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The Mystery of the Three Objects

I remember that the ducts of the Queen's Chamber were discovered almost by accident, since they had no opening directly within the interior of the room. Only the cracked sound in response to a coarse acoustic survey, followed by breaking hastily done with chisel and mallet, made their discovery possible.

As a teaser that might be considered enough, but alas, there's more: after the two thin diaphragms of limestone have been broken, the ducts show a short horizontal path, just crossing the wall, then go up.

After being opened, in the horizontal part of the north duct were discovered three objects, the only ones ever found inside the pyramid.

They were a wooden handwork bearing special marks, a double copper hook similar to an anchor, and a ball of hard stone—diorite, I think (photo **I21**).

The three findings were on their way to England, when unfortunately all traces of the wooden artifact were lost in transit.

Too bad; for these, being organic matter, could have been dated with **C14** and settled once and for all the time of the pyramid construction.

There remain the two other objects.

The hard stone ball must have been widely used, at the time, as a tool to rectify the granite surfaces removing small, sharp slivers by beating, very patiently making it ready for the final sanding to be achieved by abrasive powders.

Don't forget that inside the pyramid there are many granite surfaces, perfectly smooth (easy to find the spherical stone).

The last object may be more difficult to understand but, for those who are familiar with marine things, it has a very natural shape: if we imagine it is fitted on top of a wooden rod and secured by a couple of nails to it (nails still present) we have a tool that even today allows, during the moorings, to take a rope from the water a top or to keep a boat edge closer.

I'm talking about the "boat hook", still having the same shape through the millennia.

Let us now return to the ducts: keeping the ones of the Queen Chamber aside, fortunately we know enough about the King Chamber ones, having been able to find their outside exits. In particular, we have to highlight the care with which they were made, with blocks artfully shaped and positioned according to a complex

pattern. This painstaking work tells us that these blocks had to rise along with the construction of the pyramid.

Finally, we come to the attempt at the explanation.

I think that, in order to ensure the absence of foreign material into the cavities, strict rules and meticulous provisions had been taken in place. I also imagine that, for each of the ducts under construction, there would have been at least one trusty architect as overseer responsible for the stone placement. Since the ducts rise with a particular slope, nothing strange if the site architect had a wooden screed to check angles and measures.

It may also be that from excessive confidence with the work, the correct safety procedures (i.e. inserting temporary plug during construction) were not always adhered to and then...

A moment of inattention and the screed slips from the hand into the duct. The pyramid being too high by this time, rods or cane cannot recover it.

Probably the guilty Overseer maintained silence on his misdeed but certainly he would have tried his utmost to remedy the damage using the tools available on site (the Nile and the harbor were close) in the short time available (maybe just a night time).

Here then is an ingenious way to recover the object: if a copper tool, bound to a very thin rope, could be slid behind the screed, it might be drawn up. But, as I said, the tool must be maneuvered behind the screed, and the small anchor is too light to drag the rope and to jump it with the gravity help only. Something heavier is necessary to help the copper hook to jump over the screed. What will work better than a stone ball properly tied, by a net, below the hook?

Imagine the architect engaged in his desperate fishing experiment and the dramatic moment when the thin cord betrayed him...

I recently discovered that the wooden object recovered by Waynman Dixon inside the duct is actually part of a longer one, probably broken by the reckless inspection carried out with a long iron rod by Dixon himself, who didn't inform anyone about that, being culpable of retrieving hidden treasures, but abandoning the rod within the duct, where it is yet.

Perhaps the wooden object was a handle for the "boat hook" allowing the extraction of the temporary plugs inserted into the ducts...

This does not change anything: my hypothesis becomes even more plausible. Attempts were made to recover an object using a net.

I did not know, however, a part of the wooden article is still inside the duct, just beyond the bend, but Dr. Zahi Hawass never gave the permit to recovery it. Since it is so long, it cannot pass through the duct curve; that means it must have entered from the top of the duct, as I thought. It seems something is stirring now. Perhaps Dr. Hawass is going to change his mind: we will see.

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The Egyptian Drill

There is something more I want to speak about: holes drilled at the time were almost perfect, even in very hard blocks.

In the pyramid of Cheops there are few holes: in the double-stacked granite divider of the Antechamber of the Portcullis and the portcullises themselves have four holes each (which diameter is about one palm = 7.5cm). The four grooves of the Portcullis Room were probably made from holes, not to forget the three holes in the edge of the sarcophagus.

Needless to say, I also tried to find an explanation about the way they were made. The Internet is full of drills and mine is not dissimilar. I may add some details, nothing special, but I want to share them.

I thought up a nice drill, slow but effective. I do like to build it and carry out a test on a granite slab, just few mm deep.

I'll imagine being in my workshop with skilled workers inside.

First the hole diameter needs to be set and then I'll provide some canes having the outside diameter equal to the hole to be made.

The canes should be strong and long as possible, dried and matured.

Each cane shall have its ends flattened and smoothed, the block to be drilled placed horizontally and firmly fixed. I'll use a kind of " drill column ", made by two limestone blocks with a half cylinders carved at a surface. By joining them we will have a cylinder to insert the cane in.

It would be better to use a single block with a suitable hole, but it is easier to carve a half-cylinder by chisel and, furthermore, when the two cavities wear out, it will be possible to restore the correct diameter by rectifying and adjusting the two flat surfaces.

These two stone blocks must be high enough to get the cane perpendicular to the surface during process.

The cane will be inserted into the hole, having a modest gap between it and the hole walls, then a thin rope will be coiled three or four times around the top part of the cane, out of the block, and its ends entrusted to two skilled apprentices.

Now a concoction made with mud, sand and water has to be poured inside the cane, but without dripping outside (that would widen the hole of the column.) Finally, just rotating back and forth the cane inside the hole using the thin rope, adding the mud-water-sand mixture.

The water tends to escape from under the barrel, carrying with it a little mush of the crushed granite sand; the required abrasive action is provided by the degree of compression applied onto the cane top end by the worker.

This "push down man" should be wisely chosen for this tricky task. His ability to add water, sand or mud at the right time, and controlling its compression action to be more or less intense, are the elements that determine the success of the process.

In particular, I think I have found in the Egyptian Museum of Turin, a part of the tool used by the " push down operator".

Having to press the barrel and keep it vertical at the same time requires a suitable tool, simple to produce, abrasion and heat resistant.

A kind of terracotta double donut shaped like a figure 8 comes to mind, the two holes in it having the female imprint of the cane.

One part is held in one hand, while the other part will stay on the cane top, pressed in position by the other hand.

In this way, the cane movement, due to the rope, cannot drag the terracotta "donut" with it and, when that part will be overheated, the tool can be flipped to use the second hole.

Simple and effective. The tool I have just described (photo **I22**) is in the Egyptian Museum of Turin. Obviously, this process will consume a large quantity of canes

and “donuts”. Also the external surface of the cane and the thin rope has to be kept damp, but by water only.

I'd like to try it out. I am sure that the results would be nothing short of amazing.