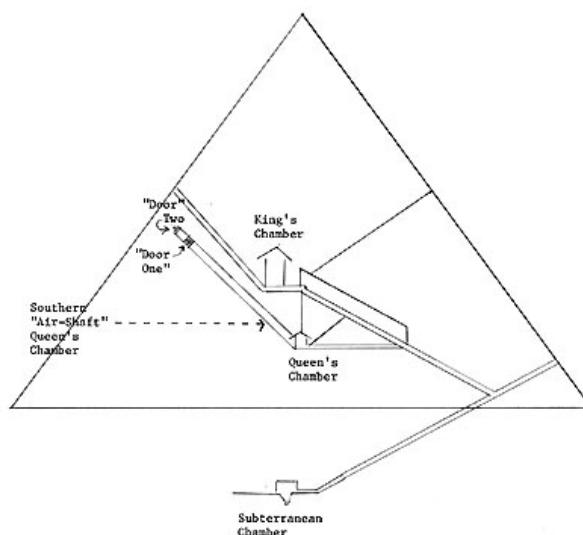




What Is Behind the Second "Door" in Cheops Pyramid "Air-Shaft"?

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Not drawn to scale, but to show location of the two "doors," about 215 feet up narrow 8-inch-diameter "air-shaft."

4th Dynasty Great Pyramid of Cheops built for Khu-fu, King of Egypt 2900? to 2877 B. C.

The four narrow "air-shafts" leading from the Queen's Chamber, King's Chamber and the Subterranean Chamber have long baffled archaeologists about their true function. If Cheops

was truly the King's burial chamber and transition site from this life to the afterlife, what would need airshafts? If linked to stars and constellations, why would there be stone blocks in them?

Why are "Door One" and "Door Two" only seven inches apart?

September 21, 2002 Washington, D. C. - On Monday night, September 16, 2002, a television program co-produced by the Fox network and National Geographic was broadcast live from the great Cheops pyramid near Cairo, Egypt. The title was *Pyramids Live: Secret Chambers Revealed*. The goal was to have the television audience, Egyptologists and other scientists discover at the same time what was behind the little Tura limestone "door" bearing two small copper handles that blocks the southern "air-shaft" which extends from the so-called Queen's Chamber below the King's Chamber. Egyptologists generally agree now that since the Queen had her own burial pyramid, the chamber below the King's Chamber must have had another purpose.

The southern air-shaft that extends from the Queen's Chamber is only eight inches in diameter. The first little "door" inside it was discovered on March 22, 1993 by German engineer, Rudolf Gantenbrink, who built a robot called UPUAUT 2 to explore the shaft. The first surprise was the long length of the shaft, about 215 feet. The second surprise was the limestone block embedded with the two little copper pins, staples or handle; thus, a "door."

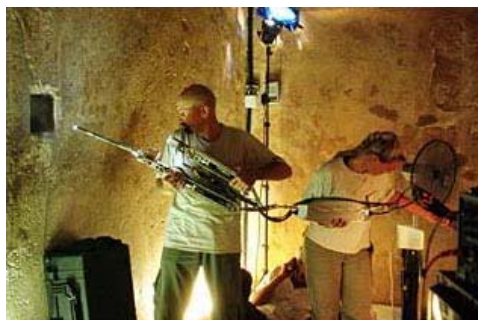


Video image on March 22, 1993 taken by UPUAUT 2 robot produced by German engineer Rudolf Gantenbrink. This is where the robot halted before a slab of white, Tura limestone that had a small copper handle on the right and a copper stump on the left from which another handle had fallen to the shaft floor (not pictured here).

Quoting from *Solos News* (website link below), "Evidence that the slab was not just an ordinary core stone of the pyramid was provided by the camera. A small laser beam mounted on the robot could be seen shining on the "door" and then, when it was moved downwards, disappearing in a gap underneath (the door). This gap seemed to be at least a centimeter in depth, meaning the door-block was not a tight fit. One corner of the block was chipped, leaving a triangular space and revealing what seemed to be a groove in the block to the side" through which a door might lead to a hidden chamber beyond.

