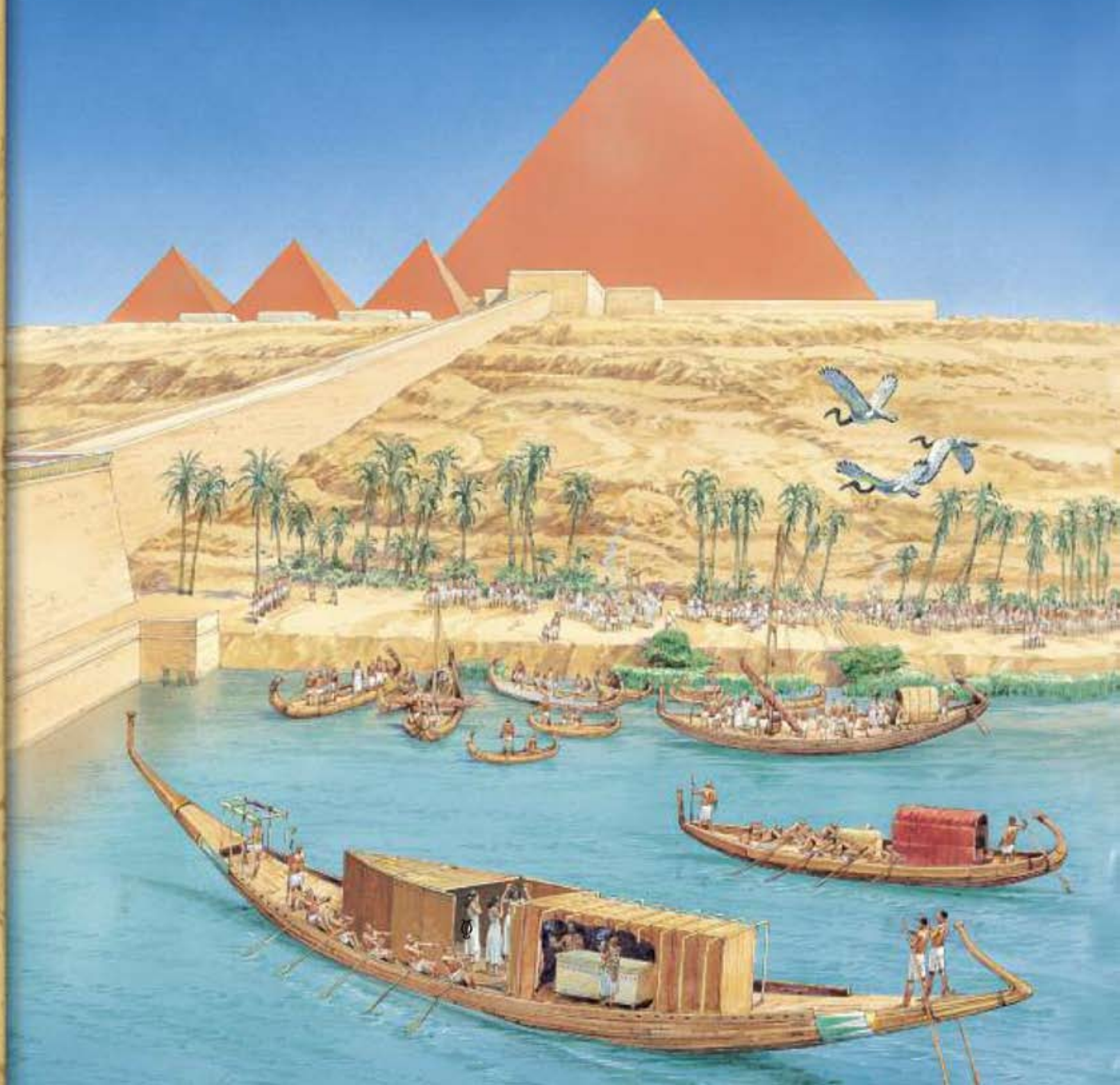


The story of a PYRAMID



The story of a PYRAMID



illustrated by
Peter Dennis

 Orpheus

Copyright © 2011 Orpheus Books Ltd
www.orpheusbooks.com

Created and produced by Nicholas Harris, Sarah Hartley, Katie Sexton,
Ruth Symons and Erica Williams, Orpheus Books Ltd.

Text Nicholas Harris

Illustrator Peter Dennis

Consultant Dr Jaromir Malek, Director, Griffith Institute, Oxford, England

All rights reserved. No part of this book may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage and retrieval system, without permission in writing from the publisher except by a reviewer who may quote brief passages in a review.

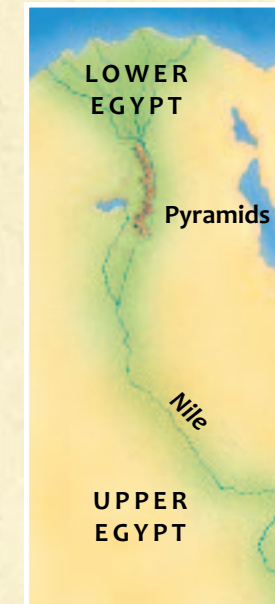
ISBN 978 1 7418 3776 3

Printed and bound in China.

Look out for a fat man. He appears in all of the illustrations. You can also find a monkey and a vulture on most of the pages too.



The world of ANCIENT EGYPT



EGYPT is a land in northeastern Africa. It is mostly desert but the River Nile, which flows across it, provides water for crops, animals and people. A great civilization grew up on its banks thousands of years ago. In about 3000 BC, Lower Egypt (the lands near the mouth, or delta, of the Nile) and Upper Egypt (the Nile valley) came under the rule of a single king, or pharaoh.

It is the year 2500 BC. We are in Egypt, along the banks of the river Nile. It is early summer. The great river was in flood until last November. Now the waters have gone away, leaving fertile soil. People work hard in the fields to gather in their crops. The river will flood again in July.

While some harvest emmer wheat and barley, others bring the sheaves to threshing floors. Water, so precious in a land where it rarely rains, is taken from the river or specially dug channels. A farmer leads his cattle down to the shore of the Nile to drink, while fishermen gather in their nets. Some hunt wild birds with special sticks.



The ruler of Egypt, the pharaoh, has begun to prepare for the end of his life on Earth. He instructs his architect to design a tomb for him that will stand forever: a pyramid. It is vital that the pyramid's sides face exactly north, south, east and west. A priest observes the rising and setting of stars to fix north precisely.

