Imagination on an Industrial Scale

Wonderworld Book Three



Lumen with Chip Cook

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A Note for the Reader

The Professor wants to know if he could sit down and talk with someone who lived thousands of years ago. Lumen takes him to Egypt to try. Hakan stays at the cottage with his tea.

The travelers move between centuries. The pyramid builders at Giza, the workers at the royal tombs of Thebes, and Cleopatra's crews lived in widely separated times. The households and conversations are imagined. The historical notes at the end give the evidence behind the places, practices and events they encounter.

Part I Beginnings and Builders

Before the Kettle Boils



A question at the cottage on Monhegan.

The cottage on Monhegan was cold enough that the Professor kept his coat on while he filled the kettle. Lumen had spread his notes across the kitchen table. An envelope held down one corner. The sugar bowl did duty at the other. Hakan sat at the end of the table, where he could see what both of them had written in the margins.

“You’ve written ‘imagination on an industrial scale,’” Lumen said. “Is that what we’re calling Egypt?”

“It’s what I’m calling what I don’t understand about Egypt.”

Lumen had drawn a pyramid beside the title, with one person at its foot so small the Professor had taken him for a stray pencil mark.

She moved the sugar bowl. Under it he had written a question that had been following him around for years. Could he sit down with people from another time and talk to them?

“Hell, I have problems communicating with people of my own time period,” he said. “Why would it be any different?”

“One way to find out. Will you let them speak first?”

“Of course.”

She waited.

“That was a question,” he said. “I was allowed to answer.”

The kettle began to tick.

The Professor took it off the stove and poured Hakan’s tea.

“Will you be long?” Hakan asked.

“Give it time to cool,” said Lumen.

He put his cup down. Lumen brought her hands together once, and the kitchen went quiet. When the Professor reached for the back of his chair, his fingers closed on air.

It was dark where they landed. The Professor tested the ground with the toe of his shoe and found mud. A little water ran over it, cold enough to make him step back.

“We ought to have brought a lamp,” he said.

Lumen put her hand on his sleeve. The darkness ahead of them had begun to separate into water and sky. Across the water a man was drawing a boat up onto the bank. Somewhere behind him a child spoke.

“She’s asking when the sun will come,” Lumen whispered.

“You understood that?”

“I can sometimes put an old language together from the bits that survived. The man’s harder. Give me a minute to hear how he says things.”

The man set down his rope and told her about a flower.

The First Morning



The first light in the story of the lotus.

In the story the man told, there had once been water in every direction. Then a flower opened, and there was a child inside it. The child was the sun. The little girl leaned so far forward that the man had to reach out and catch her by the wrist.

“Will it open again tomorrow?” she asked.

He told her to come and see.

The Professor had brought a notebook. He wrote down *a flower*. Then he waited for something to happen in the story that would account for the girl being there to hear it. The man picked up his rope again. The girl was satisfied. She had been given a reason to come back in the morning.

“I’d have asked where the water came from,” the Professor said.

“Yes,” said Lumen. “And then the girl would have missed the sun.”

In another telling, at Heliopolis, the god Atum came forth at the beginning and set creation in motion. At Memphis, they came across a story in which Ptah brought things into being through thought and speech. The Professor had imagined he could get the three versions straight by making columns. He was halfway down the page when Lumen asked where he would put the little girl.

“She isn’t part of the story.”

“She’s the reason somebody told it this morning.”

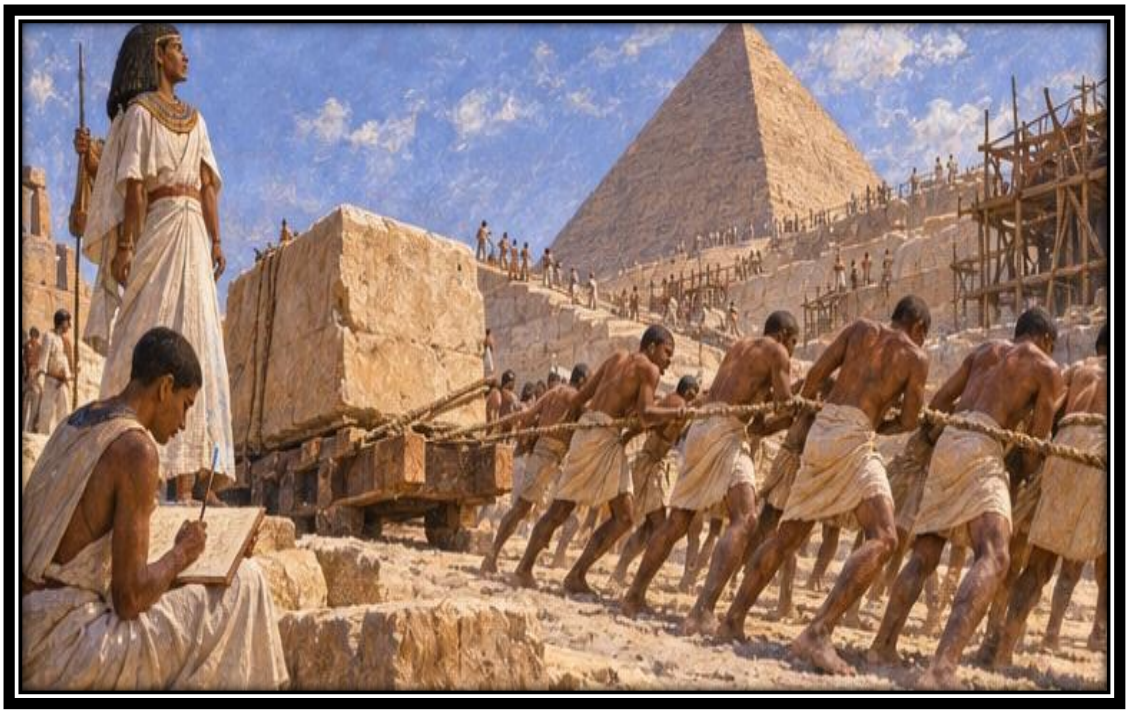
He turned back a page and put her beside the flower. The man had kept a hand on the rope even while he spoke. The girl’s wrist was small enough for him to hold without taking his other hand off the boat. The Professor had remembered all of that without writing it down.