Further, that 1993 robot examination established that the little shaft-door was made of Tura limestone, an especially white stone that the Egyptians cut from underground quarries and hauled to the surface to give the finishing layer to the *outside* of pyramids. Kephren today still retains some of its Tura limestone coating and once upon a time, Cheops would have blazed like a huge diamond on the Giza sands as its Tura limestone coating reflected sunlight. Why would Tura limestone be used not only on the *inside* of Cheops, but inside one of its mysterious narrow shafts whose function are still unknown. Later tests with radar established that the limestone block was three inches thick.

Nine and a half years later on September 16th, the televised effort to find out what was behind that Tura limestone block in the southern shaft of the Queen's Chamber began with another little robot built by Boston's iRobot company. According to the program's executive producer, John Bredar, the iRobot first traveled up the southern shaft with a drill designed to go through the 3-inch block and then return with a camera lens in place of the drill so that everyone could see through the hole. There was much speculation about whether behind the block with copper handles there might be another door, or statue of Khu-fu, or even a hidden chamber. Friday I asked him why, upon finding a second Tura limestone block, the robot did not keep drilling.



Engineer Gregg Landry, from Boston's iRobot, lifts a robot outfitted with lenses and drills to explore one of the narrow, mysterious 8-inch diameter shafts inside the Cheops pyramid of Cairo, Egypt. Photograph by

Interview:

John Bredar, National Geographic Executive Producer, *Pyramids Live: Secret Chambers Revealed*, Washington, D. C.: "Interesting question. Well, it may happen sometime down the road. The problem is that there are a couple of literal logistic problems first:

One is that it wasn't clear what the distance was from the back of the first stone to the front of the second stone. So, we wouldn't know whether the drill bit would reach.

Second, we knew pretty much how thick that first stone was because we had taken another device up there and placed it on the outside of it and made an assessment. It's called an Echo Impactor. It calculated that the stone was about three inches thick, which is what it ended up being.

It would be kind of archaeologically irresponsible to just start drilling on the second stone without knowing how thick it was. So, that's the second issue.

The third thing is that during the program, it took about - in the program, they launched the camera robot about 10 minutes into the show. It arrived at the stone about 15 or 20 minutes before the end of the show. So, it takes that long to get up there. And when it went up, it only had a camera on it. It would have to have come all the way back down the shaft and they would have had to completely reconfigure it with the drill and send it back up. That's about an 8 hour enterprise.

IT APPEARED IN THE SHOW, THOUGH, AS IF THE HOLE HAD ALREADY BEEN DRILLED BY THE TIME YOU GOT THERE IN THE LAST THREE MINUTES?

That's right. The hole had been drilled on a previous mission because you can only take one thing up on the front of the robot. You can either take a camera. It looks like a drill with the long probe on it so it can slide through the hole. Or you can take the drill. Or you can take a number of other devices which we had used previously like the one I described, the Echo Impactor.

BUT IF YOU HAD ALREADY DRILLED THE HOLE, WOULDN'T YOU HAVE ALREADY SEEN WHAT WAS ON THE OTHER SIDE; I.E., THIS SECOND BLOCK?

No, because as I said, the stone was three inches thick and the camera that you use to drive the robot are not able to look through the hole. All we knew was that we drilled through and we created a hole and the drill met a point or reached a point where there was no resistance. We knew we were through, but we had no idea what was on the other side until that camera went through live and revealed it to the scientists and everybody else at exactly the same time. And that was the whole objective to put the viewers in the seat with the scientists and have them experience the archaeological discovery at the exact same moment.

WAS THERE ANY REASON WHY ONLY ABOUT THREE MINUTES WOULD BE ALLOWED FOR THE LIVE DISCOVERY BECAUSE IF THERE HAD BEEN SOMETHING I DON'T KNOW WHAT YOU WOULD HAVE ONLY ABOUT THREE MINUTES TO COMMENT OR EXPLORE?

That's a good question and it was one we pondered for a long time. there were a lot of other interesting points that we wanted to convey in that show, all of the work of Dr. Mark Lehner and the new revelations in the *Lost City of the Pyramids* and all the work that Dr. Hawass had done in the workers' cemetery. We just felt it was a nice dramatic climax to have the drilling occur in the very latest part of the show. We knew that if we did make some kind of discovery, we would be able to only kind of look at it with that camera in a kind of minimal

way.

