CONSERVATION AND RESTORATION WORKS ON
THE ANTIQUE MARBLE SCULPTURE OF A
EMPRESS FROM THE ARCHAEOLOGICAL
MUSEUM IN ZADAR

ART ACADEMY SPLIT
DEPARTMENT FOR STONE RESTORATION

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This sculpture is a fragment of a monumental
statue of an Empress or goddess made of marble
most likely of Greek origin. Cut off under the
chest line, the sculpture lacks the head, both
hands, feet and bases. Statue was originally of
a supernatural size. The head and hands with
possible attributes are missing, which are the
elements that would contribute to the
interpretation of the sculpture.

Soluble Salts
Soluble salts represents one of the most important causes of
stone decay.
The presence of soluble salts in the sculpture was analysed,
and with the results it can be concluded that it is not
necessary to perform the desalinization process because the
presence of salts was below the detection limits

UV light inspection
Remains of polychromy on antique monuments pose
great problems, as these
are usually only traces of
pigments that at first glance
appear to be impurities on
the stone and for that there
is a risk of accidental
removal.
That is why it is necessary
for sculpture to be first
viewed under UV light.
In our case, no traces of
polychromy were found on
the surface of the
sculpture, and we were
able to clean it without any
problems.

Water vapor cleaning
The surface of the marble
sculpture was covered with a
layer of impurities and
calcifications. As the best
method, it was shown to be
with pressure water vapor,
which eliminates surface
impurities without damaging
the stone.

Ultrasonic needle
The ultrasonic needle is
used in conservation for
fine and delicate work.
This cleaning method
was used to remove
calcite deposits that we
could not remove with
water vapor cleaning.

Mechanical cleaning
At the base area of the
sculpture were fewer
quantities of cement
used in previous
treatments. The cement
contamination has been
carefully removed
mechanically with a
hammer and a chisel.

Removal of fillings
In the left-side area of the sculpture,
the largest vertical cracks were
filled with polyester adhesive during
the previous interventions. The
adhesive was carefully removed
mechanically using a scalpel, dental
tools and a heating fan.

Vacuum consolidation
The consolidation of the sculpture
was carried out by the vacuum
process inside foil baging. The
consolidant is released through the
valve at the bottom of the sculpture
and gradually climbs to the outlet
valve at the top. During the vacuum
process, the sculpture received
about 3 liters of ethyl silicate
consolidant.

Retouching
For the overall aesthetic
impression of the sculpture,
larger cracks were retouched
using a mixture made of the
suppressed Paraloid B72 in
acetone, marble flour and sand.
After drying the surface is
uniformed using glass fibers.

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