By daylight, people had begun carrying things across the landing. A basket with a broken handle took two people to manage. The man who had told the story set aside his own work and took one end.

“Where next?” Lumen asked.

“I’d like to see how many people it takes when what you’re carrying is a stone.”

Bread for the Pyramid



Hauling stone at Giza.

At Giza the Professor kept looking up. Lumen watched the ground. The men at the ropes had to watch it too. One man caught his heel and barely got his footing before the rope drew tight again. When the stone came to rest, the whole group stayed still for a moment, bent forward at the same angle.

“Now you can look up,” she said.

He did. The unfinished pyramid already had a shadow large enough to swallow the men and the stone. He tried to imagine a day when there had been nothing there to cast it, and someone had stood on that ground and said where the first block would go.

From farther down the slope, where people were at work supplying the settlement, came the smell of bread.

The Professor would have liked to count the men on the ropes. Lumen wanted to know who'd counted how many mouths would need feeding when the men put the ropes down. They followed the bread until they came to a woman going over a delivery with a man who had brought flour. She pushed a measure back toward him. He filled it a little higher.

"Do you think she spends much time thinking about the king's afterlife?" Lumen asked.

"Ask her after she's finished with the flour."

The woman looked up. The Professor held out both hands to show that he had no business with the delivery.

Back in the cottage he'd drawn a pyramid as three straight lines. He drew it again now. Along the bottom he wrote *grain*. Beside it he put *bread*. Then he wrote down the man who had stumbled. He still didn't know the man's name, and it bothered him that he could think of several kings whose names he'd remember all the way home.

"Can we follow someone after work?" he asked.

"If you're willing to go where they live," said Lumen.

Part II Death and Remembrance

Supper in Thebes



A memory of supper before Tia's father died.

Many centuries after the ropes at Giza, a woman in Thebes handed the Professor a piece of bread. He had been standing in her doorway long enough to make it plain he had something to say. She waited until he sat down. Lumen listened, asked the woman to repeat a word, and told the Professor her name was Tia. Her father had been dead a few days. She could remember him tearing bread at this same table, holding it up to the lamp to see whether her brother had burned the bottom again.

Her brother wanted their father to have a scroll. Tia had been doing sums in her head since he brought it up. They had some linen their father had set aside while he was well, and both of them had expected to use it for his burial. There was still the matter of what they would owe the scribe.

"He would have said to keep the good linen," she told her brother.

“He’d have said that if it was for him,” her brother said. “If it was for either of us, he’d have gone to the scribe himself.”

Tia broke another piece of bread. She gave half of it to her brother. Then she turned to the Professor. He looked at Lumen.

“She’d like to ask you something,” Lumen said. “I’ll tell you what she says. You answer her.”

“What do your people do when someone dies?” Tia asked through Lumen.

“In my land they pray,” said the Professor. “It’s like making a wish. Or a deal.”

“What kind of deal?” Lumen had paused over the word “deal.” She offered Tia a word that sounded like a bargain struck in the market. Tia frowned. Lumen tried again, this time saying what was being promised aloud.

“I’ll do better. I’ll be kinder. I’ll do whatever you ask. Just let him live.”

“And after he dies?” Lumen translated.

The Professor looked down at his bowl. “Then we ask somebody to look after him.”

The woman nodded. “That’s what the scroll is for,” she said. “Or part of it, anyway.”

“Did your father pray?” Tia asked.

“Mine?” The Professor had been speaking for an entire country a moment ago. “I don’t remember hearing him.”

“I used to think my father was talking to me when he called from another room,” she said. “Sometimes he was talking to himself.”

Her brother smiled down at his bowl. “Sometimes he was talking to the door. He took it personally when the latch stuck.”

Tia put a hand over her mouth. The Professor thought she was going to cry. Then he heard her laugh, and her brother laughed too.

Her brother reached for the water and knocked the cup against the bowl. All four of them watched a little water run across the table. Tia put a cloth down. After a while she said she would go with him to see what a short scroll might cost.

