

Final Script: *Mummies: Secrets of the Pharaohs*

Narrator: (black text) Christopher Lee

Male Scientist: (blue text) Dr. Bob Brier

Female Scientist: (red text) Dr. Angelique Corthals

[01:00:34:00]

Egypt. Ancient land of awe and wonder, whose people whisper from the desert sands.

[01:01:10:23]

For the Egyptians life was eternal.

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They searched the globe for ingredients to preserve their bodies and their immortality.

[01:01:28:26]

With knowledge gained from centuries of practice, her priests created the finest mummies the world has ever known.

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And now they were on a critical journey. To return to Egypt with the ingredients for the mummification of the Pharaoh.

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Rameses the Great was being prepared for the next stage of his life, when his mummy would resurrect in paradise.

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But how they were mummified, where they were hidden and whether they may still give life today, these are the secrets of the pharaohs.

[Text on screen] **MUMMIES: Secrets Of The Pharaohs**

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There is a handful of mummies whose names were written on their bandages and coffins. These mummies are people who did not decompose when they died, because their flesh was preserved by secret methods.

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And according to the writing these mummies are three of the most powerful pharaohs that ever lived: Rameses the Great, his father and his son.

1267 BC [date on screen]

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Ruled by pharaohs like Rameses, Egypt's empire dominated the near East for 3,000 years. And in all that time, Egypt's gods and government barely changed.

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The Egyptians attributed this to the will of the gods – divine order.

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Rameses shared his life with queen Nefertari. Like all Egyptians, they loved life and wanted to live beyond death.

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They thought dying was just a gateway to the next world – that if they'd been good on earth, their lives would continue in paradise. So they prayed that their honesty and offerings would ensure order on earth and beyond.

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The Egyptian universe was controlled by the goddess Maat, who governed the world and the heavens. Even Ra, the mighty sun god, obeyed the laws of Maat.

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If Maat's order was ever broken, the sun would not rise. The Moon would not follow. The Egyptians mummies would never rise again.

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They called the soul, or the essence, of each person his Ba. After death, your Ba faced final judgment. Your heart was placed on the scales of justice, and weighed against the feather of truth.

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If you had done evil your heavy heart would tip the scales and the Devourer would annihilate you.

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But if you had always been truthful your heart would be feather-light. Your soul would fly to paradise to re-enter your body: your mummy would come to life in the next world, a world in which every moment was like a beautiful day in this one.

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But the preparation of the mummy for this journey remained a secret. The Egyptians recorded their tales of war and death,

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their myths and legends. Everything except how they mummified their dead.

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Strangely, no complete records have been found, so when the last priest of ancient Egypt died, he took the secret to his grave.

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Many aspects of mummification remained lost until Egyptologist Dr. Bob Brier patiently gathered the surviving clues.

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I was looking at tomb paintings, ancient writings, temple carvings – anything that might show the ingredients used for embalming. Queen Hatshepsut's temple at Deir el Bahri describes an Egyptian expedition to East Africa. The Egyptians were getting ingredients for mummification from all over the known world.

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The first mummies were natural – dried by burial in the hot desert sands. But when the Egyptians started to use tombs and pyramids, the bodies were no longer in contact with the sand, so they had to preserve the body artificially, and the art of mummification was born. To dry the body, embalmers covered it for thirty-five days with natron, a naturally occurring blend of salt and baking soda.

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Ancient embalmers used seven sacred oils, some extracted from rare trees they carried home from distant lands. Hatshepsut's temple shows mounds of frankincense and myrrh they brought back. These were key ingredients used in mummification.

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Over time the Egyptians noticed that bee's wax, pine resin, and golden honey were particularly good at preserving mummies.

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These natural antiseptics were described by the Greek historian, Herodotus, in his book.

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Priests sliced the skin with flint knives, removed the internal organs like the liver, and left the heart – which they believed to be the seat of consciousness – in place.

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The jackal-headed Anubis guarded the mummy.

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His tent allowed arid desert breezes to dry the body.

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His priests adorned the dead with gold – and perfumed them with frankincense and myrrh.

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With the ceremony of the opening of the mouth, the mummy would breathe and speak in the next life.

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The priests chanted powerful spells as the mummy was wrapped.

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And with the Declaration of Innocence, that the person did not sin in this world, he and his mummy would be reborn in the next.

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We knew about the religious rituals, but there were still gaps in the mummification procedure that I could only fill in by creating a modern mummy. So I teamed up with a colleague, anatomist Ron Wade, and using a body donated to science, we performed the first human mummification in the Egyptian style, since the time of the pharaohs.

