Altar of Our Lady of Good Health in the church of the Assumption of the Blessed Virgin Mary in Rogoznica

Dominik Rajčević, Mateja Novaković
Mentor: Siniša Bizjak, Assistant Professor
Department of Conservation-Restoration, Arts Academy of the University of Split
brklesar@gmail.com, mateja.novakovic@hotmail.com

1. Introduction

The altar of Our Lady of Good Health was the last one in a sequence of five altars that were restored by the team of specialists from Conservation – Restoration Department of the Arts Academy Split. The works were carried out from October to December 2014. The altar is placed against the west wall in the right aisle of the church. The exact time of its making is impossible to determine in spite of the fact that the year 1893 is incised in the altar mensa. Judging by the altar’s stylistic features, it is very likely that it was carved earlier, and brought to the church in 1893, or assembled at that time.

The altar is entirely covered with marble (Cararra Bianco) and marble inlays of different types and colours. Viewed from the bottom to the top, the altar parts are: two steps made of Rosso Francia marble, the altar mensa made, like most of the other altar elements, of Carrara Bianco marble, rectangular and circular marble bases carrying two columns made of Verona Rosso marble, marble capitals of the columns, moldings on either side of the altar, and at the top a marble pediment. The altar picture shows Virgin Mary of Good Health covered in silver repousse.

2. Condition of the altar

The altar was in visibly poor condition, with damaged, soiled and missing parts. The missing inlays were perhaps the most obvious loss to the whole altar. On the lower parts of the altar (mensa and column bases) more inlays were missing than staying in their place. Few of the inlays have survived in a fragmented state. These fragments will later help the conservators to determine the types of decorative marble.

The grey soiling caused by soot was also very noticeable, especially on the upper parts of the altar, the capitals and the pediment. The layer of soot formed not only by burning candles on and around the altar, but also by two fires that caught the church at the beginning of the 20th century.
Corrosion of iron cramps and pins that join the stone elements together has caused great damage to the altar. Due to the expansion of the corroded cramps and pins, the elements detached and even broke apart in some parts. The corroded iron also stained the surface of the marble in the form of orange-brown streaks.

On the mensa, the mouldings, and the rectangular and circular bases of the columns the marble crumbled when touched.

3. The works prior to the conservation-restoration treatment

The condition of the altar was recorded in the form of graphic and photo documentation. The exact dimensions of the altar and its parts were measured. The altarpiece was temporarily removed. The scaffolding was erected, after which everything was ready for the start of the conservation-restoration works.

4. Laboratory analysis

On the altar parts, especially those that rest on the mensa, crumbling and delimitation of stone were observed. The damage caused loss of moldings, change in the texture and discoloring of stone. On the marble pedestal, on which the damages were most obvious, small pressure was applied with a scalpel (in situ) to test the hardness of marble. It was found out that the hardness of marble was significantly decreased: the bases easily frayed, and the process of delimitation was under way. These damages caused the loss of stability of a part of the altar, whose load was transmitted through the columns to very damaged pedestals. It was assumed that the damage was due to high levels of harmful salts in the lower part of the altar. In order to continue the conservation-restoration treatment i.e. establish the appropriate methods of treatment, it was necessary to carry out the laboratory analysis and to test the crumbling marble elements for soluble salts. The analysis were carried out on three reference samples, recovered from the left pedestal, right circular base and the molding of the mensa. The laboratory investigation confirmed that the analyzed samples did not contain harmful concentrations of soluble salts. Therefore, it was concluded that the damages were caused by the use of cleaning agents containing chlorides.

5. Conservation – restoration treatment

Judging by the incised year on the molding of the altar mensa, the altar was built (or assembled) in 1893. The binding medium that was used in its construction was lime, and in some places even Portland cement. Large elements were further secured with
iron dowels, while the elements leaning against the wall were secured with iron cramps. Iron cramps were fixed using cast lead method. The corrosion of iron parts inflicted great damage to the altar.

The stone elements under which or between which were iron cramps and dowels, were displaced. Displacement of the elements from their original place has a negative impact on the whole construction for a number of reasons. The disturbed statics can lead to new damages, in this case by widening the joints between stone elements which facilitated access of air and moisture that made the dowels and cramps corrode further. It also disrupted the visual appearance of the altar because the elements were not flush anymore, and this disrupted its symmetry. The displacement of stone elements from their position occurred in the lower parts of the altar (the mensa moldings), on the circular column bases, on the pediment, the engaged capitals, the triangular segments that frame the altarpiece (the raking cornice) and the ornament at the pediment of the altar. In the bottom part of the altar, on the sides of the mensa, the stone was significantly cracked. The marble broke because the elements surrounded each others on all sides, and didn’t allow the corrosion to move them. The pressure was high and the stone broke in several pieces.