But it was a gamble because we really had no idea what was going to be behind there. It could have just been a corridor that continued on. It might have even been an object of some kind. We had more than three minutes actually. There was about 7 minutes until the end of the program including our credits and everything. So we thought, 'Alright, if we make a big discovery that you can actually look at,' as opposed to the big discovery that we did make which is something you can't look at but can talk about in general terms, if we did make a significant object discovery, then we could rob from pieces that came later in the show like the close, the credits, the final return to the tomb site. So, we felt like we were in pretty good shape.

NOW THAT YOU HAVE DISCOVERED WHAT APPEARS TO BE A SECOND BLOCK, COULD YOU EXPLAIN HOW FAR THAT SECOND BLOCK IS FROM THE FIRST AND WHAT THE NEXT STEP WILL BE?

It's approximately 7 inches from the back of the first stone to the front of the second stone.

THAT'S NOT VERY FAR.

No, it's not very far. But the drill bit is less than 7 inches long, so something would have to be redesigned. We've just really begun to talk with Dr. Hawass about what the next steps would be, whether or not we could devise and even longer drill bit and even longer camera lens.

There is one tricky little detail that has to be taken into account and that is: when you drive the robot into the shaft, the first of about 9 feet are flat. Then it makes a turn up to the 40 degree shaft and that turn is such that if the drill bit or the camera probe are too long, it can't make the turn. They poke into the shaft because of the angle of the shaft. So, that's going to take some figuring out. We may be able to solve that one with some kind of telescoping drill bit or something like that.

HOW DID YOU GET THIS ONE UP TO THE FIRST LITTLE DOOR?

We knew that it was only going to be, after we sent the Echo Impactor up there, we knew that we only needed to get through three inches of stone. So, we didn't really need a really long drill bit.

Now, we know that we would need the 3 inches through the existing first stone and 7 more inches and then whatever the distance would be through the second stone which is the most problematic thing. We can't just go up there and drill a hole and not know how thick it is.

I SEE THAT THE BIT HAS TO BE ABLE TO ACCOMMODATE THE TURN AS WELL AS THE DISTANCE TO GET THROUGH THAT SECOND STONE.

Yes, a few conflicting demands.

WHAT ABOUT USING SOME KIND OF RADAR OR WHAT YOU USED THE FIRST TIME TO FIND OUT THE THICKNESS OF THE SECOND ONE AND WHAT MIGHT BE BEHIND THERE?

Those are technological challenges I don't know enough about. There was a piece in the show where you could see the Echo Impactor going up and being placed against the stone. If you remember that, it's a pretty big, bulky piece of equipment, relatively speaking. The problem is that I don't think they have figured out a way to get that technology down to the tip of a probe size. So that's the biggest complication.

First of all, you have to figure out how to get the ground-penetrating radar or the Echo Impactor technology up to the face of the next stone. So, it's a tough one.

IT'S MY UNDERSTANDING THAT THE CONSISTENCY OF THE LIMESTONE BLOCK, THE FIRST ONE WITH THE LITTLE COPPER

HANDLES, AND THE SECOND ONE WHICH APPARENTLY DOES NOT HAVE VISIBLE COPPER HANDLES, IS MADE OUT OF TURA LIMESTONE WHICH HAS HISTORICALLY BEEN USED ON THE OUTSIDE OF PYRAMIDS, INCLUDING CHEOPS. WHEN IT WAS ORIGINALLY MADE, IT WAS COVERED WITH TURA LIMESTONE AND WOULD HAVE BEEN A BLAZING WHITE.

That's right.

WHY WOULD THE TURA LIMESTONE BE IN THESE LITTLE BLOCKS IN THE CHANNELS? AND COULD IT BE THAT THIS IS A PART OF CHEOPS THAT WAS ORIGINALLY BUILT TO BE AN EXTERIOR AND WAS SOMEHOW EXPANDED UPON?

I think the idea of that particular type of limestone having some kind of additional meaning is valid, because as you said the exterior of the Great Pyramid was covered with it. In fact, the second pyramid, Kefren the son of Khufu the top of his pyramid still has its facing stone on it which is why it has a smooth exterior for the top part.

