. This allowed the experiment to be performed on a human body in a replication of the Ancient Egyptian methodology to the most accuracy possible. Allowing this application of the experimental mummification process can aid in the understanding of the Egyptian funerary process and possibly the ways they performed this.

Joann Fletcher (an Egyptologist) and Stephen Buckley (an Archaeological Chemist) from the University of York, alongside a team of modern embalmers led by a forensic pathologist, conducted this experiment at the Sheffield medical legal centre. After doing research on mummies, the genealogy and preservation methods are explored. After obtaining the DNA of one mummy, it was discovered to be Queen Tiy, the grandmother of Tutankhamun, and dated to the 18th Dynasty. Investigating the condition of the body, different analysis' were performed to uncover the internal conditions by causing no damage to the body. This included X-rays, MRIs and tissue samples; which underwent a chemical analysis using a gas chromatograph mass spectrometer, discovering natron salt, beeswax, resin and natural oils. Using these results some smaller experiments were undertaken

by Stephen in his shed on pig heads and legs. This research helped understand and develop the steps of the experiment intended to be used going forwards that would create the closest conditions.

The images taken of Tiys body displayed white flakes in her arm – these flakes were not seen however in Seti I who was mummified in the 19th dynasty hinting that the method was changed in this period. After experimenting with various forms of natron (changing the composition and state) they found that submergence in natron water was the closest to the results of the white flakes. These white flakes were determined to be salt crystals that were formed inside the tissue due to the salt bath penetrating the tissue more proficiently than the salt alone. This is explicit to the natron salt as bodies submerged in sea water starts decaying due to the difference in the salt concentration in the water, as the natron is more of an alkaline compound than the salt content found in the sea.

The day after Alan passed is when the first steps were taken by the team at the centre: removing most of the internal organs via an incision on the left side of the lower abdomen just above the hip. Removing the organs at this stage aids in the prevention of decay starting inside the tissue. As this incision was only big enough to remove the organs, reliance on prior knowledge of organ positioning was used to complete this and leave the heart and structure of the body (such as the ribcage) intact. The space where the organs were has been repacked for a more proportional shape and the incision was sewn shut.

A mixture of resin, beeswax and sesame oil is sprayed over the body to create a protective layer, which will reduce insect activity, once this layer is dried his body is submerged in the salt bath for 35 days. At the end of this time period the water in the bath has turned red due to the breakdown of haemoglobin cells. When the team removes the body from the bath they note that this stage of the experiment seems as if Alan has only been gone for 3 days, as the process of decomposition has not started.

The next step was to place Alans body into a chamber for 14 days to dry as a replication of Ancient Egyptian conditions. This reduces the risk of insect activity occurring, of which was found after being in the chamber. Some maggots were found inside the right ear, possibly due to a gap in the wax layer previously applied. This was remedied with an Ancient Egyptian insecticide method of adding pine resin into the ear once the maggots are removed. Alans body is then wrapped for protection and is left to dry for a further 6 weeks.

The end of the experiment means that the intended results are to be verified through a series of x-rays, used to determine if the experiment was successful and concluded as expected. The images of the arms shows that some white flakes (salt crystals) can be seen in a smaller scale, concluding that this process does create conditions observed in the bodies from this dynasty. This could mean that potentially staying in the natron bath for longer periods may produce larger crystals. The images of the head reflect the images of Tiy, as the condition of the brain can be seen similarly in both – shrunk and fallen to the base of the skull. This can be seen as an anomaly as some of the bodies from surrounding dynasties have had their brains removed during the start of the mummification process, whereas this process has not.

Now that the experiment has concluded Alans body was prepared for his family by being placed in new wrappings and moved into a different room. This allowed Alan to be shown to his family for them to be able to pay their respects to him and say goodbye. Alans wife brought some personal possessions, pictures of the family and drawings from their grandchildren, to be placed with him as a final goodbye and as a way to preserve his memory.

I believe that much can be learnt from this documentary, as understanding of the experiment can give insight into the methods involved in Ancient Egyptian funerary processes.

The filming of the documentary itself has captured as much of both the scientific and personal sides of undertaking this experience and aids in the understanding of mummification from Ancient Egypt and the reason behind why this experiment was conducted.