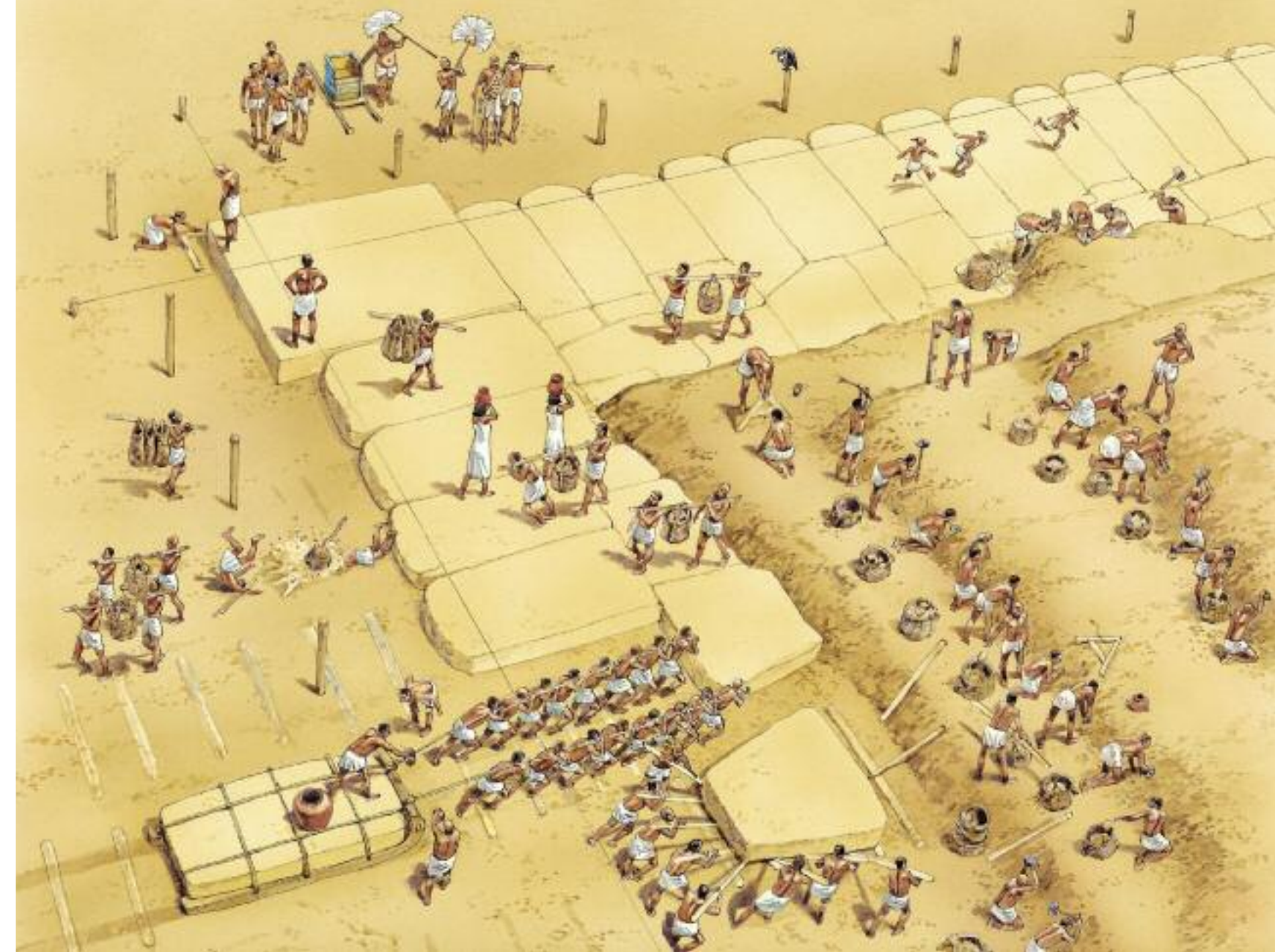


Since the Land of the Dead is in the west, where the sun sets, the pyramid will be built on a high desert plateau to the west of the Nile. Here, a special ceremony takes place where the pyramid is to be built. With the pharaoh himself looking on, priests drive stakes into the rocky ground to mark each of the four corners.



Now the workers get busy to prepare an exactly level site upon which to build up the pyramid. Giant limestone slabs are dragged into place on sledges. Part of the rock on the plateau itself is left to form the inside of the pyramid. Workers use chisels to fit the slabs together.

The pyramid-builders use simple tools to carry out the various jobs.



A set square enables right angles to be drawn out or checked. A square level, an A-shaped frame with a weight hanging down from it (a plumb bob), is used to make sure that the ground is exactly level. Copper blades are used to cut and smooth the stone, while mushroom-shaped stones with grooves cut in them guide ropes for pulling heavy loads.

A few years later, the building of the new pyramid is in full swing. Workers will later also start to build a small temple on the banks of the river and a causeway, a covered walkway, leading up to another temple next to the pyramid itself.

Most of the stone used to build the pyramids is quarried from the rocky ground nearby. But fine white limestone for the smooth casing stones comes from Tura, a quarry on the east bank of the Nile. Slabs and columns of granite are brought by boat from Aswan, hundreds of kilometres upriver.

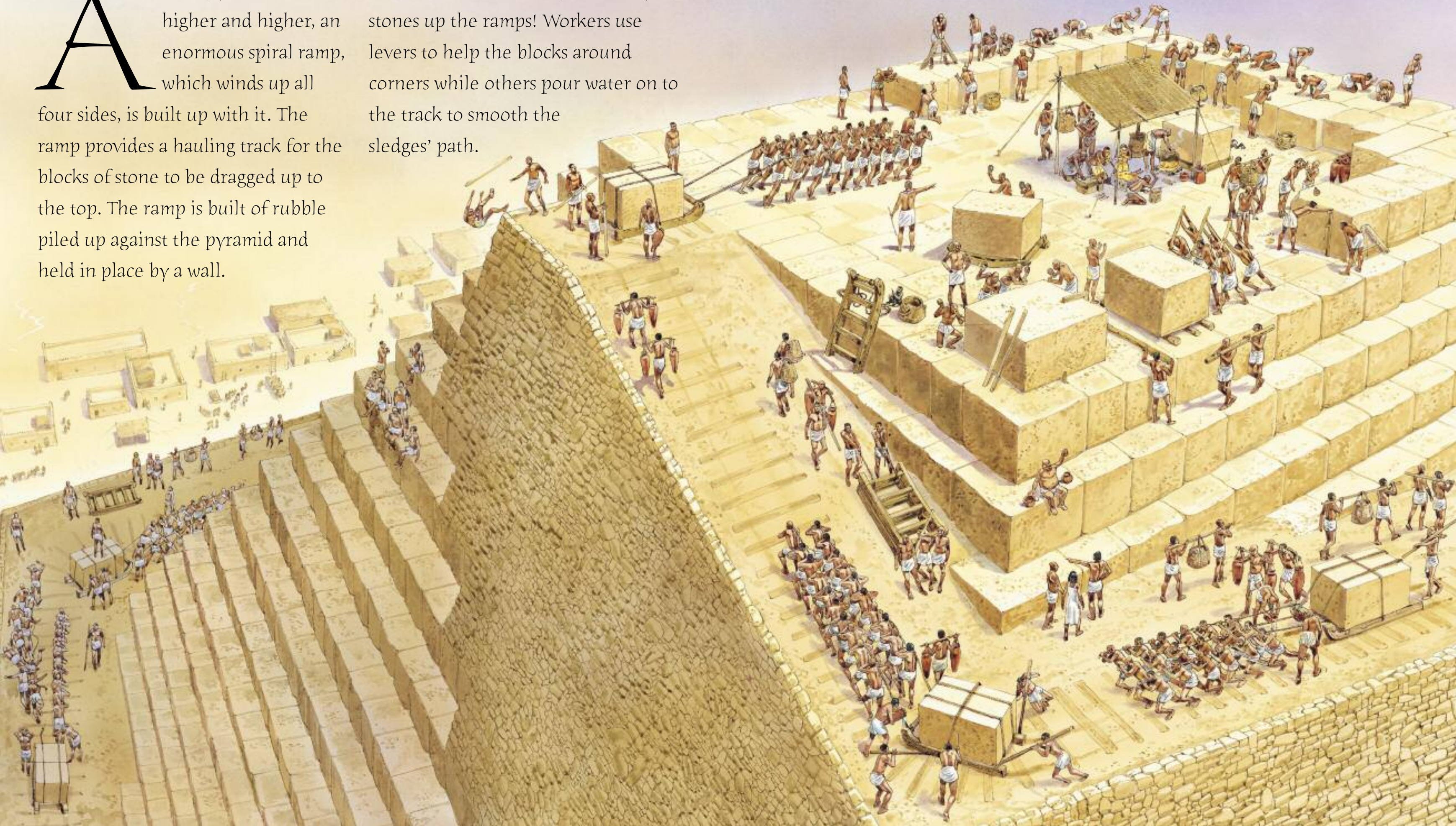
Wood for sledges and general supplies arrive at the building site by boat, where they are unloaded on special jetties. Teams of workers drag sledges, laden with stone, along hauling tracks. It would be difficult to move them across sand, so wooden beams and stone chips are laid on the tracks. They are also covered with wet mud so that the sledges move more easily along them.