The second part of what you are suggesting, I think, is a harder case to make because the shaft do seem to have a kind of parallel to the shafts in the King's chamber that do go all the way to the outside of the pyramid. The way they were constructed, they were laid out as the pyramid was going up. It just seems to imply that they would have been designed to go clear to the outside. But, you know, there is a huge amount of speculation here.

So, what you are saying is that perhaps the stone we are seeing was the original outer layer and then they made some modifications.

JUST RAISING THAT AS A QUESTION.

I don't think that would work because we are still about 45 or 50 feet from the exterior wall of the pyramid. They had to start building from the base with a particular angle in mind. So, I don't think it ever would have been at the angle that would have ended where the blocking stone is.

I KNOW THAT THE FOUR INTERIOR LITTLE CHANNELS ARE STILL A MYSTERY EVEN ABOUT WHAT THEIR FUNCTION MIGHT HAVE BEEN AND CLEARLY, THIS WAS QUITE AN ENGINEERING FEAT TO BUILD A PYRAMID THAT LARGE AND HAVE THESE FOUR VERY PRECISE CHANNELS. HAS ANYBODY SINCE THE NIGHT OF THE SHOW THAT YOU'VE TALKED TO IN EGYPTIAN ARCHAEOLOGICAL QUARTERS TRIED TO SPECULATE ON WHY THEY THINK THE TURA LIMESTONE MIGHT HAVE BEEN USED FOR THAT FIRST BLOCK AND POSSIBLY THAT SECOND BLOCK INSIDE AN 8-INCH DIAMETER LITTLE CHANNEL?

Yeah, that's an excellent question. The only person I know of who has talked a little bit about this is Mark Lehner. What Mark said was that he felt there was some significance to the tura limestone being there. He wasn't sure what it would mean, but he felt like it lent more credence to the possibility of finding something because that stone did have a special use.

But beyond that level of speculation, I haven't heard anything. Part of it is because we really haven't had a chance to digest and expand that aspect of the academic inquiry. The investigation continues, but kind of making sense out of the data hasn't really begun in earnest yet, I would say. So maybe that's one reason why we don't have too many answers to that.

YOU WERE AT CHEOPS FOR THE BROADCAST OF THE SHOW, WEREN'T YOU?

Yes.

AND ZAIA HAWASS WAS THERE.

Yes.

DID YOU TALK WITH HIM AFTERWARDS? I WOULD THINK THAT WOULD BE NATURAL AS EXECUTIVE PRODUCER OF THE PROGRAM.

Yes, I did talk with Zaia about it. What did he say? He felt pretty strongly that the second stone was blocking something, or hiding something. He was saying that based on the fact that the first stone was the initial block and kind of a how did he describe it? more of an aesthetic block and the second stone seems to be it's not finished and it's more roughly formed. I don't know what he was basing this on, to tell you the truth, but he seemed to think there might be something behind the second one. I don't really know what he's basing it on because I'm not sure that the second stone isn't just solid rock, like a regular building stone.

DID HE OR ANYBODY SPECULATE WITH YOU EITHER ON OR OFF THE RECORD WHAT THEY REALLY THINK WOULD BE THE REASON FOR THE COPPER HANDLES ON THAT FIRST BLOCK WHICH SEEMS SO MYSTERIOUS AS WELL?

Well, Zaia did. He thinks they were used to pull the stones into place from below. There might have been some rope attached to them and they would have been pulled into a closed position from further down the shaft.

BUT WHY WOULD THEY MAKE THEM OF COPPER?

Well, that was the only metal they had, as opposed to wood or something?

YES.

That's a good question. I don't know. Dr. Rainer Stadelman who is kind of the dean of Egyptologists in the show, he speculated that they were magic devices that the King's soul would have used to move the stone. Dr. Mark Lehner kind of echoes that and says that if it was a false door of sorts, a figurative or symbolic door, then the handles would have had to appear on it to be recognized as a door. But they certainly wouldn't have been utilitarian in any way.

So, I think that's probably the most interesting theory of all that it still is this model corridor for the King's soul to travel to the southern sky as the sun god Ra. Until we make some more discoveries, it's hard to say what the best theory is.

IN THIS CONTEXT, CHEOPS WOULD BE LOOKED AT AS A MACHINE FOR IMMORTALITY, A MACHINE FOR THE TRANSFER OF THE SOUL FROM THE MATTER WORLD TO WHICH IS IN THE AFTERLIFE?