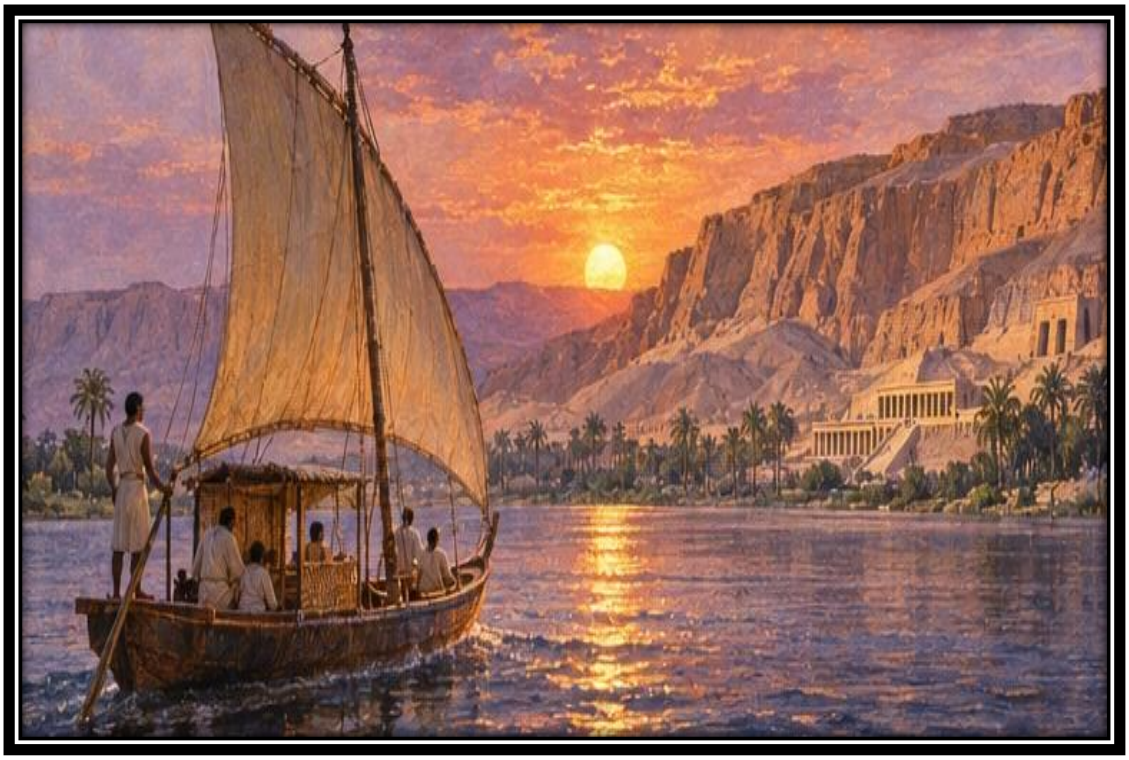
Outside, the Professor stopped to get his bearings. “You managed to talk to her,” Lumen said.

“She asked a better question than the one I brought.”

“What was yours?”

He tried to remember the exact words. From the doorway Tia called out that he had left his coat. When he went back for it, she held it open for him to put his arms in.

Where the Sun Goes



The westward crossing as the light fades.

They crossed the Nile toward the west bank as the sun went down. Behind them were the houses and voices of the eastern shore. Ahead, the cliffs changed color while they watched. One of the boatman's oars caught the last light and let it go.

"Down there?" Lumen asked, pointing to the place where the sun had disappeared.

"That's where the journey begins."

The Professor had read of the sun's voyage through the underworld. Each night it passed through darkness and dangers and came out again in the east. In the boat he found himself trying to keep his eye on the exact place where it had gone. It was already too dark to tell.

"What if you had never seen a sunrise?" Lumen asked.

"I'd be in a terrible state right now."

They stayed to watch the morning from the west bank. The Professor sat on a rock with his coat wrapped around his knees. He had dozed a little. A bird on the water woke him, and when he looked up there was a thin band of light above the far shore.

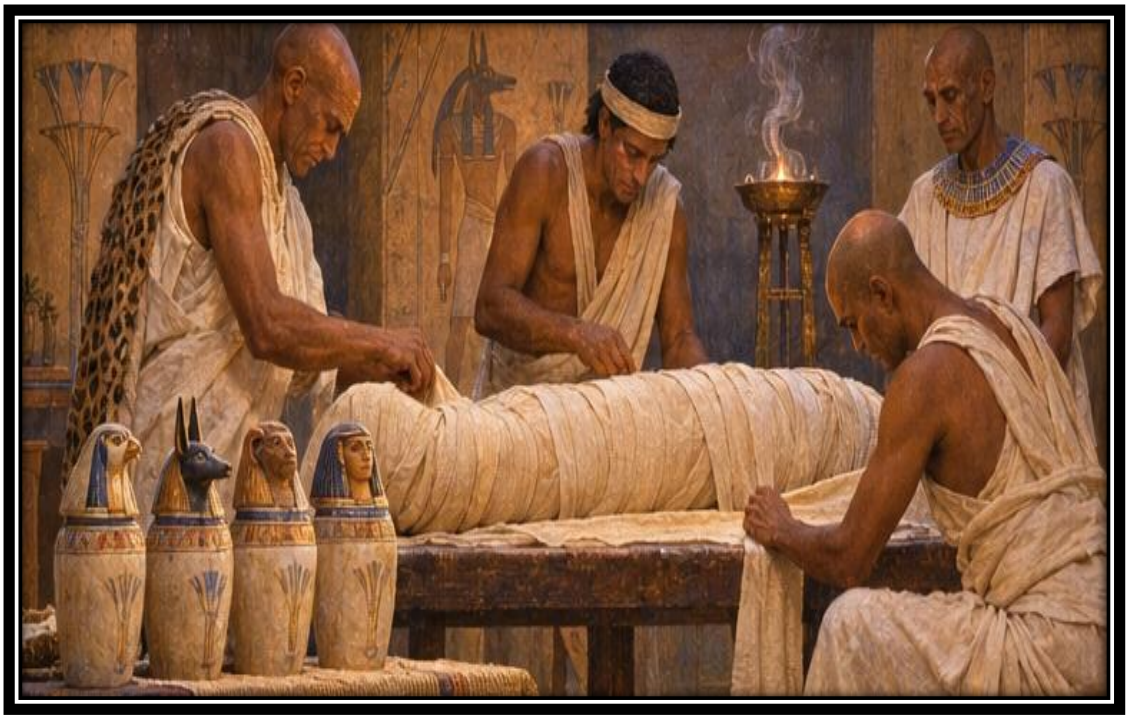
The dead were buried in the west here at Thebes. The people who laid them there could come down to the river at sunset and watch the sun go where they believed their loved ones had gone. A few hours later they could look in the opposite direction and see what a return looked like.