A

s the pyramid is built higher and higher, an enormous spiral ramp, which winds up all four sides, is built up with it. The ramp provides a hauling track for the blocks of stone to be dragged up to the top. The ramp is built of rubble piled up against the pyramid and held in place by a wall.

It is hard work to drag the heavy stones up the ramps! Workers use levers to help the blocks around corners while others pour water on to the track to smooth the sledges' path.

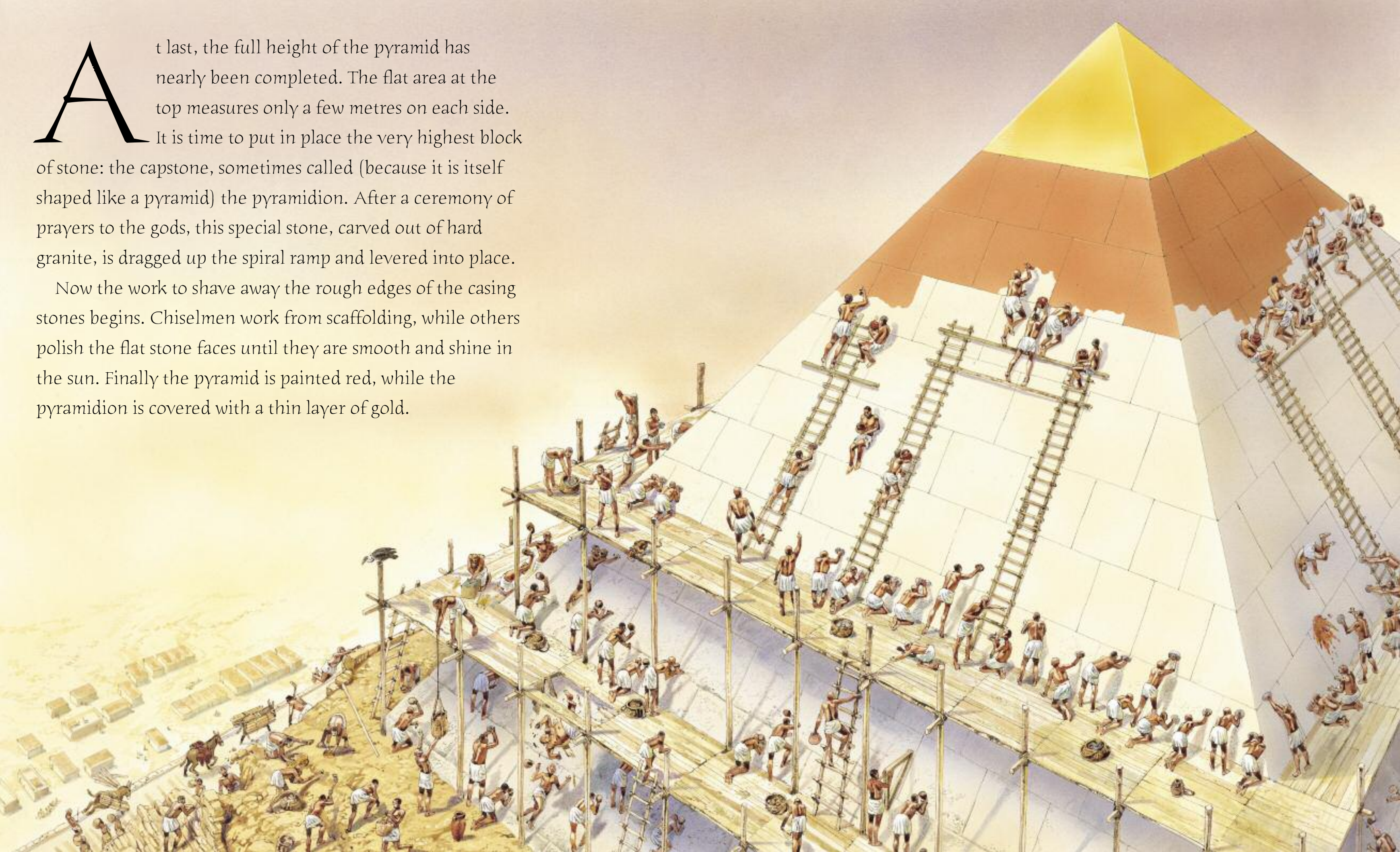


A

t last, the full height of the pyramid has nearly been completed. The flat area at the top measures only a few metres on each side.

It is time to put in place the very highest block of stone: the capstone, sometimes called (because it is itself shaped like a pyramid) the pyramidion. After a ceremony of prayers to the gods, this special stone, carved out of hard granite, is dragged up the spiral ramp and levered into place.

Now the work to shave away the rough edges of the casing stones begins. Chiselmens work from scaffolding, while others polish the flat stone faces until they are smooth and shine in the sun. Finally the pyramid is painted red, while the pyramidion is covered with a thin layer of gold.

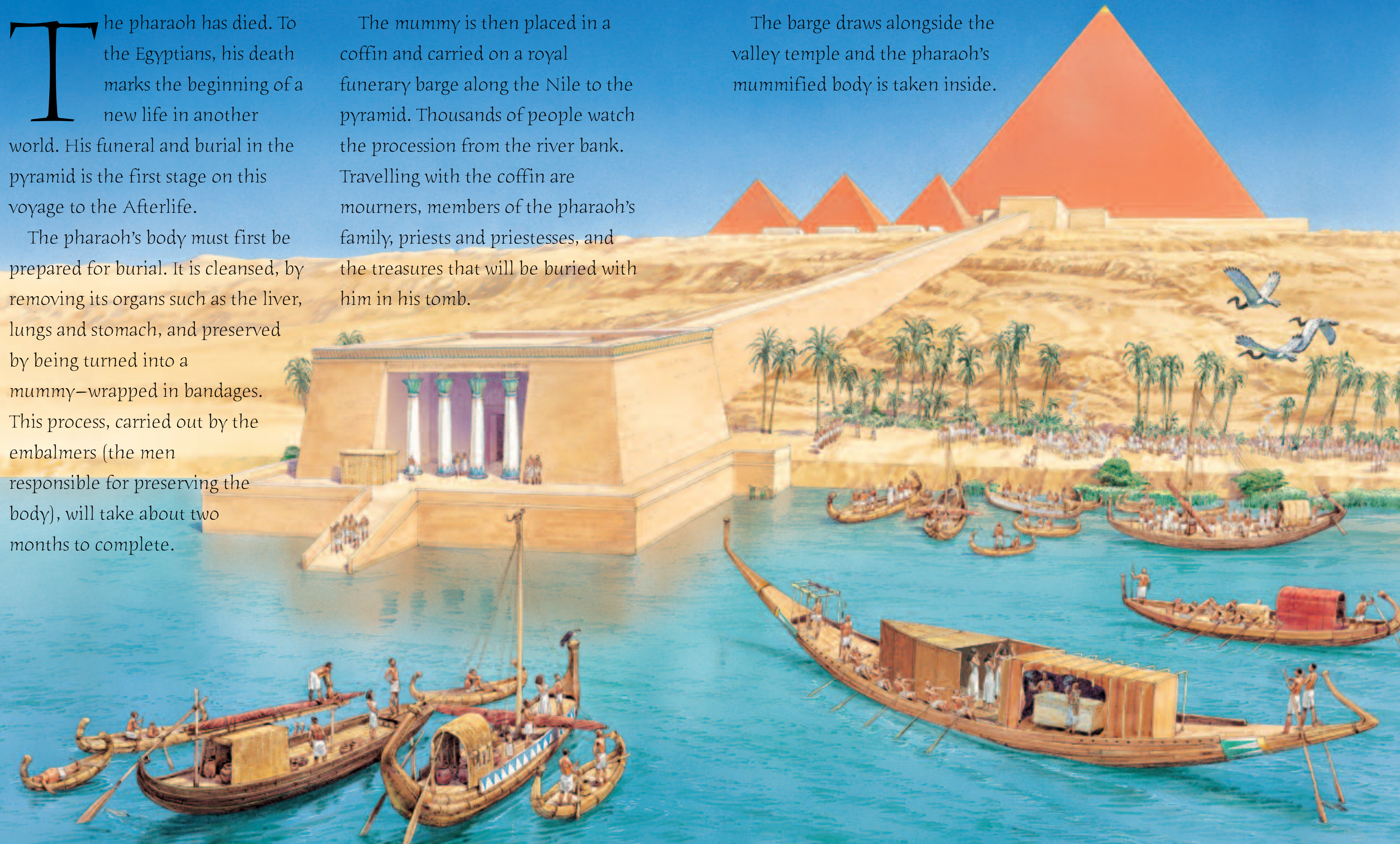


The pharaoh has died. To the Egyptians, his death marks the beginning of a new life in another world. His funeral and burial in the pyramid is the first stage on this voyage to the Afterlife.