Prior to any kind of cleaning, it was necessary to disassemble all of the altar elements surrounding the corroded metal, remove the old dowels and cramps and, when reassembling the altar, put new ones in the existing holes. Only after securing the very unstable altar, further conservation-restoration works could be undertaken. Dismantling started with the moulded cornice of the mensa. The procedure was carried out in the way that the lead was removed from the slots using electric drills and small arms. After lead had been removed, iron cramps and dowels were easier to extract. After all the cramps had been drawn from their slots, the moulded cornice elements were carefully dismantled. The corroded parts were carefully removed from the marble element in order to fully preserve all of the detached fragments. The layer of corrosion was cleaned and the fragments were glued together with epoxy adhesive. The dismantled mensa mouldings were cleared of old binding medium and corrosion residue. The blocks were subsequently cleaned with water vapor using a hand steamer; thus, satisfactory results were achieved. The moldings were put back to their original places and glued with white cement based flexible adhesive. When the elements were reassembled, they were additionally secured with new dowels and cramps made of stainless steel (Inox) in the existing slots n the stone. The empty space around cramps was filled with melt lead.

The reassembling of the mensa elements was followed by dismantling of the the upper part of the altar. The stone ornament in the pediment was removed first, then the gable, emi-circular mouldings with angel reliefs, and, at last, the moulded cornice that set across the whole width of the altar. It should be noted that all of these elements contained corroded cramps and dowels, and were treated in the same way as the mensa elements. Firstly, the disassembled parts were cleaned with a hand steamer. In
the places in which water vapour could not remove the stubborn soot, cellulose pulp and paper were used. They were soaked in the 25% solution of ammonium carbonate in distilled water. Cellulose pulp and paper were removed after 4 hours and the treated areas were once again washed with water vapor. The results were satisfactory.

6. Dismantling of the altar

Dismantling was carried out in three steps, in this order:

1. Dismantling of the altar mensa
2. Dismantling of the upper part of the altar (the part from the capitels to the pediment)
3. Dismantling of the central part of the altar (the part from the mensa moldings to the capitels)

6.1. Dismantling and cleaning of the upper part of the altar

Dismantling was started on the highest part of the altar. First, the stone ornament from the altar gable was removed. Followed the gable, the semi-circular molding with the relief of angels holding the crown and the molded cornice that ran the full width of altar.

6.2. Dismantling the central part of the altar

Dismantling of the elements of the upper part of the altar provided an insight in the condition of the central part of the altar. The central part of the altar included the area between the mensa and the capitals. It consisted of the following elements: two engaged piers with inlays, two engaged capitals with the floral ornament in relief, and the keystone with acanthus leaf motif. Before dismantling the upper part of the altar, its visual survey did not indicate any instability. After removing the elements which were covering the inner part of the wall of the church, it was noticed that the iron cramps that were fastening the roundhead arch to the wall of the church were corroded. Yet, they were not corroded to the degree that their swelling would cause displacing of the elements or damages to the surface of the marble. The cramps were removed from the marble and then the central part of the altar was dismantled. After the engaged piers had been cleaned with the steamer, they were returned to their original location. The arch was reassembled using sash clamps and white cement based flexible adhesive. The altar elements were fastened to the wall with stainless steel cramps. Due to the
weakened structure of the marble, it was necessary to replace old damaged marble bases of the columns with new ones.

7. Cleaning of the orange-brownish traces of corrosion from the surface of the stone

The corroded iron cramps stained the surface of marble. The orange-brown traces are particularly noticeable in the lower part of altar. They were caused by cleaning agents used for the cleaning of the altar. The acidic solution flowed through the joints to corroded cramps, and then dissolved the corrosion. Due to its porosity, marble absorbed the corrosion products which with the passing of time has changed the color of marble. The stains were unsuccessfully cleaned with cellulose pulp poultices soaked in the solution of EDTA and ammonium carbonate in distilled water. The results were not satisfactory because the corrosion penetrated deep into the structure of marble.

8. Making of and pasting new inlays where were missing or were damaged

The missing and fragmented inlays have been replaced by new inlays made of the same type of marble and fixed to their locations with a flexible adhesive. The inlays which were in a good condition, were injected with epoxy adhesives.

9. Conclusion

The conservation-restoration works on the altar of our Lady of Good Health in the church of the Assumption of the Blessed Virgin Mary in Rogoznica, were completed in December 2014. Due to the disturbed statics, the altar had to be dismantled completely. After the dismantled elements were cleaned, they were mounted to their original locations. The disturbed statics of the altar occurred in the places in which the dowels and cramps built in the altar were corroded. All iron elements were removed and replaced with stainless steel ones. The altar was reassembled with the use of inert and harmless material (binder medium). The restoration gave it back its original aesthetic integrity.

During the restoration of the altar, there was the type of damage to the marble which is characteristic of high levels of harmful soluble salts. Yet, the laboratory analysis proved that the marble in this case did not contain critical levels of harmful salts. Therefore, it was assumed that the crumbling of marble was caused by the use of inappropriate cleaning agents that contain chloride. The church staff has been warned not to use aggressive cleaning agents again.