“If you saw that every morning, Professor, you might think death was a place you could come back from.”

“I might,” he said.

He had meant to tell Lumen that there would always be a sunrise. It seemed a curious thing to say to anyone keeping watch in the dark. So he sat with her until the light reached their side of the river.

What Stays with Him



Linen and jars in the embalming place.

In the dry desert sand, a body could sometimes be preserved by the conditions of the burial itself. There was very little in the way of moisture to help it decay. The Professor stood where the wind had blown a shallow groove in the ground and wondered how many early discoveries had begun with someone finding what the sand had kept.

At the embalming place, men had learned to do deliberately what the sand could do on its own. There were substances to dry the body, linen to wrap it, and prayers to say at different stages. What a family could afford affected how much could be done. The Professor thought of Tia and her brother counting out their linen.

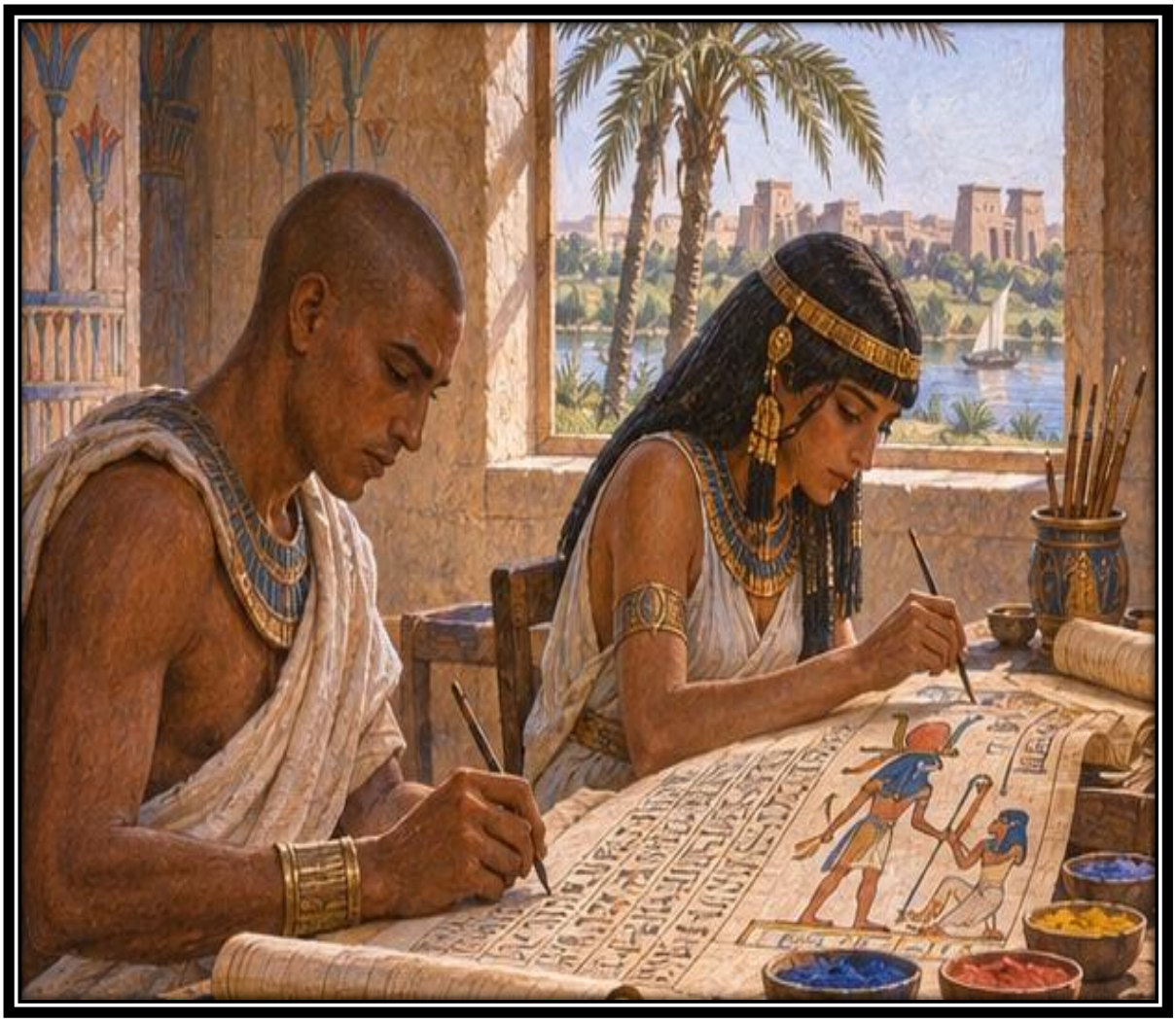
Lumen saw four jars set out for a burial. She counted them again, then asked which one was for the heart. The embalmer was folding a strip of linen over a cloth-wrapped arm. He finished the fold before he answered.

“That stays with him,” he said. “He’ll need it when he’s called to answer.”

The jars could hold the lungs, liver, stomach and intestines. The brain, when removed, was generally discarded. At judgment it was the heart that mattered. It was where thought and memory belonged and could be called to tell what a person had done.

The man smoothed the fold with the flat of his hand. Lumen asked if she could pass him the next strip. He held out his hand without looking up. The Professor watched them work for a little while. Then he stepped outside. He had learned what he came to learn, and there was still a man inside who needed to finish wrapping somebody's father.

A Place for the Name



A scroll takes shape in the workshop.

At the scribe's workshop a painter was waiting for a patch of color to dry. He worked at one end of the papyrus while the scribe worked at the other. The Professor expected a book with a beginning, a middle, and an end. The scribe showed him a selection of spells. Some helped the dead deal with dangers on the way. Others supplied words to say when challenged. One asked the heart to keep from testifying against its owner.

