Laser rejuvenation of a Caryatid at the Acropolis Museum: A link between ancient and modern Greece

The Caryatids are being treated with a novel laser cleaning methodology that has already been successfully applied on many of the Athens Acropolis Sculptures (including the Parthenon West Frieze, the Frieze of Athena Nike's Temple, the Metopes and sculptural compositions from the pediments of the Parthenon).

The cleaning care of the ancient masterpieces is achieved by means of a custom made, innovative laser system developed by IESL-FORTH. The laser is capable of operating at two wavelengths simultaneously (Infrared at 1064nm and Ultraviolet at 355nm) and is able to remove thick pollution accumulations in a controlled and safe way for both the object and the operator. The combination of the two wavelengths ensures that no discoloration or damaging phenomena occur on the original substrate, while revealing its unique surface. This application has been the outcome of a long standing collaborative effort between IESL-FORTH and the Acropolis Restoration Service and the A' Ephorate of Prehistoric and Classical Antiquities.

Behind a protective housing, an advanced laser laboratory has been recently set up on the visitors' floor where the Caryatids are exhibited at the Acropolis Museum. Removal of pollution accumulations from their surface takes place in this laboratory. This arrangement brings the visitors of the Acropolis Museum in contact with the conservation interventions that until now took place only inside restricted access laboratory environments. This exhibits a symbolic connection between ancient and modern Greece.

The sculptures were moved from the Erechtheion into the protective Museum environment in 1979. Since then, this is the first time that a conservation intervention takes place on their surface. The Museum policy was to avoid any risky transportation of the Masterpieces to a conservation laboratory and instead perform any preserving activities in-situ at their exhibition area inside the Museum. For this purpose, a special platform was built which "embraces" the sculptures and is able to move into different heights in order to give the conservators the best possible access along the sculpture's surface. The platform is surrounded by protective curtains made of special material following strict health and safety regulations. Further synergies between IESL-FORTH and the Acropolis Museum have been planned in the context of this "open laboratory". In particular, modern laser based diagnostic and imaging techniques will be used for expanding the knowledge and deciding the best conservation practices for the exhibits.

The official public presentation of this in-situ laboratory took place on the evening of Friday 28th of January 2011, premiere of the evening sessions of the Acropolis Museum, which allow visitors to enjoy the museum exhibitions in parallel to a spectacular view to the illuminated Acropolis.