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For twenty years scientists have tried to extract usable DNA from Egyptian mummies, without success. More than a decade later, if we can get DNA from any part of our modern mummy, it will tell us where to look in ancient mummies. I'm not a DNA expert, but working with Dr. Angelique Corthals, a specialist in this field, we took samples of skin, muscle and bone from the modern mummy.

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What makes it so difficult to extract DNA from mummies? Is it the passage of time—the three thousand years—or is it the combination of time and chemical effects of mummification?

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DNA is the blueprint for all life. Sand, and air are lifeless because they contain no DNA. DNA is the magic ingredient.

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Where there's DNA, there's life.

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This instruction manual is written in a four letter code. Rearrange these four code letters, and you get endless possibilities to make a living organism.

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So a beetle and a bee, a bird and a man, have the same components in every cell – just rearranged, and in different lengths.

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DNA changes slightly with every generation and these changes are recorded.

So, by comparing their DNA, we can tell how closely plants and animals...

..., including people, are related.

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DNA can even tell us what diseases ancient mummies suffered.

Some diseases like malaria, are caused by parasites invading the body. Some of these parasites have left traces of their DNA in the mummies.

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Many ancient Egyptians died from malaria, just as millions of people will this year.

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Like all life, diseases like malaria evolve over time to survive. Because malaria parasites reproduce very fast, their DNA evolves quickly. Thousands of generations of malaria have lived since the pharaohs ruled. I want to compare ancient malaria with its modern descendant – ancient DNA with modern DNA. The differences may point towards a cure and millions of lives could be saved in the future. These tests will give us the answer.

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Perhaps the DNA held in mummies like Ramses will help to cure people today.

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To advance her research Dr. Corthals has traveled to Egypt to see the latest mummy dig site. She's visiting Dr. Zahi Hawass, the head of Egypt's antiquities, on his excavation at Saqqara.

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In early times only the pharaohs' bodies were made into mummies, and buried in their pyramids. Later, more people were mummified: first the other royals, then the nobles, and by the time of Cleopatra the middle class too.

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So during Egypt's history, literally millions of mummies were made. For scholars like Dr. Hawass, these mummies are windows to ancient Egypt's past.

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Many of these mummies still lie beneath the ground, awaiting the call to paradise.

[date on screen] 1267 BC

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While Rameses believed his mummy would come to life in paradise, he knew he also lived as long as people remembered him – as long as they said his name – so he built monuments to himself and to his beloved Nefertari.

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The gods demanded that the pharaoh keep Egypt safe, and rich.

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So on the bank of the river Nile, at Egypt's southern border, Rameses constructed Abu Simbel: a warning to the barbarians beyond. Maat—divine order—was maintained, for centuries.

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As I was looking for clues to mummification, I became involved in the lives of the pharaohs. You visit their tombs and temples, translate their inscriptions. You can't help but wonder about them as people. I'm viewing Ramses as a person. But you have to remember, Ramses was viewed by the Egyptians as a god, responsible for divine order in the universe. What kind of King was Ramses? What kind of man?

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Ramses was the pharaoh of the Exodus!

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This may be the only face from the Bible we will ever see.

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When I first looked at his mummy, I remember thinking about all the things Ramses did. Ramses personally led his troops into great battles. Three thousand years ago he signed the oldest known peace treaty.

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Ramses built more temples up and down the Nile than any other pharaoh. Sure it took twenty years to carve Abu Simbel out of the mountain, but Ramses ruled Egypt for sixty-seven years. He had plenty of time to build.

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For a thousand miles throughout all of Egypt, Ramses built temples to please the gods and ensure that divine order prevailed.

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He intended to be remembered, because the ancient Egyptians believed that the memory of a good man lives forever.

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But accounts of Rameses' deeds were lost to history, because no one could read the ancient Egyptian texts – the hieroglyphs – on his temple walls.

[date on screen] 1881

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And then in the Nineteenth Century scholars finally cracked the code of hieroglyphs.

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A massive inscribed tablet, the Rosetta Stone, held the key.

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The buildings and papyrus scrolls came alive.

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Only a few dozen people could read hieroglyphs and one of the finest translators was an American, Charles Wilbour.

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With the unlocking of the secret code, a passion for Egypt – Egyptomania – was born, and ever more adventurers arrived on Egypt's shores to search the sands for hidden tombs.

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But when adventurers entered the pharaohs' tombs, there was a mystery.

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They found paintings of the Pharaohs, their gods and their mummies everywhere.

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Anubis, God of Mummification, protected them after death.

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Painted food and drink fed the mummies.

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The night sky kept watch over the sleeping pharaohs.

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Work on the tombs continued until the Pharaoh was buried, when craftsmen stopped what they were doing. And left.

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But though these tombs were made for kings, not a single pharaoh's body remained.

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Where were the royal mummies?

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No one knew.

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Tombs have been robbed for thousands of years.

