

Today's Paper » NATIONAL

Published: décembre 12, 2010 00:00 IST | Updated: décembre 12, 2010 04:08 IST

French expert sheds light on stones used in pyramids

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"They may be re-agglomerated stones or fake stones"



UNRAVELLING A MYSTERY: French Egyptologist and material scientist Joseph Davidovits delivering a lecture at Annamalai University, Chidambaram, on Saturday. —

The pyramids of Egypt that continue to evoke awe and wonder by their sheer magnitude and architecture could not have been created by either aliens or massive workforce in carved stones.

These could be the structures built assiduously using re-agglomerated stones or fake stones prepared manually, according to Joseph Davidovits, renowned Egyptologist and material scientist of France.

He was delivering a lecture on 'Why the Pharaohs built the pyramids with fake stones,' at the international Structural Engineering Convention SEC-2010 organised by the Civil and Structural Engineering Department of Annamalai University at Chidambaram on Thursday.

Mr. Davidovits, who is also a member of the International Association of Egyptologists, said that the findings had not only unravelled the mystery about the structure of the pyramids but also resolved the puzzle about the constituent materials that went into the construction.

The Egyptians were adept at exploiting the local material, limestone, found in abundance at Giza quarries. Hence, they had located the pyramids at these sources so the materials need not be hauled to great distance or height.

He said that they had mastered the "ari-kat" technology, in which large basins were formed to mix limestone with the water drawn from the Nile. After the evaporation of water, agglomerated stone was obtained, containing 95-97 per cent of limestone and 3-5 per cent of geological glue or geopolymer.

Even before the moisture was gone, the preparation was carried in pitchers by hundreds of workers on their shoulders or heads to the work site where wooden moulds were already in place.

Wooden pounds were used to harden the mixture in the moulds and the process was continued till the required size of the structure was obtained.

A strange thing about the formation was that these blocks had perfect seating, one above the other, in curved joints.

Mr. Davidovits said he used the term "fake stones" to distinguish them from "artificial stones" that would generally mean semi-precious stones. An attempt made in his Geopolymer Institute in France to replicate the stones had astounding results.

Earlier, in expounding his findings he stood alone, supported by scientific experiments, religion and hieroglyphics. But now scores of renowned foreign educational institutions concurred with his views.

Mr. Davidovits also noted that stones had religious significance in ancient Egypt, for stones were used only in tombs, pyramids and temples, and never in secular constructions such as palace, garrison and houses.

The hieroglyphic texts clearly mentioned two aspects: 'iri-kat'— to create or manufacture, and 'khusi' — to erect or build. However Mr. Davidovits was of the view that Egyptian Kings Cheops and Ramses represented two Egyptian civilisations completely different in their beliefs. While God Khnum mandated Cheops to build his pyramid in agglomerated stone, God Amun ordered Ramses to carve stones for the temples of Luxor and Kamak, Mr. Davidovits added.