The pharaoh's body must first be prepared for burial. It is cleansed, by removing its organs such as the liver, lungs and stomach, and preserved by being turned into a mummy—wrapped in bandages. This process, carried out by the embalmers (the men responsible for preserving the body), will take about two months to complete.

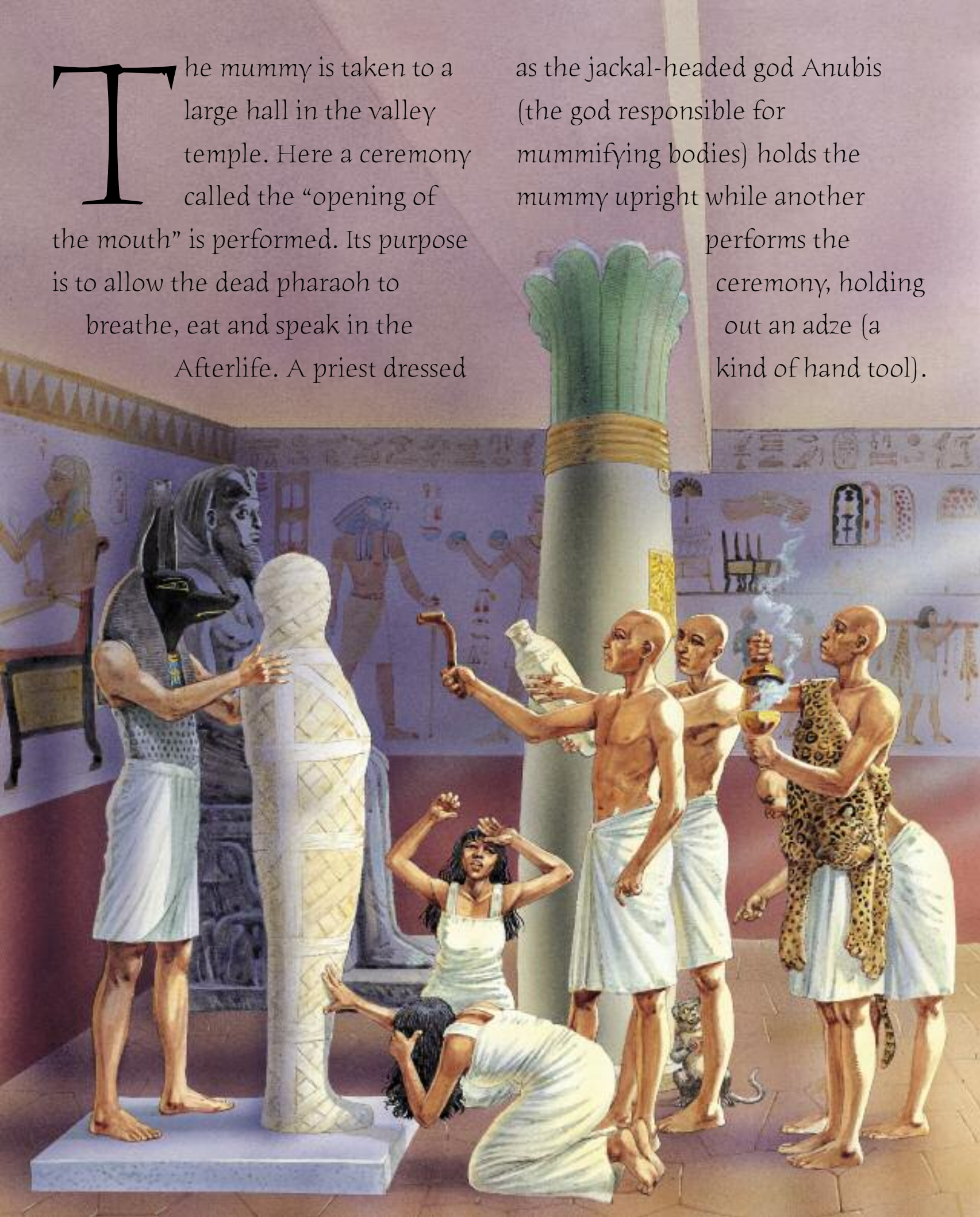
The mummy is then placed in a coffin and carried on a royal funerary barge along the Nile to the pyramid. Thousands of people watch the procession from the river bank. Travelling with the coffin are mourners, members of the pharaoh's family, priests and priestesses, and the treasures that will be buried with him in his tomb.

The barge draws alongside the valley temple and the pharaoh's mummified body is taken inside.



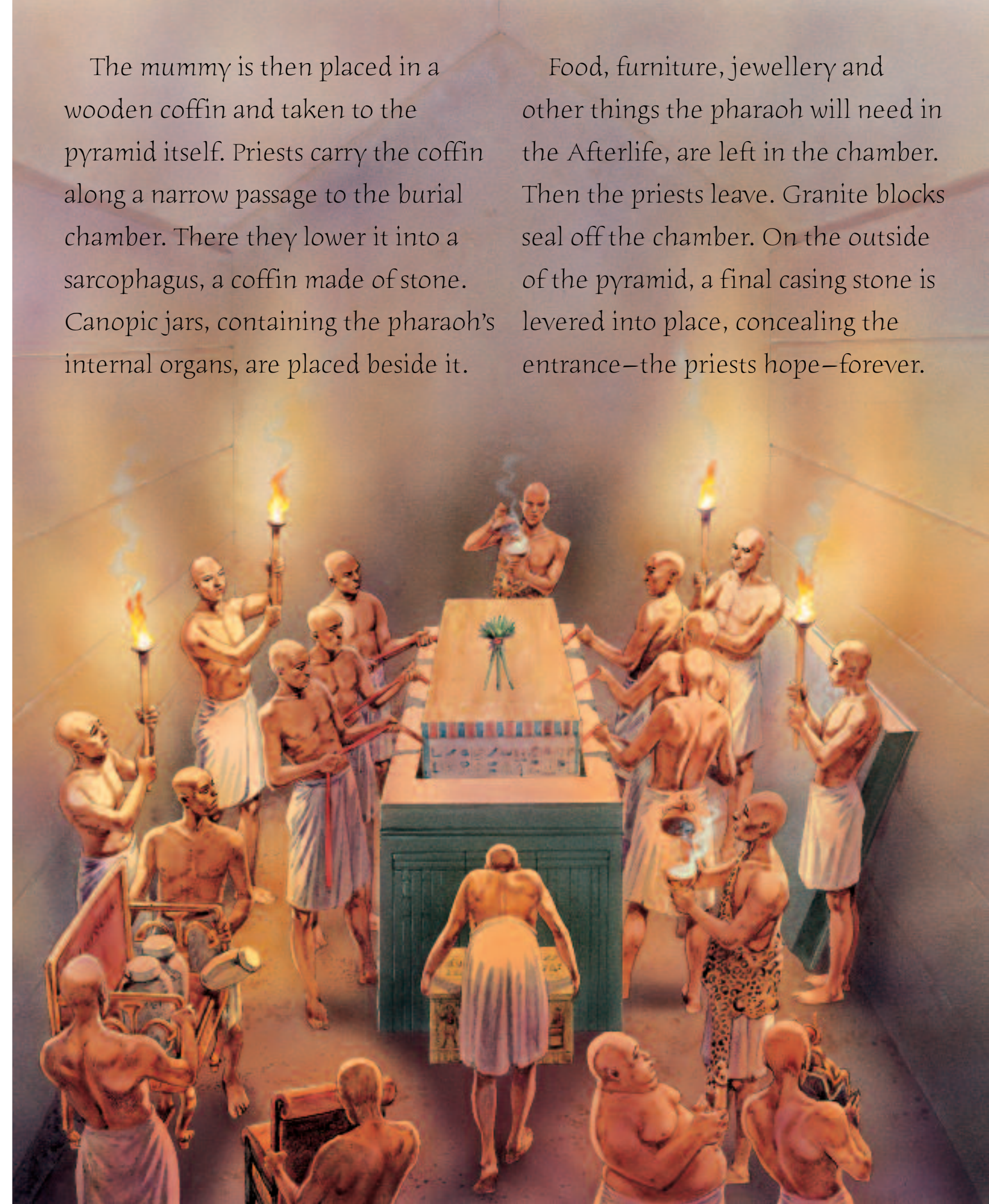
The mummy is taken to a large hall in the valley temple. Here a ceremony called the “opening of the mouth” is performed. Its purpose is to allow the dead pharaoh to breathe, eat and speak in the Afterlife. A priest dressed