"Do you have to know all that by heart?" Lumen asked.

The Professor looked at her.

"Well," she said. "Do you?"

The scribe pointed out a blank on a scroll that had already been prepared. The words around it were finished. Someone would come in with a name, and he would put it there.

Tia arrived with her brother. They had settled on a short scroll. She gave the scribe her father's name and moved nearer to watch the marks forming. When he put down his pen, she asked him a question. He answered, and she asked again.

"Does she think he's written it wrong?" the Professor asked.

Lumen listened for a moment longer. "She wants him to show her which marks are her father's name."

The scribe laid a finger under the first mark. Tia leaned in.

"He used to call me in from the street when it got dark," she said. "I could tell it was him even when I couldn't see him."

The Professor started to ask Lumen a question. Then he saw that Tia was following the scribe's finger with her own.

Outside, he asked her if her father would have known what to say at a gate in the underworld.

"He always asked us the way before he left," she said. "Then he asked the first person he met in the street."

Lumen looked back into the workshop. The painter was blowing gently on the last bit of color. The scribe had turned the scroll so that Tia's brother could look at it too. Now that the name was in place, both of them took their time before leaving.

The Feather



Artist's interpretation of the weighing of the heart. See the historical notes for Hunefer's papyrus.

They saw the weighing painted on papyrus. Anubis attended the scales. The painter had given the heart the shape of a little pot. In the opposite pan lay the feather of Ma'at. Thoth stood ready to record the verdict. Beside the scales waited a creature with a crocodile's head, a lion's forequarters and the rear of a hippopotamus.

"Oh, oh, Professor," Lumen said. "I think that one's waiting for the verdict, too."

"Ammit. If the heart fails, she can eat it."

"And if it balances?"

"The deceased can go on to the Field of Reeds."

The painter had given the pans almost nothing to rest on. To see them clearly, the Professor had to bring his face close. He found himself holding his breath as if that might help keep them steady.

“We still say someone has a heavy heart, Professor. I never thought to ask what it was weighed against.”

“When I say it, I’m generally sad.”

“Sadness would make a terrible thing to put on those scales. Everybody at the funeral would fail.”

Farther along the papyrus there were people working in fields. The Professor bent to see what they were doing and found one of them cutting grain.

“I thought we were going to heaven,” said Lumen.

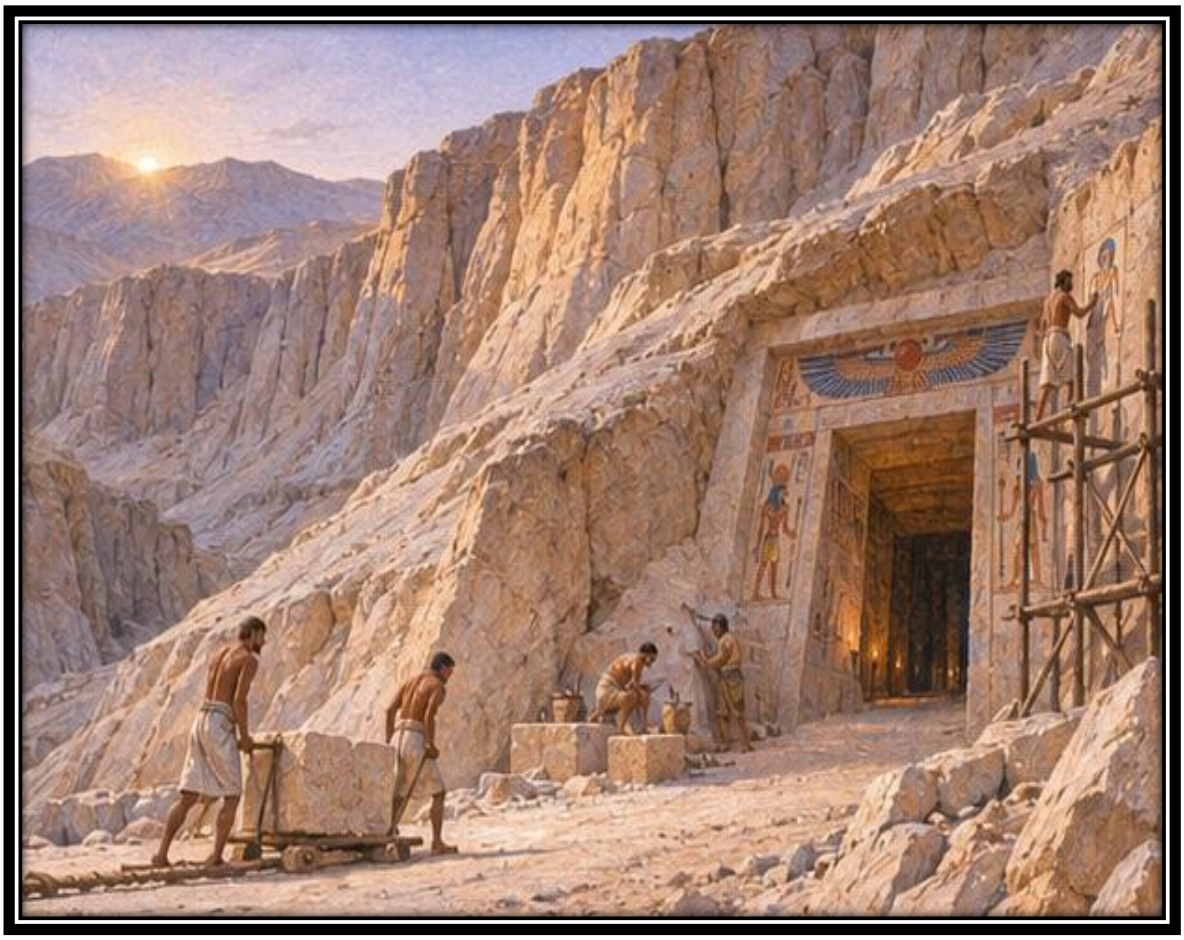
“Perhaps you liked your fields.”