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In ancient Egypt, workers built the tombs in the good times and robbed them in the bad.

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After the great reign of Rameses there had been many hard years, so the Royal tombs were raided.

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But in the 1800s tourists would pay more for antique souvenirs than they would for gold. Master thieves trusted Egypt's rare rainstorms to reveal hidden tombs. Ahmed and Mohammed Rassoul were experts in this dangerous profession.

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And now they had made a discovery that would change history.

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People of all sorts – locals and foreigners, rich and poor alike – were trading in goods from mummies' tombs.

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Like other code-breakers, Charles Wilbour knew no pharaoh's mummy had ever been found but that some unusual artifacts had recently appeared for sale in Egypt. These objects bore the names of kings.

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The Rassouls could not read the hieroglyphs on what they'd found. But Wilbour could.

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What he was being shown was freshly stripped from a mummy. And the cartouche – the oval encircling the name – meant that these were the wrappings of a king. He asked the brothers to take him to the tomb.

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The gleaming new house told him the brothers had come into some money recently. There were only two ways to earn a living here, farming and tomb robbing, and sudden wealth didn't come from farming.

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It was a beautiful tomb.

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But not royal.

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Wilbour had to leave Egypt soon. He pressed the brothers to tell him the tomb's true location. They were suspects already, and police judgment would be rough if they didn't co-operate. In desperation, he offered baksheesh - a bribe – for the truth.

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Wilbour went to investigate the Valley of the Kings himself.

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In early Egypt, pharaohs built their tombs in pyramids. But the gold in the pyramids was a magnet for thieves who plundered them soon after they were built. So the pharaohs moved their tombs hundreds of miles south down the Nile to this hidden valley. Eventually this too was robbed.

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Inscriptions at the entrances told Wilbour which tombs had been brief holding places for the royal mummies.

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But the trail went cold. And why had relics from different kings and queens, spanning centuries, appeared on the market suddenly, and at the same time?

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All he knew for certain was that what he'd bought in the market had wrapped the mummy of a pharaoh for 3,000 years. Until now.

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Wilbour wanted to save a Pharaoh's tomb. He tried to persuade the brothers to tell him where it was one last time.

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Wilbour had to leave, and Egypt's heritage lay in the balance. The brothers had left him no option.

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Emil Brugsch was the top antiquities' official in Egypt at the time, and another code-breaker.

[Text on screen] July 6th, 1881

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This was the Pharaoh's tomb.

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But it was unlike any tomb ever seen before.

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Dozens of mummies. All royal.

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The Pharaoh Tuthmosis I.

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And his successor Tuthmosis II,

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husband to Hatshepsut, greatest queen ever to rule,

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builder of Deir el Bahri, and the finest obelisks in Egypt.

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His son, Tuthmosis III, great warrior king. Builder of an empire, and the temple of Amun.

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Rameses III – whose legacy stands at Karnak and beyond.

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Seti I, brilliant general who commissioned exquisite temples at Abydos, and Thebes, and tomb his in the valley of the Kings.

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And the father of this man,

Rameses the Great. His temples at Luxor and Karnak endure.

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Abu Simbel still guards Egypt's southern border.

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His name lives on. These were the men and women who'd built Egypt.

PRODUCTION SOUND

To Cairo. Immediately.

To Cairo. Immediately.

Cairo. Immediately.

01:32:54:01

And so it was that the Pharaohs began their journey out of the darkness and into the light fulfilling their wish that their names be said that they might live on.

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Four decades later, Howard Carter would find the near perfect tomb of the boy-king, Tutankhamen.

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But the greatest cache of royal mummies in history – forty, including twelve pharaohs – had left the Valley of the Kings forever.

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These mummies traveled four hundred miles north to Cairo, where they lie today.

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Years later, the tomb collapsed.

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But the mummies had been saved, and may yet yield their secrets.

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The samples from the modern mummy's skin, muscle, and bone have shown that the skin and muscle didn't contain DNA. But the bone did: four times more DNA than ever extracted from an ancient Egyptian mummy. Now we know where to look for DNA in ancient mummies: in the bones.

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The DNA held in mummies like Ramses the Great may yet provide cures for diseases today.

[Text on screen] 1212BC - THE BURIAL OF RAMESES

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Some might call it luck: that the ancient priests hid the pharaohs' mummies; that robbers didn't destroy them; and that they escaped annihilation in the collapsing tomb.

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The Egyptians would call it divine order – maat.

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But now we may be on the cusp of another wonder. The Pharaohs' mummies have meant different things over the centuries. For the ancients they were a source of hope; for the robbers, a source of wealth; for scholars, a source of knowledge.

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But finally, perhaps the mummies will fulfill their destiny:

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to sustain the gift of life.