as the jackal-headed god Anubis (the god responsible for mummifying bodies) holds the mummy upright while another performs the ceremony, holding out an adze (a kind of hand tool).



The mummy is then placed in a wooden coffin and taken to the pyramid itself. Priests carry the coffin along a narrow passage to the burial chamber. There they lower it into a sarcophagus, a coffin made of stone. Canopic jars, containing the pharaoh’s internal organs, are placed beside it.

Food, furniture, jewellery and other things the pharaoh will need in the Afterlife, are left in the chamber. Then the priests leave. Granite blocks seal off the chamber. On the outside of the pyramid, a final casing stone is levered into place, concealing the entrance—the priests hope—forever.

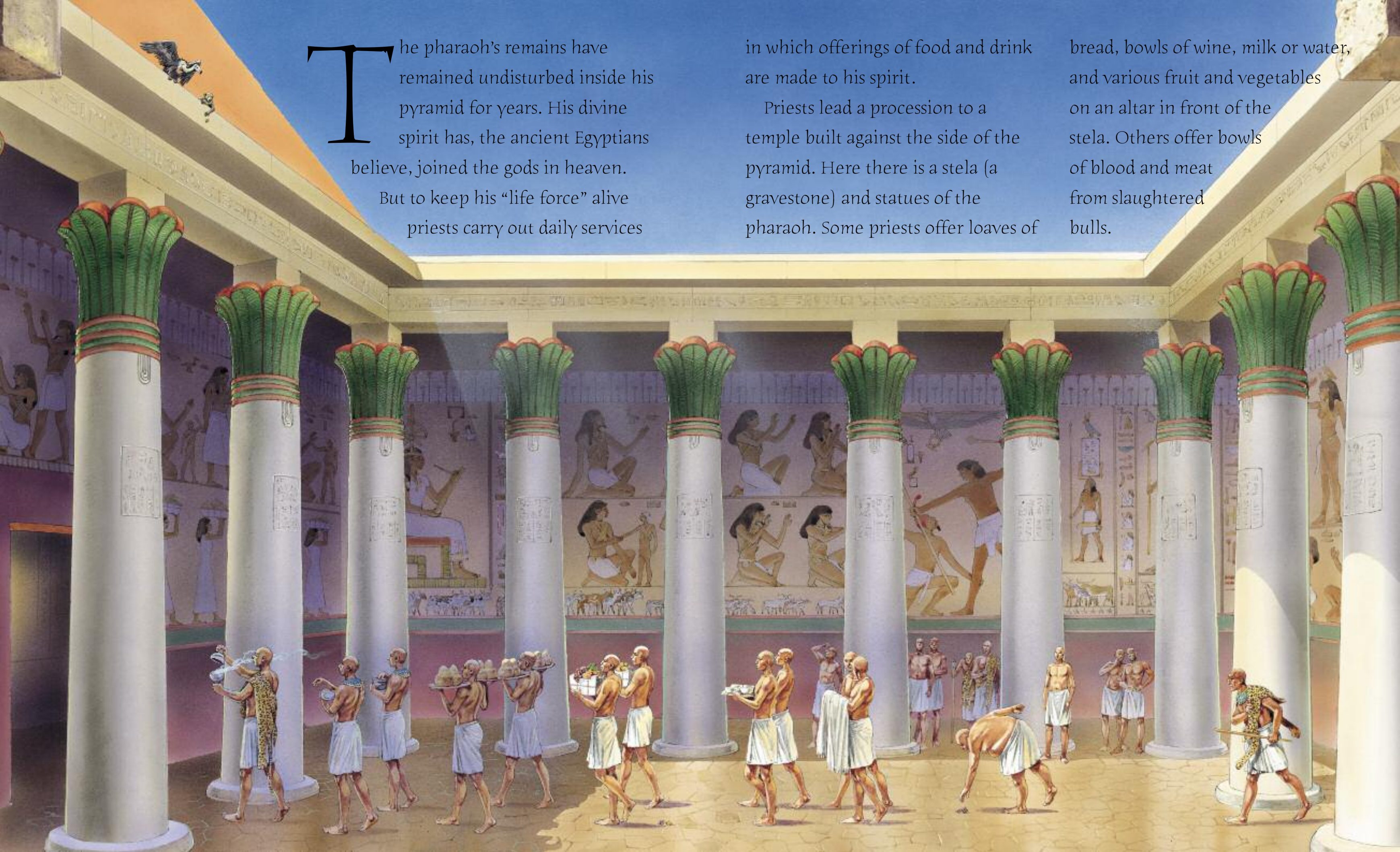


The pharaoh's remains have remained undisturbed inside his pyramid for years. His divine spirit has, the ancient Egyptians believe, joined the gods in heaven. But to keep his "life force" alive priests carry out daily services

in which offerings of food and drink are made to his spirit.

Priests lead a procession to a temple built against the side of the pyramid. Here there is a stela (a gravestone) and statues of the pharaoh. Some priests offer loaves of

bread, bowls of wine, milk or water, and various fruit and vegetables on an altar in front of the stela. Others offer bowls of blood and meat from slaughtered bulls.