“I like the ocean. How much of that do you suppose I’d get?”

He told her they’d have to ask the man who painted it. But the painter had gone to wash his brushes, and when Lumen peered out she found him squatting where the water ran away from the workshop. He was trying to get a little blue out of the handle of his brush. She sat down beside him and waited until he’d finished.

Part III Power and Its Limits

Wages for Eternity



A doorway cut into the cliffs of western Thebes.

The way into the valley lay between walls of pale rock. In the glare, the Professor nearly missed the cut that led into the tomb. He had been looking for a building to tell him where it was. Once his eyes adjusted, he could see what the workmen had made inside the mountain.

He thought of Giza, where the builders had changed the shape of the horizon. Here the space was made by taking stone away. Somebody still had to carry out every basketful. Somebody had to stand with a lamp close enough for the painter to see the line he was drawing.

“So we have mudbrick houses, pyramids and tombs inside mountains,” Lumen said.

“And enough centuries between them to get ourselves into trouble if we put them all on the same afternoon.”

Down the path, the Professor had expected to meet the next crew coming up. The men he found were walking away from the tomb. One of them carried a lamp, unlit, with a wick curled over the lip.

“Are you done for the day?” the Professor asked. Lumen put the question to the man with the lamp.

“We’ll go back when they send the grain.”

“Is there someone you can ask?”

“There’s someone we’ve already asked.” He shifted the lamp to his other hand. “At home they’ll ask me.”

A younger man called to him from farther down the path. The man tucked the wick into the bowl and went to catch up. The Professor had some bread from their journey in his pocket. By the time he thought of it, the two men had turned the corner.

The Professor had read about the strike in the reign of Ramesses III.

Lumen put her hand flat against the rock outside the tomb.

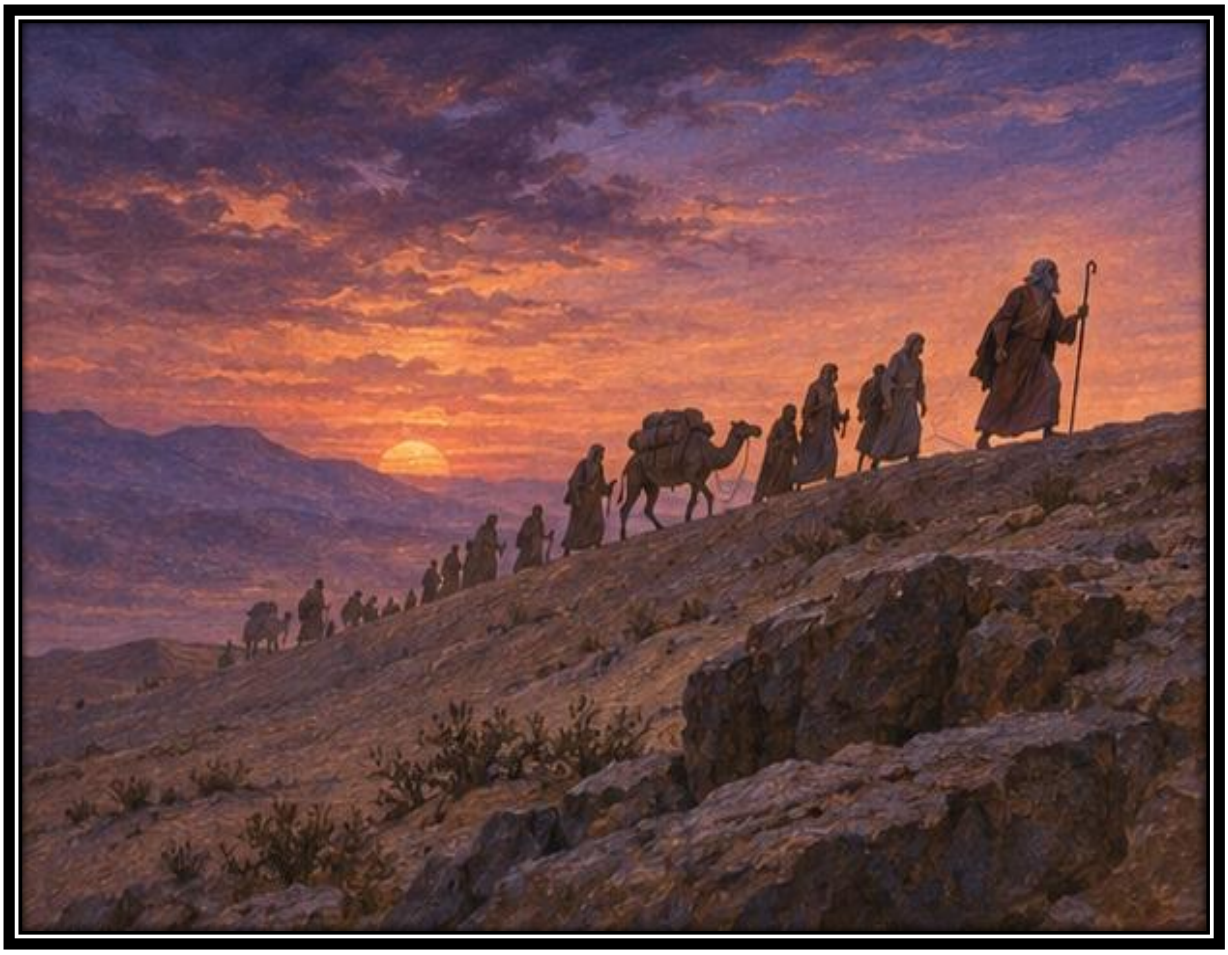
“How long will that last?”

