

TRANSCRIPT OF WRAPPED PODCAST

Welcome to History on the Fly, a podcast series offered by the Washington State Historical Society. This episode is titled "Wrapped! The Search for the Essential Mummy" by Dr. Jonathan Elias, Director of the Akhmim Mummy Studies Consortium. In this podcast, Dr. Elias discusses the history behind his organization's research of the Ankh-Wennefer mummy and the Egyptian burial coffins featured in the Wrapped exhibition at the Washington State History Museum in Tacoma, WA. The exhibition is open from January 29, 2011 through September 11, 2011, and a special member preview featuring Dr. Elias is on Saturday, January 29.

People today are interested in the same issues that I think the ancient Egyptians were interested in. What happens after death? Is there a good life? Do they have to behave ethically? Are they going to be judged after death? The Egyptians were interested in all of those questions, just as we are today. They had a whole system for explaining what happens after death, and mummies were a part of that system. So the Egyptians believed that when a person dies, their soul is separated from the physical body and is lost for a period of time. The soul flutters away like a bird and will be completely lost if the physical body itself is destroyed, which is why they spend so much time creating this eternal form, the mummy, the things that we recognize as mummies – bodies wrapped in linen and preserved in special resins and other concoctions which allow the body to survive forces of decay, giving the soul enough time to find and identify the physical body and reunite with it.

Now, I'm often asked: why are mummies wrapped in so much linen? Why do we associate mummies with wrapping in general? Where's all this cloth coming from and why use it? Well, first of all, the Egyptians perfected linen. It was really a fabric that they invented based on the flax plant, and much of the Egyptian economy was based upon the growing of flax and the weaving of linen. Linen is a really terrific textile if you want to preserve something through wrapping and they had lots of it available, so early on their history, around the time that mummification was being perfected, say around 2500 B.C., linen was already part of Egyptian technology and they used it to wrap the desiccated and dried bodies. So essentially the linen wrapping is the first stage of the mummification process, the first stage being desiccation or drying – taking the body, removing all the internal organs that, if you leave them in, the digestive juices of the stomach or intestines by themselves will create bacteria which will just devour the flesh. You have to remove those organs before that happens, before the enzymes in your own body break your body down after death and therefore the Egyptians were concerned with organ removal, removal of the brain. In fact, every organ is removed from an Egyptian mummy in the process of mummification, with the exception of the heart. That's left in. That's the seat of the intellect, the seat of the soul, in effect. So the Egyptians did not remove the heart, and we know in 90% or 95% of all mummies we look at that there's appreciable heart tissue, cardiac tissue left in the body.

The next stage after the organs are removed is the filling of the body with a substance called natron, which is a sodium bicarbonate and several other drying chemicals mixed in, that occurred in Egypt. Little baggies of this stuff would be placed inside the body and in fact around the body, removing

all moisture from the cadaver, so that after about 35 or 40 days, all moisture was removed from the body being mummified and was now ready for the addition of resins and other fragrant-smelling chemicals: cedar, rosin, oils of various kinds, sweet-smelling - frankincense and myrrh, in effect, which were pumped into the body, and in fact, solidified inside the body, basically waterproofing it and making the cadaver a fragrant-smelling object.

Then the wrapping occurs. And we know that the wealthier Egyptians used more linen in wrapping or having their mummies wrapped than people who were less well-to-do. So we can tell, looking at mummies today, that if there's a lot of linen being used, that person was basically from a well-to-do family. Less linen, less money. So the result is an entire population of mummies of different types found in Egyptian cemeteries, and we can get a picture of the socio-economic patterns of a whole society based upon how the mummies are wrapped and how they were preserved.

So how does this system work? Why did the Egyptians create mummies in the first place? We don't know exactly what their reasoning was, but we know that it has to do with their view of eternity, and they developed a theory for how to beat death, how to defeat death, which they saw as a big negative and set of chaotic forces. The Egyptians were concerned with order and they wanted to ensure that after death, that the body did not encounter the forces of chaos and fall apart and be dissolved. They believed in the preservation of the personality, and the mummy is the first step in preserving personhood, your identity through time. The Egyptians believed in resurrection and life after death as you yourself. You were not coming back as a cockroach; you were coming back as who you were to begin with, in an improved form. So the mummy is preserved as an ideal whole or repository for your soul. The mummy is placed in a tomb where it in a sense incubates and is fed through offerings that were given by the living to perpetuate the mummy through something known as the "ka" or spirit. The ka is all about eating. The ka spirit absorbs the food that is left by the family members or even professional priests who leave these offerings at your door. So the Egyptians came up with a theory of how the mummy was fed through time. This time, the amount of time needed for the soul to find the mummy was the only portion of this whole formula that the Egyptians were uncertain about. That's why they made sure that the ka spirit, the part of you that wants to eat, is perpetuated for as long as possible, even through several generations of your family. Eventually, the soul would, according to the Egyptian theory, find the mummy and then you would be able to reanimate.

In looking at mummies scientifically, which we do using something known as a CT scanner, a computer tomography scanner, which is a common medical device at this point in time, we can look inside of mummies and basically unwrap them without really harming them. We don't actually physically unwrap mummies any more, although they did that in the 19th century and it's common knowledge that, in those days, people would unwrap mummies at parties and things of this nature in order to entertain their friends but also for scholarly reasons, they would be able to investigate things that, at the time, in the early 19th century, were really not very well known. But since the advent of X-rays and, in the early 70's, CT-scanning, we've been able to essentially virtually unwrap mummies without harming them at all. We can peer inside of them, we can see exactly how the mummies are wrapped and how much resin was pumped in there and how the internal organs were removed and then wrapped and put back into the body, and we can subject mummies to all kinds of scientific measurement using the CT-scan images.

And as this technology has improved, we've been able to reconstruct through image analysis the appearance of mummies in three dimensions and we can even print out, as physical sculptures and models, portions of mummies, any portion we choose can be printed out on something known as a 3-D printer, and we can actually reproduce the mummy in all of its detail inside and out using this technology.

What do we actually learn from that? An awful lot. We learn about patterns of health and wellness in ancient Egypt. We can take a look at diet and nutrition. We can get a sense of patterns of longevity in the population and get a sense of what people were dying from, though that's sometimes elusive, even using CT scanning. But through that mode of analysis, we can get a sense that these ancient Egyptians, those mummies, were real people with a life not too different from our own, though culturally they were very, very different. They suffered from many of the disease patterns that we do today, but not in every case. There are studies that are going on regarding arteriosclerosis in the ancient Egyptian population and a series of other ancient diseases are being researched by means of Egyptian mummies. So it's an ever-widening array of information which is being essentially brought to light through the study of mummies, these bodies from 2,000 or 3,000 years ago.