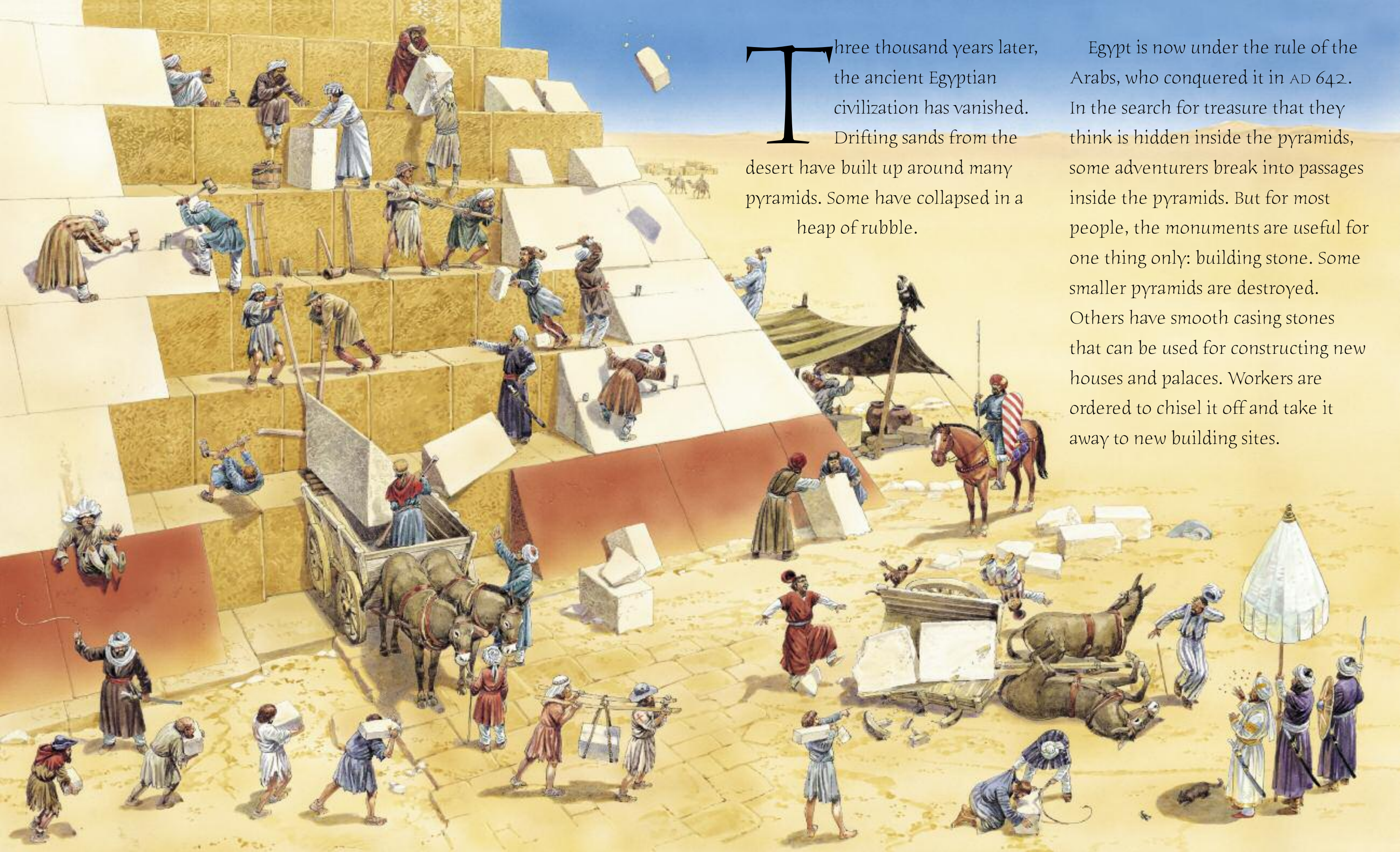


Thieves break into the burial chamber! Somehow they have discovered the concealed entrance to the pyramid and the passageway leading to the burial chamber. Finding their way barred by the granite slabs, they have dug their own tunnel to reach the tomb.

They knock through the walls and climb through. They find jewellery, furniture and other treasures in the burial chamber.

Using mallets and levers they prise the lid off the sarcophagus. Everything, including even the mummy itself, is taken away.





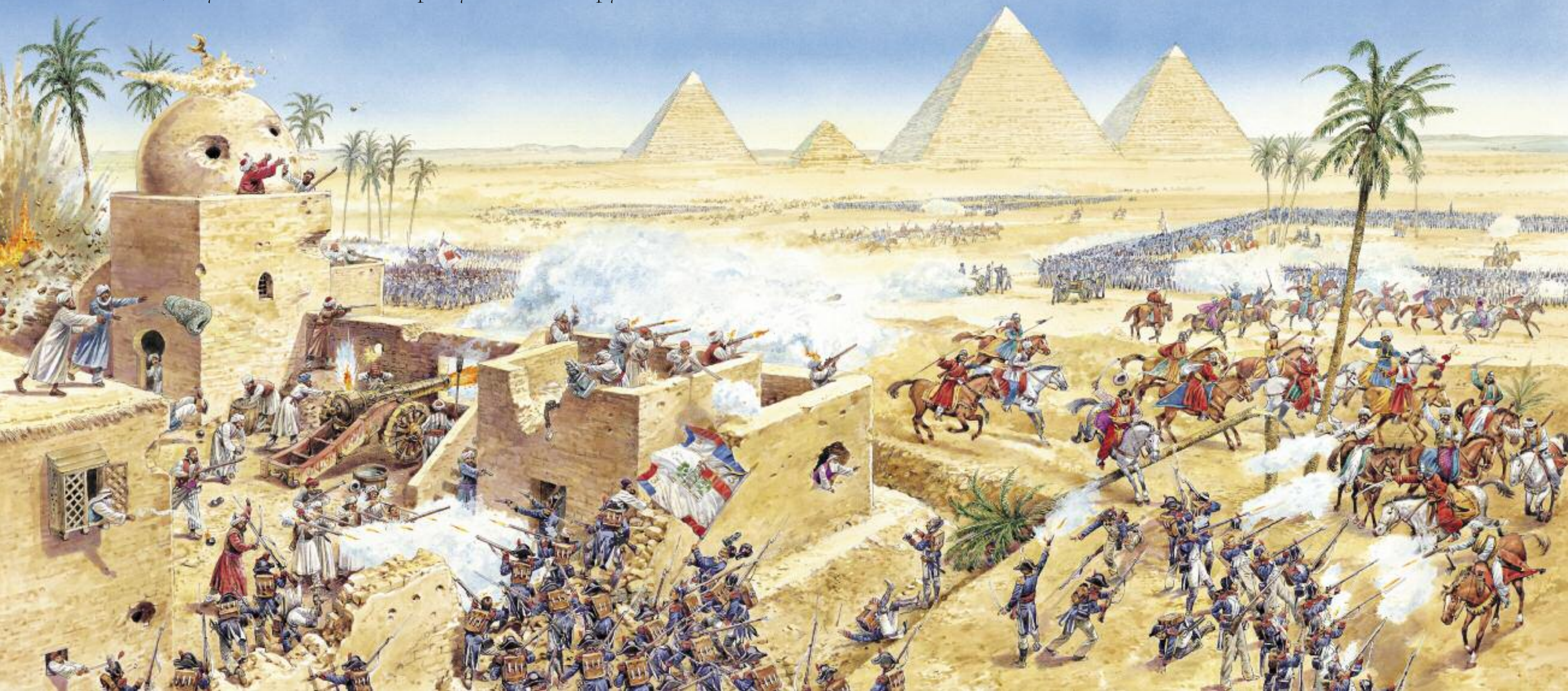
Three thousand years later, the ancient Egyptian civilization has vanished. Drifting sands from the desert have built up around many pyramids. Some have collapsed in a heap of rubble.

Egypt is now under the rule of the Arabs, who conquered it in AD 642. In the search for treasure that they think is hidden inside the pyramids, some adventurers break into passages inside the pyramids. But for most people, the monuments are useful for one thing only: building stone. Some smaller pyramids are destroyed. Others have smooth casing stones that can be used for constructing new houses and palaces. Workers are ordered to chisel it off and take it away to new building sites.

Now it is the year 1798. Napoleon Bonaparte, France's great leader, has conquered a vast empire in Europe. He has decided to take control of Egypt.

