

Egyptians Stopped Building Pyramids Because Of 'Thermal Movement,' Engineer Suggests

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A high-profile, Welsh structural engineer with experience in Egyptian construction has offered a possible answer to arguably one of the most confusing questions about the Ancient Egyptian pyramids: Why did Egyptians stop building them?

[Peter James](#), a former Royal Navy lieutenant-commander and founder of global engineering firm Cintec, suggests that [thermal movement contributed to the decision to stop using the pyramids](#). He came to his conclusion after he was asked to examine the "outer cladding" of King Snefru's Bent Pyramid outside of Cairo.

The Bent Pyramid, [which got its name because of its awkwardly bent top](#), was built by Snefru around 2600 B.C., according to National Geographic. The pyramid has major damage to its surface -- the smooth limestone finish referred to as cladding. Some postulated that thieves had ripped the stones off and spirited them away, but James wrote in Structure magazine that this seemed highly dangerous and unlikely:

"It is the author's belief that in the case of the Bent Pyramid -- in fact, in the case of all pyramids -- the [outer casing has been affected by thermal movement](#)," James wrote. "The Bent Pyramid is the only one with any degree of stone casing still attached, making the mechanism of failure apparent."

The temperatures in the Egyptian desert fluctuate dramatically, James notes, which would cause the pyramid's blocks to expand and contract, ultimately cracking and falling apart.

In addition, James notes that as Egyptian construction methods become more sophisticated, spaces between materials would have grown smaller, giving less room for this thermal movement and hastening the damage:

Finally, could the sight of the progressive damage to the outer edges of the pyramids, that would have taken place relatively soon after their construction, be the reason that -- having spent so much time and energy constructing these wonderful monuments -- the Egyptians changed their burial method to the Valley of the Kings?

While the author stresses that this is his opinion, rather than evidential fact, he suggests that thermal movement led to the crumbling of these magnificent structures and eventually to their discontinued use.

James' theory could be the answer that has been sought for years. The [oldest known pyramid is usually considered to be the Step Pyramid](#), built by King Djoser around 2630 B.C., according to History.com. Pyramid construction continued for the next several

hundred years, before eventually petering out following the "last of the great pyramid builders," Pepy II, who died in 2184 B.C.

Other theories for why Egyptians stopped building the pyramids include [possibly high construction costs](#), according to USA Today.

[James has worked on everything](#) from England's Windsor Castle and Buckingham Palace, to the White House, Jerusalem's sacred Wailing Wall and Egypt's Red and Step Pyramids, according to WalesOnline.

Working [with such archeological treasures is risky and very difficult](#), James told the BBC back in 2011.

"The most frightening aspect is that we're dealing with a structure of such historical significance," James said. "It can't be allowed to go wrong because it's unique, and a vital part of the ancient world ... Everything you've learned about building techniques and architectural principals goes out of the window. You have to think like an ancient Egyptian, and come up with solutions appropriate to the original design."

It is perhaps this willingness to "think like an ancient Egyptian" that has guided James to his theory about pyramid construction.