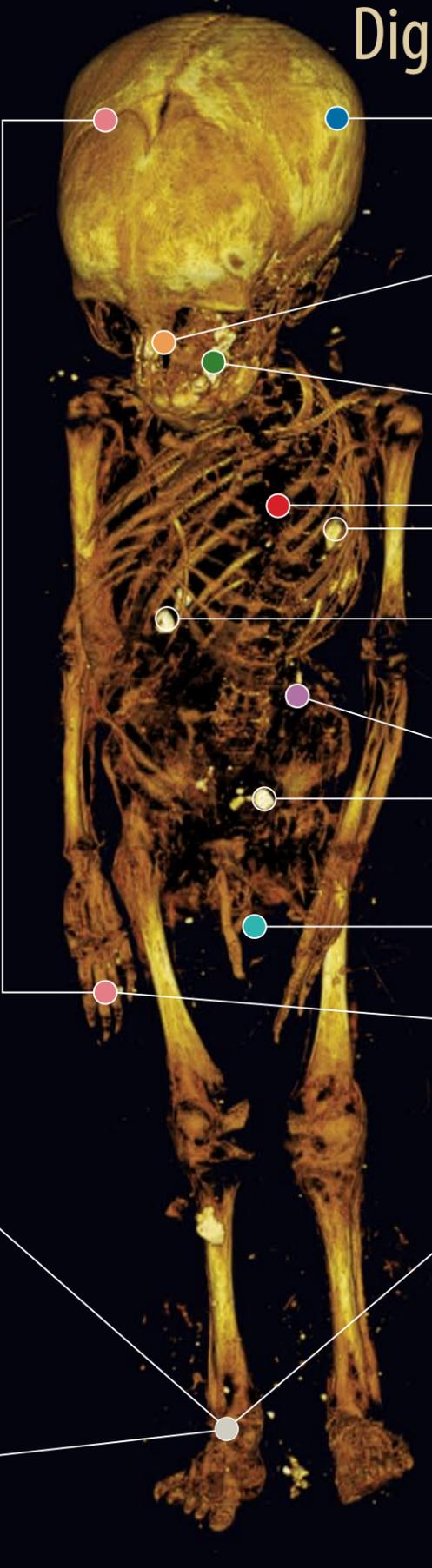
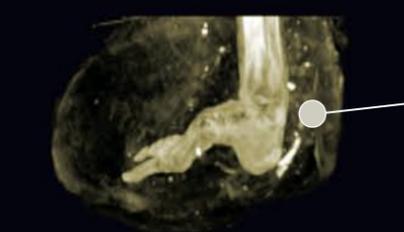
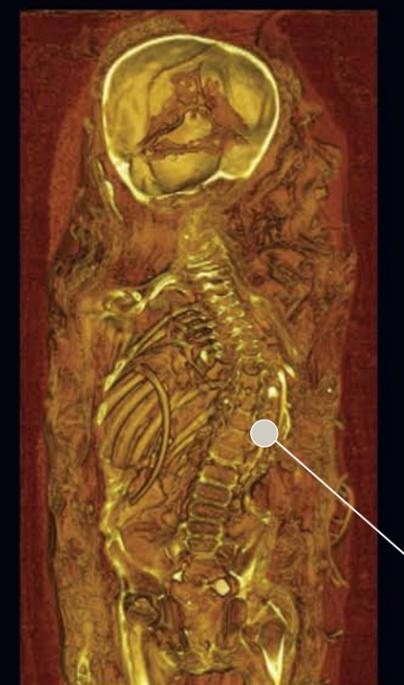


Digital unwrapping & analysis

MUMMIFICATION Science and ritual



Above: Thin membranes remain inside the skull. Below: A cross section of the body cavity reveals absence of organ tissue. Images such as these show the dynamic capability to digitally inspect the body inside and out without compromising the mummy.



The apparently misshapen skull suspected to indicate possible hydrocephaly, but researchers found it to be within normal parameters.

A hole in the left nostril goes through the ethmoid bone and into the cranial cavity. The brain, which the Egyptians regarded as rather purposeless, would have been removed and discarded through this opening.

Tooth crowns and root formation indicate an age of about 7 to 8 months.

The heart, which researchers could not locate in the scans, was typically left within the body, since it was believed to be the locus of the soul and intelligence.

During a 30-day ritual, priests would have prayed over the body, inserting spiritual amulets (metaphysical protection for the soul) while carefully wrapping the mummy (physical protection for the body) in preparation for the afterlife.

Through an incision in the abdomen, internal organs would have been removed, dried and then placed in individual funerary vases called canopic jars. (Whereabouts of this mummy's jars are unknown.)

One characteristic is obvious: The infant was male.

The state of closure of the cranial sutures and the ossification centers in the hands corroborate the dental indications as to the child's age.

Skeletal deformities (curved spine, misshapen feet) are attributed to the mummification process.

Rod on back side adds rigidity to the mummy.

CONCLUSIONS
Despite the many interesting details revealed by these scans and DNA testing, researchers could not pinpoint evidence to resolve the overarching question: Why did this child die? Given all possible causes of infant mortality in that age, that aspect may remain unknown, while the legacy of this baby mummy — in due respect to its ancient traditions — lives on.



Ancient Egyptians preserved the dead through mummification so that their souls would be able to reanimate the body in the hereafter. Various types of mummification practiced from 3000 BC to the 6th century AD traditionally took a total of 70 days. Anyone who could afford to be mummified underwent the procedure, regardless of his or her age, although it is unusual for babies below 2 months of age to be found mummified unless they were royal.

In mummification's "classic" phase (c. 1400-1100 BC), the best quality work was done as follows: First, the brain was pulverized and removed through a nostril, and melted resin was poured into the cranial cavity to disinfect, deodorize and harden the skull. Next, the internal organs were removed through a small cut in the left side. The body and organs were then packed with powdered natron, a natural desiccant, for 40 days.

Once dry, the body was removed from the natron and dusted before being anointed with sacred oils and unguents. Painting it with resin stopped microbial growth and also gave the flesh a golden hue, since Egyptians believed that after death one was transformed into a semi-divine being, and the flesh of the gods was gold. As strips of linen were wound around the body, interspersed with amulets that protected the deceased and eased his/her path to the afterworld, priests chanted prayers and burned incense. The wrappings created a protective physical cocoon; prayers and amulets created a metaphysical one.

The now-dried organs were wrapped separately and placed in four containers called canopic jars. After the wrapping was completed, body and viscera were taken in a funerary cortege to the tomb.

During the last rites, the priest recited special spells that revived the deceased and reactivated the five senses. A funerary feast involved all the mourners, priests and priestesses. After this, the mummy was placed in a coffin and interred in the tomb with grave goods. Then the tomb was sealed, leaving the decorated tomb chapel open for people to celebrate the cult of the dead.