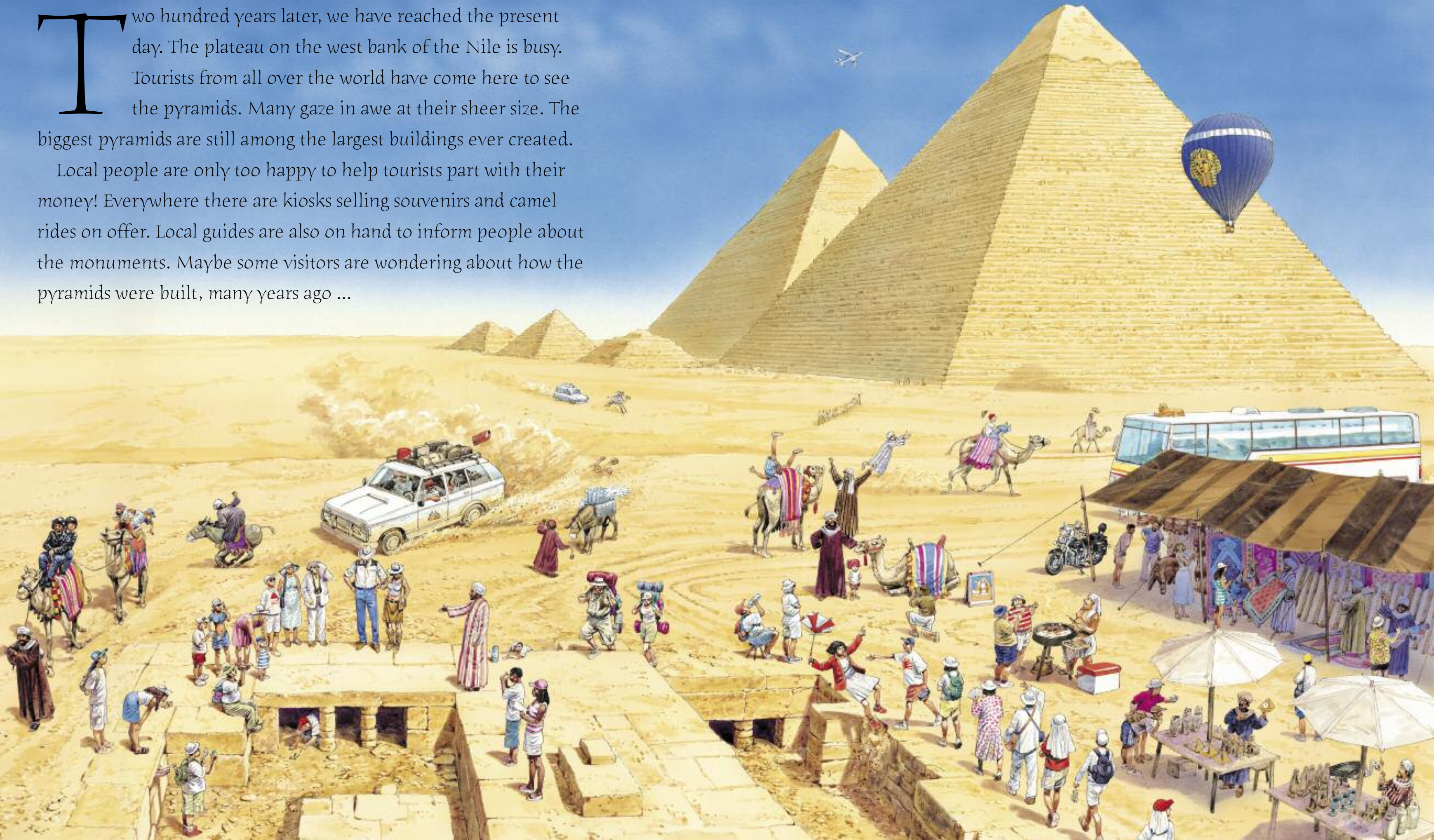
The Mamelukes, rulers of Egypt for the past 500 years, are set to stop him. Their army meets the French army near the pyramids of Giza. Napoleon says to his men before the battle begins: "Soldiers, forty centuries look down upon you from these pyramids."

The Mameluke soldiers put up a brave fight, but they are no match for the well organized French army. They are easily defeated at the "Battle of the Pyramids". Napoleon is the new ruler of Egypt—but only until British forces destroy the French fleet later that year.



Two hundred years later, we have reached the present day. The plateau on the west bank of the Nile is busy. Tourists from all over the world have come here to see the pyramids. Many gaze in awe at their sheer size. The biggest pyramids are still among the largest buildings ever created.

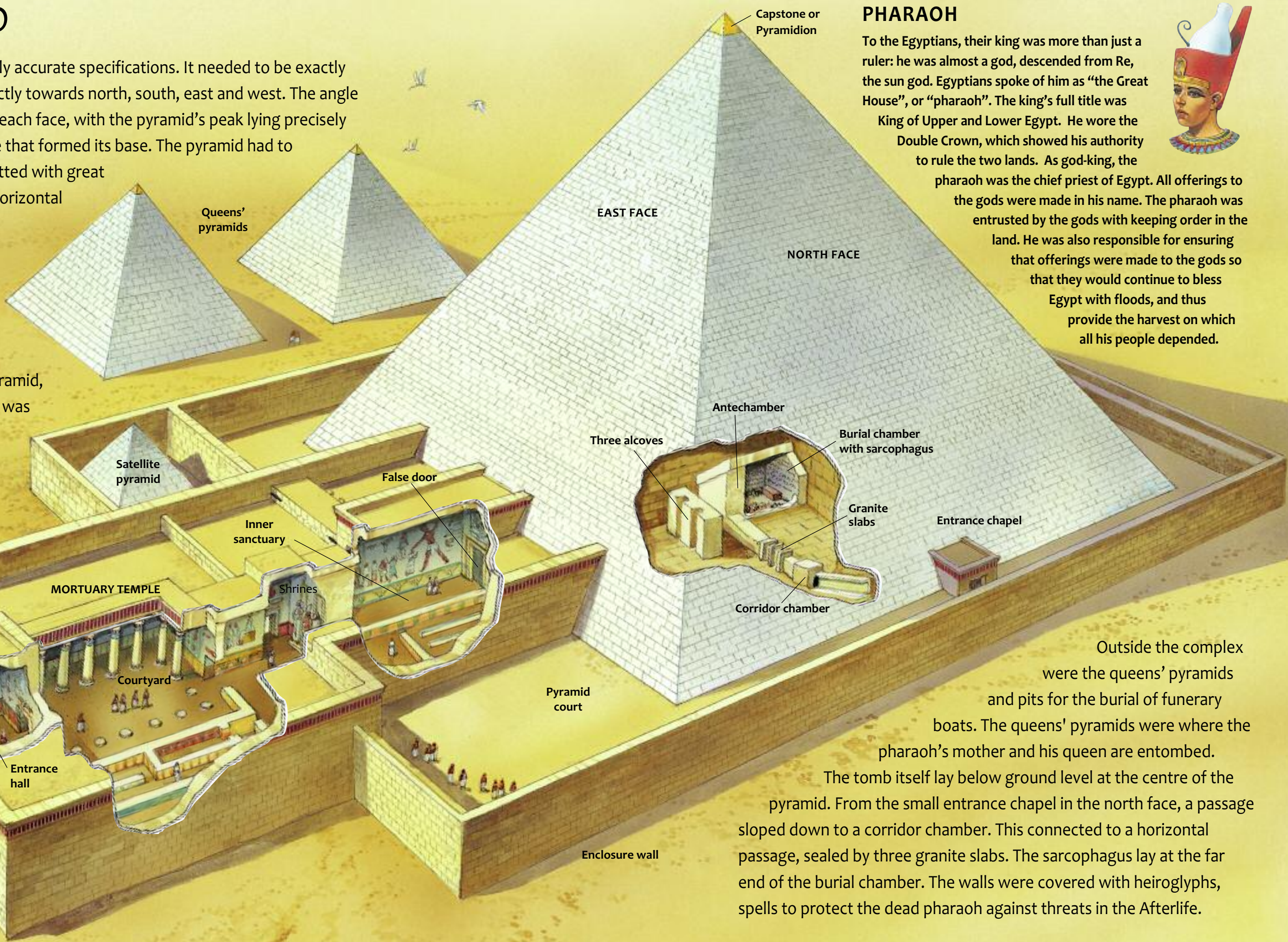
Local people are only too happy to help tourists part with their money! Everywhere there are kiosks selling souvenirs and camel rides on offer. Local guides are also on hand to inform people about the monuments. Maybe some visitors are wondering about how the pyramids were built, many years ago ...



