

A Chemist Proves that the Pyramids Were Built with Artificial Stone

by Henry Broadbent

Why the Pharaohs Built the Pyramids with Fake Stones

by Joseph Davidovits
(Translated by Claude James from
La Nouvelle Histoire des Pyramides)
Saint-Quentin, France: Institute
Géopolymère, 2009
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(Available from www.geopolymer.org or
booksellers)

This book follows several previous books and publications by French research chemist Joseph Davidovits. I first became aware of his thesis that the Great Pyramids were made of artificial stone, concrete, or something similar, when I read the author's 1988 book—*The Pyramids: An Enigma Solved*—some 15 years ago. But Davidovits's first publication was in 1978. It was the French book *Le*



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livre de la pierre: que le dieu Khnoum protégé Khéops, constructeur de pyramide.
Joseph Davidovits (r.) in a 2002 video demonstrating the making of massive artificial blocks, like those of the pyramid. The ingredients were mixed and molded to form the two kinds of synthetic stone blocks found in the pyramids. The video can be viewed here: www.geopolymer.org/media/pyramid-eng.mp4



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Since that time, Davidovits has worked and researched to gain acceptance of his thesis against much skeptical opposition and disbelief. He used X-ray techniques, assembled evidence by inspection and photography, located sources of materials, and made samples. He found and translated original hieroglyphical texts and illustrations describing the method used to make the chemically agglomerated stones with which the pyramids, and more, are constructed. Finally, he has published this easy-to-read but amazing book. Davidovits has changed history.

It is staggering to find that the method he describes was developed about 4,700 years ago by the famous Imhotep. The technique enabled Imhotep to build the step pyramid for the Pharaoh Djoser (or Xoser) at Saqqara, across the Nile from Memphis, Egypt. The technique was developed further during the next 200 years to culminate in the construction of the masterpiece of the Great Pyramid ascribed to Khufu (Cheops).

All these pyramids are built from agglomerated stone, and Davidovits sets out the proof decisively in this book. Most of the materials were gathered by quarrying in the area about the pyramids. Later the technique was only used selectively for parts of pyramids because of exhaustion of the mines supplying the minor but essentially critical catalysing chemical compounds.

The book starts by explaining what the

rediscovered science of “geopolymers” is all about. Samples of ancient Egyptian molded “stones” are pictured. They are mostly molded heads (actually sculptures). In particular, see Figure 1, a photo of Vase number 99 in anorthositic gneiss, which was exhibited in the French Réunion Musées Nationaux, in 1999. To the question of how such a delicate stone vase could have been chiselled, “the experts have no answer,” Davidovits says.

How He Got Started

Davidovits tells how his initial research on geopolymers led him to the pyramids of Egypt:

“It was partly chance. My work as a research chemist really started in 1972. For two years, in my first laboratory in Saint-Quentin in Picardie, I worked first of all on the chemical reactions of clay minerals. Nobody took any notice of us and with my team we developed the first applications for the building industry. But in June 1974, I realised that what we were producing were materials that are very close to natural cements, such as rocks based on feldspars, the feldsparsoids. One day, as a joke, I asked my scientific partners at the Muséum d’Histoire Naturelle de Paris what would happen if we buried in the ground a piece of the product that we were synthesising in the laboratory at the time and an archaeologist were to discover it in 3,000 years time. Their answer was surprising: the archaeologist would analyse this object disinterred from the garden of a ruin in Saint-Quentin, and the analysis would reveal that the nearest natural outcrop of the stone was in Egypt in the Aswan region!

“It was on that day that I realised that if I did not reveal the synthetic nature of the product we had developed, it would be taken for natural stone.”

Davidovits notes that since the stripping of the casing “stones” from the Great Pyramids, the backing blocks are now visible. In his second chapter, he presents photographs of these 500-ton

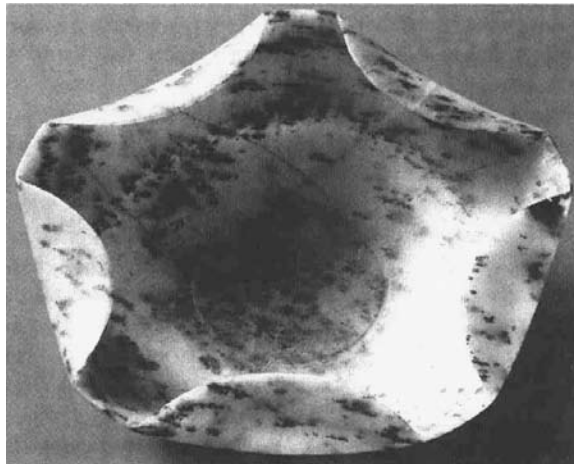


Figure 1
EGYPTIAN VASE CAST FROM ARTIFICIAL STONE

One of the examples of an artifact that is too delicate to have been chiselled from real stone, but had to be cast from a mold of artificial stone. This is part of a 1999 exhibit, “Egyptian Art at the Time of the Pyramids.”

Source: *Why the Pharaohs Built the Pyramids with Fake Stones*, Figure 1.2.

blocks, which show closely fitted, but curved joints (see Figure 2). As an engineer, it is obvious to me that these are

not chiselled stone but poured *in situ* concrete blocks.

After treating the various theories of how the pyramids were constructed of hewn stone, Davidovits explains to readers the actual technique, using a cartoon strip drawing of the various steps, indicating the major source of the material and the basic chemistry and process. During 2002, the Geopolymer Institute experimented with the fabrication of five blocks resembling those of the pyramids of Giza, and totalling 12 tons. Recently, researchers at the Massachusetts Institute of Technology experimented with a small-scale pyramid using the same techniques.