You mean the pyramid (Cheops)?

YES.

Yes, it was kind of a divine complex where it was in some respects a magical train station, like you are saying. But it's more complicated than that. But yeah, it was kind of a transit place for that King's ka, his vital force. They didn't really interpret it as soul. In a sense, when you boil it down, it is kind of like that.

WHAT IS THE NEXT STEP NOW IN THE PROJECT?

Well, as you know, there is a northern shaft that goes out of that chamber and the Egyptians were nothing, if not symmetrical. So just as in the King's chamber above, there is a northern and southern shaft. The southern shaft for the sun god Ra and the northern shaft for the god Horus, God of the Heavens.

So, investigating the northern shaft is ongoing.

ARE YOU DOING THAT WITH ROBOTS?

Yes.

IS THIS, ARE YOU FILMING AS YOU GO TO MAKE UP ANOTHER DOCUMENTARY?

We're documenting it. We don't really have plans right now just because it is an ongoing investigation. Because of the nature of the robot, everything is being shot because that's the only way the scientists have eyeballs up there. It's the only way to see anything. So, it is all being covered, yes. Hopefully, we're going to have some interesting discoveries to talk about on that front.

WHEN DO YOU THINK THINGS WILL BE READY WITH ANOTHER DRILL TO GO THROUGH THE SECOND DOOR?

I don't know that they are actually going to go through the second door. I think that the first very complicated problem is going up there and justify putting a drill into this stone not knowing how thick it is? My guess is that most archaeologists are going to say, 'You can't really do that.' There might be a camp that says, 'Look, we know the first one was three inches thick. Why would the second one be any different?'

So, I can imagine a pretty good academic argument about whether it is justifiable to go up there and just start drilling, not knowing how thick that stone is. Because honestly, until they figure out a technology that can go through the tiny aperture that we created and touch that following stone is and figure out how thick it is, I just don't see it making a lot of sense. What kind of drill bit do you go up there with? What kind of drill would be able to spin a drill bit that big, that long, and still be small enough and light weight enough so the robot can carry it up the shaft? There are a lot of serious technological problems that we would have to solve before we could get to the point where we could drill again.

WHAT ABOUT THE iROBOT TEAM DID THEY HAVE ANY IMMEDIATE RESPONSE TO THOSE KIND OF QUESTIONS?

No, I think everybody was so relieved that the robot had worked at the critical moment! This was an incredible challenge and I think everybody finished the program with a level of relief that kind of precluded thinking about anything else going on yet, at least as far as that shaft goes. There is a long way to go still.

IF THE CHEOPS PYRAMID WAS LOOKED UPON AT THE TIME IT WAS BUILT AS A KIND OF IMMORTALITY MACHINE, MEANING THAT WHICH WOULD BE USED TO VAULT THE KA OF THE KING TO THIS PLACE IN THE AFTERLIFE, WHY WOULD THESE LITTLE CORRIDORS HAVE BEEN BUILT IN CHEOPS AND WHAT WOULD BE THE FUNCTION OF BLOCKING THESE CORRIDORS IF THE RELATIONSHIP OF EVERYTHING THERE IS TO THE KA, TO THE TRANSFER OF THE SOUL. WHAT PURPOSE WOULD THESE DOORS OR THESE BLOCKS PROVIDE?

Good question. The only answer that I can give you that kind of makes sense is there is a theory among some Egyptologists that the utility of something in this life was directly, had an inverse relationship to how useful it was in the other life. So, if you had a stone door that basically ran right into a brick wall, that's useless in our life. But for them, it was completely useful.

MEANING IN THE AFTERLIFE?

In the afterlife, yeah. So if you go around to other Egyptian sites and you see the typical false door that, like for example, in the step pyramid and Zoser's pyramid it's a solid piece of stone. There is nothing on the other side. And yet, it was a door and it was an essential part of that pyramid because it was through that door that Zoser went to the afterlife. That's the only kind of answer I can give that is part of that theory.

WHY THEN WOULD THERE BE TWO BLOCKS INSTEAD OF ONE?

Well, there is it's just endless, isn't it? It just keeps going!