INSIDE A PYRAMID

A pyramid had to be built to extremely accurate specifications. It needed to be exactly square with each face pointing directly towards north, south, east and west. The angle of slope was to be exactly the same for each face, with the pyramid's peak lying precisely above the exact mid-point of the square that formed its base. The pyramid had to stand for all time, so its stones had to be fitted with great care. Its interior was to be made up of horizontal stone layers with outer casing blocks of superior-quality limestone.

Built against the eastern face of the pyramid was the mortuary temple. Here, daily rituals were carried out by priests, who made offerings to the pharaoh's spirit. A miniature satellite pyramid, where the pharaoh's *ka* was entombed, was built next to the temple. Surrounding the complex was an enclosure wall. A long causeway linked the main complex on the high plateau down to the valley temple, which lay on the banks of the Nile.



PHARAOH

To the Egyptians, their king was more than just a ruler: he was almost a god, descended from Re, the sun god. Egyptians spoke of him as "the Great House", or "pharaoh". The king's full title was King of Upper and Lower Egypt. He wore the Double Crown, which showed his authority to rule the two lands. As god-king, the pharaoh was the chief priest of Egypt. All offerings to the gods were made in his name. The pharaoh was entrusted by the gods with keeping order in the land. He was also responsible for ensuring that offerings were made to the gods so that they would continue to bless Egypt with floods, and thus provide the harvest on which all his people depended.



Outside the complex were the queens' pyramids and pits for the burial of funerary boats. The queens' pyramids were where the pharaoh's mother and his queen are entombed. The tomb itself lay below ground level at the centre of the pyramid. From the small entrance chapel in the north face, a passage sloped down to a corridor chamber. This connected to a horizontal passage, sealed by three granite slabs. The sarcophagus lay at the far end of the burial chamber. The walls were covered with hieroglyphs, spells to protect the dead pharaoh against threats in the Afterlife.

GLOSSARY

Adze A tool with a blade set at right angles to the handle. A ceremonial adze was used in the “opening of the mouth”

Afterlife Life after death.

Akh To the ancient Egyptians, the soul of a dead person that has been reborn in the Afterlife. The word means “shining spirit”.

Architect Someone who designs buildings.

Ba An ancient Egyptian word for someone’s personality. The ba had the ability to eat, drink and travel in the Afterlife. But it could not function if the dead body decayed.



Ka, represented by upraised arms



Ba, a human-headed bird



Akh, depicted as a crested ibis

Canopic jar A container in which the organs removed from a dead body were stored before mummification took place.

Capstone The pyramid-shaped stone at the very top of the pyramid.

Casing stones The outer layer of a pyramid, usually made from fine limestone. The casing stones were smoothed, polished and painted.

Causeway The covered way that led from a pyramid’s valley temple to another temple next to the pyramid itself.

Civilization A people who have developed laws, trade, arts, monuments and other aspects of a settled way of life.

Demotic A later form of everyday Egyptian writing.

Embalm To preserve a dead body from decay.

Emmer A type of wheat grown in ancient Egypt.

Hieratic The everyday form of writing used by ancient Egyptians.



Because its inscriptions were written in Greek as well as hieroglyphic scripts, the Rosetta Stone was a vital help to understanding ancient Egyptian writing. The code was cracked in 1824.

Hieroglyphs A form of writing, using signs resembling pictures, on walls and monuments.

Incense A material that gives off fragrant fumes when burnt. It is used on ceremonial occasions.



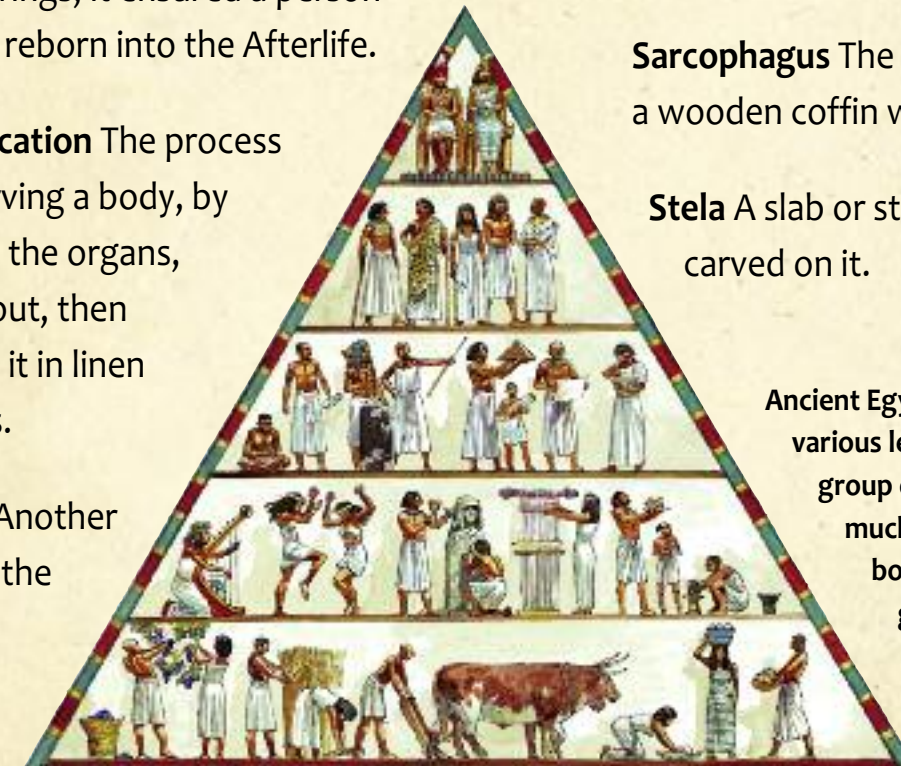
The Egyptians wrote in picture signs, using several different scripts, including hieroglyphs, detailed pictures for inscriptions on walls and monuments (left) and hieratic (below), for everyday purposes.



Ka To the ancient Egyptians, a person’s life force or “double”. When kept alive by food offerings, it ensured a person would be reborn into the Afterlife.

Mummification The process of preserving a body, by removing the organs, drying it out, then wrapping it in linen bandages.

Pharaoh Another name for the kings of ancient Egypt.



Ancient Egyptian society was arranged in various levels. At the top were a tiny group of nobles, while peasants formed much the largest group at the bottom. In between were government officials, scribes, architects, soldiers, craftworkers, artists, dancers and musicians.

TUTANKHAMUN



In later years, pyramids were no longer built in Egypt. Pharaohs were buried instead in tombs cut in the Valley of the Kings in Upper Egypt. One of the most famous was that of Tutankhamun. His burial chamber was discovered in

1922 full of treasures. Tutankhamun, whose likeness we know from this gold mask (above) found on his mummy, is called the Boy King. Objects from his tomb tell us a lot about ancient Egypt.



Pyramidion Another word for capstone.

Resin A sticky substance that comes from the sap of trees and is used for embalming.

Sarcophagus The outer stone coffin in which a wooden coffin was laid.

Stela A slab or stone with inscriptions carved on it.

MUMMIFICATION



For the pharaoh to be reborn in the Afterlife, his body must be must not be allowed to rot away. The way to avoid this is by embalming or mummifying it. The process takes 70 days. First of all, the team of embalmers remove the brain.

Then they make a cut in the side of the body and take out the liver, lungs, stomach and intestines (above). The body is dried out in a salt called natron. Then fragrant spices are packed inside the body. The body is now wrapped in layers of linen bandages (right).

The bandages are soaked in resin so that the body holds its shape. Charms — jewels and amulets — are placed between the layers of bandages.