“The rock? Quite a while.”

She took her hand away. “I meant the promise that they’d be paid.”

They followed the men down the path where the workmen had carried the baskets. When they reached the open ground, the Professor looked around for the quickest road home. He imagined the men with families knew every shortcut.

Moses at the Edge of the Map



Figures on a ridge as daylight fails.

At dusk the Professor unfolded a map and weighted it with two stones. He had marked a few possible routes out of Egypt. The route he wanted to find belonged to the story of Moses, the man raised in Pharaoh's household who led the Israelites out of bondage.

"Where do you want to go?" Lumen asked.

"To whatever happened."

"What will you put on the map for that?"

He turned his pencil around and rubbed out the mark he had already made. They could travel to a time and place once they could name it. The trouble was the same one he'd have had at home with nothing but a desk and a lamp. He didn't have a date and a place he could put any confidence in for Moses himself.

A small party passed on the ridge and disappeared down the other side. They might have been headed home. One of the adults kept going back to take a child's hand, and twice the whole line had to wait. The Professor could imagine watching them a little longer and beginning to tell himself a story about who they were.

He folded the map.

"From Pharaoh's side of the table," he said, "I imagine he'd have called Moses ungrateful."

"From which side of the table would you tell it?"

"My first thought was to see whether the sea opened," the Professor said. "I brought a pencil to mark the place."

"What would you have written beside the mark?"

He looked down at the folded map in his hand. "What I saw, I hope."

"You saw somebody go back twice for a child just now. What could you write about them?"

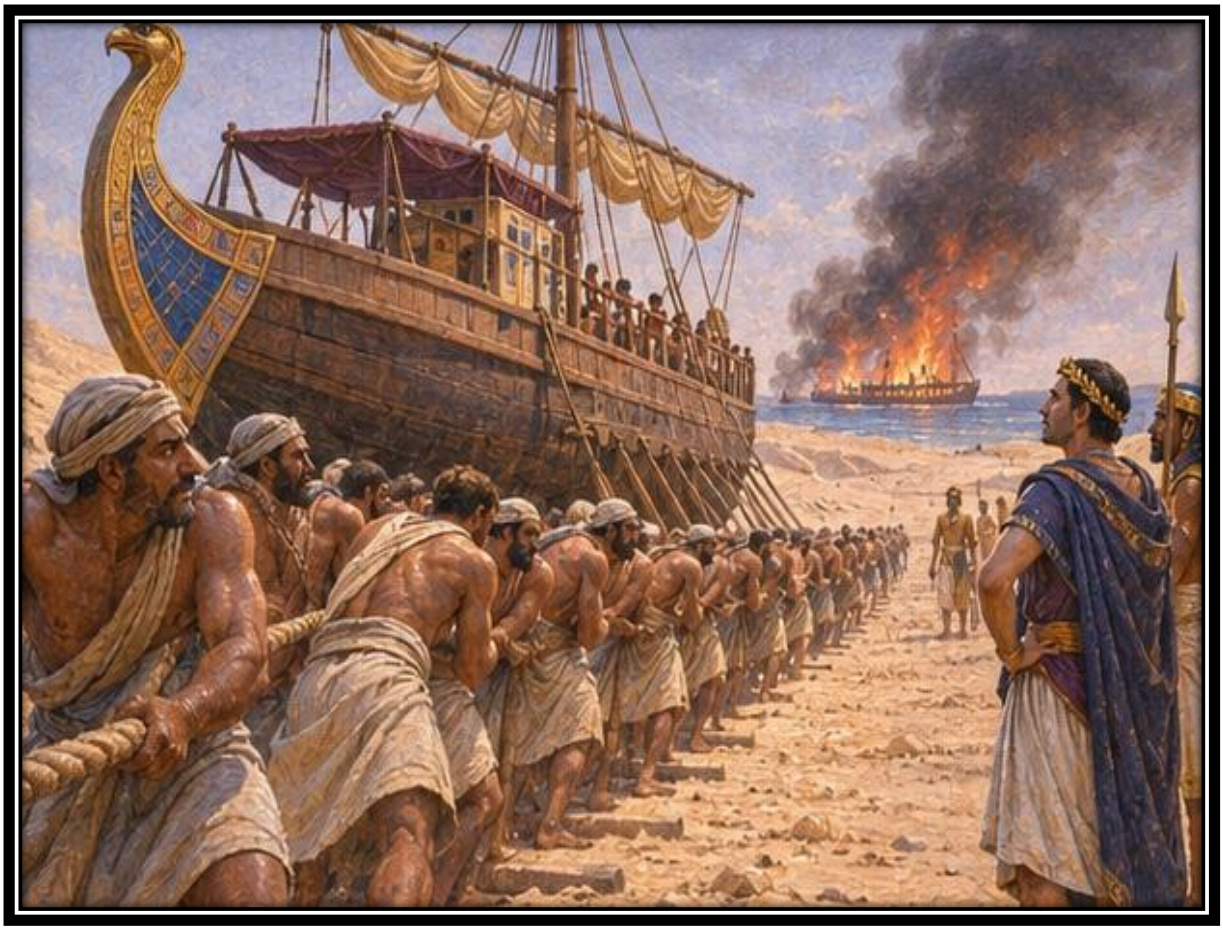
"That somebody went back twice." He could still see the backs of their feet in the last of the light. "The rest of it I was already supplying."

Lumen brushed sand off one of the stones he had used to hold the map down. "If you could put a pin in the map, would that tell you why people still tell the story?"

