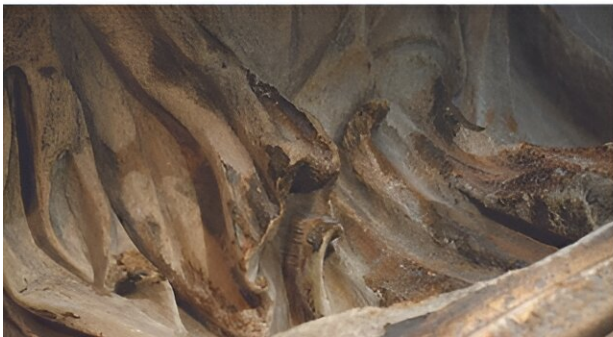


Scientific analysis reveals the true colors of the Parthenon Sculptures

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Credit: Katarzyna Weglowska; Trustees of the British Museum

New imaging and scientific investigations by a team including a King's College London academic has found traces of the original paint used to decorate the Parthenon Sculptures, revealing they were once in fact brightly colored.

Exhibited at the British Museum, the Parthenon Sculptures, originally

from ancient Greece, have for centuries been admired for their white brilliance—yet new evidence finally proves they haven't always been this color.

A team of investigators from King's, the British Museum and the Art Institute of Chicago has used digital imaging techniques and scientific instrumentation to examine the sculptures at [microscopic level](#), and discovered a "wealth of surviving [paint](#)," revealing that the sculptures had originally been painted in multiple colors, patterns and designs.

Their study was published today in the journal *Antiquity*.

"Even if the surfaces were not explicitly prepared for the application of paint, however, carving and color were unified in their conception. The Parthenon artists were sympathetic to the final intended polychrome [sculpture](#), providing surfaces that evoked textures similar to those of the subjects represented. It is likely that the painters took advantage of these mimetic surfaces to achieve the final effects," says Dr. Will Wootton, Reader in Classical Art and Archaeology and Head of Classics Department.

Researchers used visible-induced luminescence imaging on the Parthenon Marbles in the British Museum, a non-invasive technique developed by Dr. Giovanni Verri from the Art Institute of Chicago that can detect microscopic traces of a pigment called Egyptian blue, revealing the tiniest remnants of paint and patterns.

Egyptian blue is a man-made pigment composed of calcium, copper and silicon; it was already used in Egypt around 3000 BCE and was virtually the only blue pigments used in Greece and Rome.

Small traces of white and purple pigment were also detected on the sculptures. True purple pigment was very valuable in the ancient

Mediterranean and was produced from shellfish, but the Parthenon purple apparently was not.

Paint does not often survive over time, especially when exposed to the elements throughout the centuries, and so by the time ancient Greek sculptures were being studied, most of the color had already worn away. This meant for a long time many believed that ancient Greek art only used white marble.

Additionally, historic restorations have often removed any lasting traces of paint, to reestablish the assumed original "whiteness" of the sculpture. This has made it difficult to understand and reconstruct the sculptures' original appearance.

"The Parthenon Sculptures at the British Museum are considered one of the pinnacles of ancient art and have been studied for centuries now by a variety of scholars. Despite this, no traces of color have ever been found and little is known about how they were carved," notes Dr. Verri.

The carving of the sculptures shows no distinct technical intervention between the surface finish of the marble and the application of paint. Instead, it indicates that the sculptors focused on reproducing the intended form (e.g. wool, linen, skin, etc.), rather than crafting a special surface for the adhesion of paint through, for example, keying or abrasion.

These preliminary findings suggest that the painting of the Parthenon Sculptures was a more elaborate undertaking than ever imagined. This supports the belief that the colors, together with the carvings of Ancient Greek sculpture were important for its creators and intended audiences.

More information: Giovanni Verri et al, The goddess' new clothes: the carving and polychromy of the Parthenon Sculptures, *Antiquity*

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