

Re: Scientist Says Concrete Was Used in Pyramids

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- *From:* firstname@xxxxxxxxxxxxx (Florian)
 - *Date:* Fri, 15 Dec 2006 16:14:27 +0100
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David Johnson <trolleyfan_nospam@xxxxxxxxxxxxx> wrote:

Have you in fact not been reading what others have been posting? Or are you just so wedded to this idea, that you refuse to let it sink through?

Your comment was vague. I need accurate arguments to reply.

So, why:

See, it worked :-)

1) Probably 95% of the (physical) effort involved in building the pyramid is moving the material around. Two-and-a-half ton blocks or two-and-a-half tons of "concrete" mix, it doesn't matter – it takes the same effort. Unfortunately for "concrete", you not only have to move the "mix", but the water to mix it as well – around 15–20% of freshly mixed concrete is water. That means for every two-and-a-half tons of mix you now have to also move half a ton of water.

Or, IOW, you've just increased the amount of material needed to be moved by 20% or so. When that's all being moved by man-power without so much as a wheelbarrow, this is so less than good.

The reconstituted limestone is a wet premix which does not contain as much water as today's concrete => the overweight is negligible, especially when you consider that a fraction of the pyramid was made of casted blocks. Moreover, advantages of casting blocks largely balance the reconstituted limestone "overweight". See below.

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2) If you had been reading the past posts to you on the subject, you would know by now that the limestone doesn't just "dissolve" in water (or "disaggregate" or dis–anything else – it just gets wet).

It is not clear if there was or wasn't a source of limestone much like Davidovits describe it (weathered or easy to crush). I need to discuss this point with him (if I manage to contact him). Anyway, addition of natron and lime yield NaOH which dissolves the silicate of the 1% kaolin clay contained in the limestone and help to disaggregate the stone (calcite does not dissolve).

That means
you have to go in there and break it up by hand.

And breaking up two–and–a–half tons of limestone into little concretable–sized bits is a lot more work than simply splitting out single two–and–a–half ton blocks. A lot more work. Oh, it isn't anywhere near as precision work – but it's still work.

Absolutely not more work. The crushing work was done at the same time as the carving work. I proved that for each ton of carved blocks about half a ton of waste (crushed limestone) is produced. That's plenty enough to be used for the casted stones that represent only a fraction of the stones in the pyramid (according to Barsoum). Actually you spare energy, since you recycle the waste and so, doesn't have to carve more blocks. But other advantages can explain why casting stones could be more interesting. See below.

3) And after having put all the work into making your mix, and hauling water, and mixing it up, and making a mold, and pouring the mold, and waiting four hours or whatever for it to set up, the result is a block that could have been made the same way as all the other limestone blocks in the pyramid! That's right! You've probably doubled or tripled the effort require to make a block and are left with a block with no advantages over one simply cut out of stone...by stonemasons who have had a couple of million blocks to get really good at it.

Your analysis miss a couple of important points:

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You need to build a gigantic ramp to haul the carved stones to the top of the pyramid. That's a lot of energy and time to build such a large ramp which, according to Lehner, would have a volume about half of the pyramid itself. So pouring stones starting at a certain height vs building a larger ramp will spare a lot of energy.

The joints between the stones forming the outercasing and inner casing are perfect. It takes an awful amount of time to carved stones with this perfection. Much more time than it was necessary for the roughly carved stones of the core and much more time than casting the blocks. Again you gain both time and energy.

So, like I said – a stupid waste of time and effort for no benefit.

In contrary, I showed that important gain is achieved by casting the blocks of the top and of the outer/inner casing. I think answered each of your points.

Anyway, the microstructure analysis of Barsoum's samples from the blocks proved clearly that they did not come from the quarries and were synthetic. That's the point you need to critic. Sadly, It seems that nobody can do it. So until these evidences are disproved, It stands that blocks in the pyramid were casted. Period.

David

* A very rough calculation shows them cutting 20–30 blocks an hour. How many individual groups each cutting out a block this is, I don't know – but if it's under 80 or so...yes, they can cut a block faster than yours can dry.

1200 stones carver is the estimation by Lehner.

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Florian

"Tout est au mieux dans le meilleur des mondes possibles"
Voltaire vs Leibniz

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