Of course, as Davidovits notes, the later Egyptians did make great statues and temples of carved stone. At the beginning of the book there is a map of Egypt showing the “Old Kingdom Pyramids God Khnum Agglomerated stone” in the north, and the “New Kingdom Valley of the Kings



Figure 2
PYRAMID BLOCKS SHOWING CURVED JOINTING

*This 1984 photo of 500-ton blocks in the Chephren Pyramid, southeast, shows that the blocks have closely fitted but curved joints. They are not chiselled stone, but blocks that were poured *in situ*.*

Source: *Why the Pharaohs Built the Pyramids with Fake Stones*, Figure A-18.

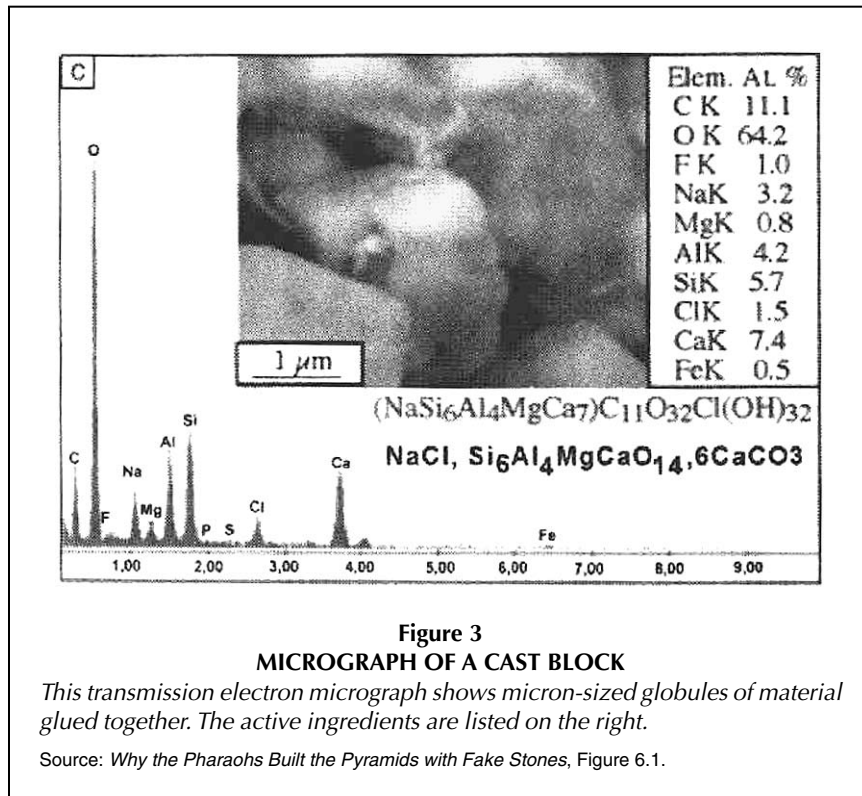


Figure 3
MICROGRAPH OF A CAST BLOCK

This transmission electron micrograph shows micron-sized globules of material glued together. The active ingredients are listed on the right.

Source: *Why the Pharaohs Built the Pyramids with Fake Stones*, Figure 6.1.

God Amun Carved stone" in the south.

However, in the south, after 1,200 years by the presently generally accepted chronology (or 1,800 years by Immanuel Velikovsky's chronology), the colossi of Memnon were made for Pharaoh Amenhotep III by the Royal Scribe Amenophis. These were made, as described in hieroglyphics on Amenophis's biographical statue at Karnak, using the technique of agglomeration, "as bread is made using a box [mold]."

Later, the chief sculptor, Tutmosis, produced heads and sculptures by casting "agglomerated stone containing geopolymeric binders," Davidovits says. The Mansoor collection in the Metropolitan Museum of Art in New York City is a collection of Tutmosis's works, or his school, "dating from the period of el-Amarna." These include a head of that incomparable beauty Queen Nefertiti.

Davidovits and his co-researchers are not alone in developing new methods of mimicking the long-lasting properties of natural stone:

- Interest is now being shown in the chemistry of the Chinese cement using sticky rice, which made their defensive

walls so enduring.

- The use of synthetic rock, "synrock," for immobilizing radioactive waste is, after 30 years, still being actively researched.

- Climbing-wall shapes are made out of "synrock," acid-etched to give sharp sandstone surfaces, and these "will fool most people, and even some geologists, into thinking it is actual sandstone."

A Resource-Saving Technology

Perhaps the most important aspect for an energy-hungry world is that the geopolymeric stone of the Geopolymer Institute, like that of the "pyramid bricks" of Egypt, saves on resources. If made with an aggregate containing 5 percent to 10 percent of kaolinitic clay, the geopolymeric stone requires perhaps 1/20th of the amount of active cementing material that is presently used in our mass concrete.

Pyramid limestone sample micrographs by Barsoum, Ganguly, and Hug—using transmission electron microscopy—show micron-sized globules glued together with the active ingredients. Such micrographs compared with natural stones definitively prove that the pyramid blocks are cast and not hewn.

(See Figure 3.)

Joseph Davidovits concludes the book by dealing with the ill-considered arguments of one of his detractors, and discussing his own problems in getting his work published. The two recent examples he mentions should not surprise readers. Davidovits was refused publication in these so-called scientific journals *Nature* and *Science*.

I cannot do better in summary than to quote Davidovits's final paragraph:

"The German physicist Max Planck wrote: 'In science, one does not convince anybody. The opponents die and the young people, more flexible adopt the new theory.' Thus after more than a quarter of a century of struggle, my theory was officially presented to the public in an exhibition at the French science museum, Palais de la Découverte, in Paris, in 2006-2007. More and more media are now less afraid to pass on the theory."

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