

The numbers behind the Khufu challenge

First, the era:

2,550 BC, i.e. over 4,550 years and 5 millennia.

Then, the dimensions:

- Base: 230.60 m x 230.60 m
- Height: 146.70 m
- Volume: 2,600,000 m³
- Weight: just over 5,000,000 tons (the Eiffel Tower, for example, only "weighs" 7,500 tons).

The core blocks, made of local limestone, average 1 m³ for around 2 tons, i.e. represents:

- 2,600,000 sledges, each pulled by around twenty men over a distance of around 1 kilometer with an average difference in level of 90 m equivalent to:
- 500,000 10-tons trucks

In addition, the Turah limestone facade blocks, quarried to the east of the Nile, covering an area of around 84,000m², were transported by boat to the site's port.

Finally, some fifty granite beams weighing between 27 and 62 tons were sourced from quarries located in Aswan, almost 900 km south from Cairo on the Nile, the highest being over 60 m from the base of the pyramid and over 100m from the delivery port.

Estimated construction time:

Between 20 and 25 years, according to Egyptologists.

The technical means of the time, absolutely rudimentary:

- No iron, so no wheels or pulleys, just sledges pulled by men along prepared paths;
- To extract blocks from quarries, dolerite balls for granite and burins, copper chisels and blades, which had to be constantly sharpened, for limestone;
- Ropes, which the Egyptians, also very good sailors, wove from hemp;
- Boats, sledges and logs made mainly of cedar wood, used sparingly;
- Abundant manpower (no slaves, as they didn't exist), but men who performed "service to the pyramid" in the same way as "military service", with the added bonus of a place in Eternity next to the Pharaoh. In rotation, 100,000 people could pass through each year, but because of the size of the pyramid and the lack of space at the heart of the construction site, there couldn't be more than 4,000 men on the site at any one time (haulers, masons, stonecutters and so on). So one had to be very efficient and compensate for this handicap with clever techniques.

In other words, arms, legs and intelligence combined with a remarkable approach:

- Long-term vision in project design;
- Technological expertise, based on the art of measurement, geometry and anticipation;
- The ability to organize a complex worksite over a long period of time, while managing human and technological resources;
- Perfectly mastered, impressively efficient logistics.

Control of the pyramid's parameters:

The precision of the dimensions is extraordinary, with deviations of only a few centimeters per hundred meters, the Egyptians being highly experienced surveyors, due to the need to carry out the annual consolidation of fields following the flooding of the Nile.

This precision is the result of constant elevation control to prevent the pyramid from "twisting"; accessibility to faces, edges and diagonals throughout the construction period.

Common theories:

Dozens of scientific theories, and just as many bizarre ones, from locks to airships to aliens!

The so-called scientific theories are all based on the erroneous paradigm of "construction from the outside", none of them answers all the constraints or questions, such as:

- Where would the 750,000 to 1,800,000 m³ of material for a single frontal ramp come from and what would become of it?
- Same problem for the outer spiral ramp surrounding the pyramid, volume 400,000 m³ minimum
- How to use lifting equipment on faces with a slope of more than 51°? And thousands of machines would have been needed, even though there's no wood in Egypt!
- How to hoist and place the enormous 27- to 62-ton beams of the structure above the King's Chamber - the real challenge of this project?
- How to polish the facade blocks at the end of the project without extending its duration?

Conclusion:

The proposed theory, based on the innovative paradigm of "building from the inside-out", is the only one allowing, while respecting all the parameters and knowledge of the time, to put a cross in the YES box in response to all the constraints and questions.