The German, Reiner Stottelman, has this theory that there should be three

blocks! I don't know the details of his theory very well, but there are three chambers in the pyramid. There is a subterranean chamber, there is the Queen's chamber and the King's chamber up above. There were three blocks closing off the King's burial chamber from the rest of the world after he was put to rest in there. There were three granite blocks slid into place.

So, his theory, and I'm not doing justice to his theory, is that there should be three blocks to these shafts! I don't know. I think this is at the heart of why we are also intrigued with the ancient Egyptians because they had this belief structure that clearly motivated a whole nation to build I don't know if you have been to the pyramids?

OH, YES, I HAVE.

You know what it's like to stand at the base of Khufu's pyramid. It's just overwhelming!

IF THE MACHINERY OF CHEOPS HAD TO DO WITH THE TRANSFER OF THE KA LIFE FORCE TO THE AFTERLIFE, THE SUGGESTION IS THAT THE THREE SLABS WERE PUT INTO PLACE BECAUSE THE CHEOPS WAS ACCOMMODATING THE KING, THE QUEEN AND THE THIRD WAS?

The subterranean chamber.

WHICH WAS ACCOMMODATING WHO OR WHAT?

It's never been clear what its use is for. Nor has it been clear what the misidentified Queen's Chamber was for because the Queen's Chamber was not for the Queen. She has her own pyramid outside the great pyramid. There are a lot of different arguments about what the Queen's Chamber was for. One is that it was something known as a "serdab" which is a room that is only for the King's soul that is inhabited by a statue that is imbued with the soul and that is why that room would require shafts so that the ka could exit. And there is precedent for that at the step pyramid. At Zoser's step pyramid, there is something called the "serdab box."

This box, I think, is a granite box and it has two holes in it. The box is tilted at an angle so there is a trajectory towards the stars from this box. Inside the box is a statue of Zoser, which is one reason why some Egyptologists think there might be a statue behind the stone door because if theory that the Queen's Chamber was some kind of serdab held, there is a possibility that maybe there would be a little statue angled towards the stars. Even that has problems because theoretically there was a statue of Khufu in the Queen's Chamber. There is a big niche there and it's empty. That's an interesting theory and there is some precedent for a serdab in one of the major pyramids.

ALL DEVOTED TO THE IDEA THAT THEN THESE FOUR CHANNELS IN CHEOPS WERE NECESSARY FOR THE KA TO HAVE EXITS FROM CHEOPS?

Yes.

Reiner Stottleman again citing the pyramid papyri which were found later and written later apparently than the 4th Dynasty and they quote Khufu as saying, "It is distasteful for me to descend out of the pyramid. I will ascend directly to heaven."

He could have gone out the normal entrance, right? But according to these papyri, he had to go direct, if you will.

AND WHY FOUR PLACES?

Yeah, well two for each chamber. And I don't know go figure! I guess is the best answer.

WHY WOULD THE STONE BLOCKS IN AN EXIT FOR THE SOUL MAKE

SENSE? IT SEEMS PARADOXICAL.

Yes, it does. The only think I could do is refer you to the quote from Mark Lehner in the movie about this where he says a stone door would not be a problem for the soul of the King. The stone door is one of the most common features in every Egyptian tomb. That's how he interprets it, a normal feature here on a slightly different scale, but a feature that is repeated over and over in every tomb that you find. So, for Mark, it just fits. It is not a problem for the King's soul. But this was an unbelievable feat of engineering for them to lay these channels out.

WHICH MAKES THEM EVEN MORE MYSTERIOUS BECAUSE HERE 4,500 YEARS LATER, WE ARE STILL MYSTIFIED BY THEIR FUNCTION?

Exactly. Still trying to figure it out. It is such an enigma! It is just baffling. No one has a conclusive answer and that was one hope in this investigation to shed more light on this baffling problem, archaeological problem. You know, honestly, drilling through that second stone may just further complicate the inquiry.

BECAUSE DEPENDING UPON WHAT IS FOUND, IF THERE IS A THIRD BLOCK...

Exactly!

OR A SMALL STATUE OR? IT WOULD STILL NOT REALLY ANSWER WHY THESE CHANNELS WERE MADE.

Right."

Websites:

<http://www.cheops.org>

<http://solos.users.netlink.co.uk/door.html>

<http://www.magicalegypt.com>

Credits

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