

# MOUNTAINS

OF THE

THE UNTOLD STORY OF THE PYRAMID BUILDERS

# PHARAOHS

ZAHY HAWASS



Jean - Pierre

with all my  
Best

Zahy H. Hawass

could begin in earnest. A quarry was identified about two hundred meters (656 feet) south of the pyramid. A ramp was built stretching from this quarry to the southwest corner of the pyramid base; in the 1990s, during clearance work around the modern road that encircles the Great Pyramid, we found two sections of this ramp and were able to reconstruct its original course. It was built of mud brick, mud, and stone rubble, and was about three meters (about ten feet) wide. From the end of this straight ramp, which would have risen slightly as it ran to the pyramid, a spiral ramp would have wound its way around the four faces of the pyramid, rising as the pyramid itself rose. A new theory, proposed by French architect Jean-Pierre Houdin, suggests that this spiral ramp actually lay just inside the outer face of the pyramid.

Back at the quarry, wide channels were excavated through the bedrock, and narrower channels were carved into the stone left behind in order to subdivide it into the blocks to be used in the pyramid core. Once a block had been separated from the mother stone, the workmen used long wooden levers to pry it from its bed, after which it was placed on a wooden sledge and dragged up the construction ramp to the pyramid site. Modern experiments have determined that ten to twelve men can drag a two-ton block up an incline, using ropes for purchase and water as a lubricant.

It seems as if the pyramid was built one layer at a time, rising slowly to the sky. As best as can be reconstructed, the core blocks were put in place and gaps filled with packing material (such as smaller stones), and then the casing stones were put into place. The casing was of a finer, whiter limestone that was brought to Giza from Tura. Bosses were left on the exterior faces of these blocks in order to render them easier to handle. It seems as though only the bottom and one side of the casing blocks were prepared before they were put into place; the second side and top were finished off in situ. A line was engraved into the top of the casing block to mark the point at which the exterior sloping face would