He loosened the fold with his thumb. He was thinking of a family telling it aloud, and of a child hearing for the first time that the people who had to ask permission might one day walk away. He could imagine the child asking what happened next. He wondered what the people around the table would tell the child about the ones who stayed behind.

He and Lumen stayed until the ridge grew too dark to see. He left the pencil mark erased. He wanted to carry home both the story and the reason people had gone on telling it.

Ships on Dry Land



A ship on dry land and smoke ahead.

From a little way off, the ship appeared to be under sail. Then he saw the men straining against a rope where the water should have been. The hull was out of the water. Every short movement brought a new set of men forward to the timbers beneath it.

After Actium, Cleopatra meant to launch the ships again on the Red Sea side. They would carry troops and treasure somewhere beyond Egypt. The Professor followed the rope with his eyes until he lost sight of the man at the far end.

“Say what you will, Professor,” said Lumen. “Her plans to survive were imaginative.”

“Lumen, she tried to take a fleet across the desert.”

“I rest my case.”

The first ships had been set on fire up ahead. Lumen and the Professor saw the smoke rise and spread, and the people on the ropes gradually turned their heads. Up to then, the Professor had been counting how far the hull moved with each pull. He looked at his notebook and found he had written down the last distance twice.

Lumen had known the story of the asp since she was young. This was the first time she had stopped to picture the people on the ropes, and how many of them it took to give a queen a chance to get away.

She and the Professor waited to see whether the men would pull again. One of them sat down in the sand. After a while the rope went slack.

Part IV Who Owns History

Who Takes the Stone



The Rosetta Stone in its glass case at the British Museum.

Before they left Egypt, the Professor asked Lumen how she'd been able to look at Tia's scroll and tell him what the scribe had written.

"Someone had to work out how to read the signs again," she said. "I had their work to start from."

"How did they start?"

She thought he might like to see what they'd had to work with. He took a last look toward the water. Then she took him to London.

At the British Museum, they waited for a school group to make room by the glass. The Rosetta Stone looked smaller than Lumen had expected and thicker. She pointed out where the hieroglyphs at the top gave way to Demotic and then to Greek. Scholars could read the Greek. With versions of the same decree in front of them, they had something to compare.

The Professor moved nearer to read the gallery label. French soldiers had found the stone in Egypt in 1799. The British took possession of it after the French surrender in 1801.

“Did they buy it?” Lumen asked.

“This one passed from one army to another.”

She leaned closer. “And whose hand cut those marks?”

He looked for a name on the gallery label, though he already knew who would be named there. He thought of the man hauling stone at Giza who’d caught his heel. He could still see the way the man had got his footing back.

“Can you read me a little of it?” he asked.

Lumen began with the Greek. When somebody behind him shifted to get a better look, the Professor moved over and made room.

Back in the cottage, Hakan had both hands around his cup. Lumen sat where she had been sitting before.

“Still hot,” Hakan said, and moved his cup out of the way so the Professor could put his notebook down. A corner of the notes curled up when he moved the sugar bowl.

“Did you get your answer?” she asked.

“Which one?”

“Could you sit down and talk to them?”

“I did fine after she gave me some bread.”

He brought the other two cups over. Lumen asked if he could remember the name Tia had spoken to the scribe. He could remember watching her lean in. He could remember her holding his coat open. He couldn’t hear the name clearly enough in his head to say it again.

He turned to a clean page. The first thing he wrote down was Tia. Then he wrote what she had asked him after her father died. At last he picked up his cup. In the time it had taken Hakan’s tea to cool enough to drink, he had been allowed to sit at somebody else’s table and stay long enough to be asked a question.

To be continued…

Historical Notes and Sources

Creation stories. The Louvre describes the traditions of Heliopolis, Memphis and Hermopolis. The lotus and the newborn sun appear in the Hermopolitan account.
Louvre · The Creation of the World

Feeding the builders. Excavations at Giza and experimental baking help show how the workforce was fed.
Ancient Egypt Research Associates · Feeding Pyramid Workers

The sun's night journey. The Amduat traces the sun god's journey through the underworld, from sunset in the west to rebirth in the east. Versions survive in royal tombs in the Valley of the Kings.
Global Egyptian Museum · Amduat

Burial and embalming. Naturally preserved sand burials and later embalming show different ways bodies survived. Herodotus describes choices at different prices in his own era. The techniques varied over time.
British Museum · Egyptian Mummies
Herodotus · Histories 2.86

The scroll and the scales. The Getty discusses the use of spells. Foy Scalf's edited volume covers scroll production and the addition of owners' names. Hunefer's papyrus shows a jar-shaped heart, Anubis at the scales, Ammit waiting and Thoth recording the result.
Getty · What Is the Egyptian Book of the Dead?
University of Chicago · Book of the Dead
British Museum · Hunefer's Papyrus

The workers' strike. The Strike Papyrus records protests over missing grain rations under Ramesses III.
Museo Egizio · Turin Strike Papyrus

Moses and the Exodus. The ridge scene draws on the Book of Exodus. The introduction to Exodus in The New Oxford Annotated Bible discusses the limits of evidence for dating or corroborating its events.
The New Oxford Annotated Bible · Introduction to Exodus

Cleopatra's fleet. Plutarch describes the hauling of the ships and their burning by people from around Petra (§69). He names India as Caesarion's intended destination (§81) and gives competing accounts of Cleopatra's death (§86). Dio names Quintus Didius as the instigator of the burning (51.7).
Plutarch · Life of Antony
Cassius Dio · Roman History Book 51

The Rosetta Stone. The British Museum describes the three scripts and how the stone came into British possession through the 1801 Capitulation of Alexandria.
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