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THE CONSERVATION PROJECT OF A LITURGICAL OBJECT
THE CASE OF INFANT JESUS OF PRAGUE IN THE CHURCH OF SAINT MARY OF PROVIDENCE AT MACCHIA GIARRE (ITALY)

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Abstract

The object of this work is the liturgical restoration, a practice really discussed in cultural heritage that includes a category of artefact with specific characteristics and a votive-processional use. This practice often comes into conflict with conservation and restoration procedures. The case study investigated in the present paper is a little statue representing the Infant Jesus of Prague from Macchia Giarre (Catania, Italy), a plaster cast produced in 1928 by a Roman manufactory. The artefact underwent several interventions during the years. In January 2013 it was damaged during the traditional procession, making necessary an urgent restoration. The conservative project was supported by a history study of plaster casts and by diagnostic analysis performed through X-ray spectroscopy and computerized axial tomography, in order to gather information on the structure and on the materials.

Keywords: plaster casts, liturgical restoration, Infant Jesus, computerized axial tomography, X-ray spectroscopy

1. Introduction

This paper presents the case study of the restoration work performed on a plaster cast representing the Infant Jesus of Prague (Figure 1), at present stored in the church of Saint Mary of Providence at Macchia Giarre (Catania, Italy) [1, 2]. The little polychromatic statue was produced in 1928 by the well-known Roman manufactory Rosa and Zanazio, and it is used as a processional-votive object [http://www.marstatue.net/comelavoriamo.php].

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The statue can be considered as belonging to the cultural heritage with religious interest. It is the property of the church, like many other religious objects in Italy, and this imposes further reflections when a conservative intervention has to be engaged in.

The use of plaster as material for the statue was linked to its availability, durability and easiness to use, even if it was considered a material of low quality especially concerning its scarce stability to water and scarce resistance to rubbing. However plaster was and is still widely used especially for creating sculptures, models and sketches [3-5].

(a) (b)

Figure 1. Photographs of the Infant Jesus of Prague before and after the restoration work, dimensions: 123x48x25 cm.

The artefact category examined in this work belongs to the plaster cast with devotional use, and can be considered as characteristic of the liturgies and ecclesiastical apparatus in the Christian Catholic Church. In fact, the Christian statuary is generally made of plaster, especially if the statues are not artistically relevant but have a large diffusion. The Infant Jesus of Prague, the object of this paper, is a relevant example of this kind of statue and its spread is certified throughout the Italian territory by BeWeb online database [http://www.chiesacattolica.it/beweb/.htm]. Moreover, the case study of the Infant Jesus of Prague of Macchia Giarre is also an example of how the conservation requirements could be in conflict with the devotional needs. In fact, the statue, on the occasion of the traditional procession devoted to Infant Jesus,

on 6th of January 2013, fell off being seriously damaged. So, it was necessary to make an urgent intervention to restore the function of the statue. On that occasion some investigations were performed in order to deepen the knowledge of the internal structure of the statue, through computerized axial tomography (CAT), and of the restoration materials, such as the gold leaf, through X-ray spectroscopy (XRF). It was equally relevant for the restoration to study the history of the plaster casts in different times and cultures. The fortune of this type of material resulted in a lack of attention to artefacts made of plaster, even if a serial production of several votive statues is widely diffused in the Catholic Church.

The conservative intervention was necessarily carried out taking into consideration both the materials and the devotional use of the object. So the restoration of such a kind of artwork needed to reach a compromise between the aesthetic and liturgical requirements. This compromise is considered essential to produce an excellent conservation work aimed at preventing further damages, in compliance with the devotion of the faithful and with liturgy.

2. From history to restoration

The use of plaster casts is attested since ancient times, with different applications connected to different needs and artistic cultures [1, p. 6-7]. Plaster casts were appreciated for the simplicity in transporting them and for the fluidity of the material which ensured to obtain perfect reproduction of the original object.

The development of plaster casts during the centuries with different uses is representative of a growing interest in art and so they can be considered testimony of the history of artistic culture. In fact, they have been object of study for artists as means for transmitting their artworks, but often the casts became themselves works of art [5]. Plaster casts are linked to the history of collecting and to the birth of plaster cast galleries (*Gypsoteche*) [6, 7].

The statue of the Infant Jesus of Prague in Macchia Giarre, object of this paper, is an example of artistic and highly refined plaster cast that, despite the construction in series, can be considered a unique and precious artwork. The statue was donated as votive offering to Macchia Giarre in 1930. The devotion to this kind of statue is much older; in fact it was born in Bohemia, now the Czech Republic, in the 17th century. From there the cult spread in Europe and particularly in Italy, where a lot of images of the Infant Jesus of Prague were produced [2]. The little statue has not a sacred significance by itself but rather it refers to the incarnation of the *Word of God*. The statue, ever since the second half of 17th century, assumed the appellation of miraculous object. In the second half of the 19th century the devotion of Infant Jesus of Prague arrived in Sicily, where the first evidence occurred in the Church of Linguaglossa of the Acireale Diocese (Catania). The statue of Macchia Giarre has similar appearance to that of Lingualossa, but the colours and decorations are slightly different suggesting different periods of production. On 6 January 2013, during the annual

procession, the statue fell down from the wooden sedan used for transport without anchoring it. The fall caused extensive structural damage, including the fracture of the upper part of the head, severe damage to the crown and to the base, and the loss of several decorative details (Figure 2). The conservation project of this liturgical object proved to be very complex, due to the function of the object and to the previous manipulations that made particularly difficult to understand the conservative status of the artwork. In particular, an unsuitable and invasive intervention was performed by a local artisan in 2007 (this information was gathered by oral sources and by the archive of the Church cash). The artisan removed the original gold decoration in the lower strip of the garment and of the mantle. He applied a *scialbatura* made of gypsum and glue on the entire surface of the statue. He also applied a re-painting according to a modern taste and lastly used a silver leaf with *meccatura* spray gilded. He completely re-made the brocade decoration. This invasive intervention was performed without respecting the original and caused the loss of material. So it was decided to remove the 2007 decoration and restore the original.

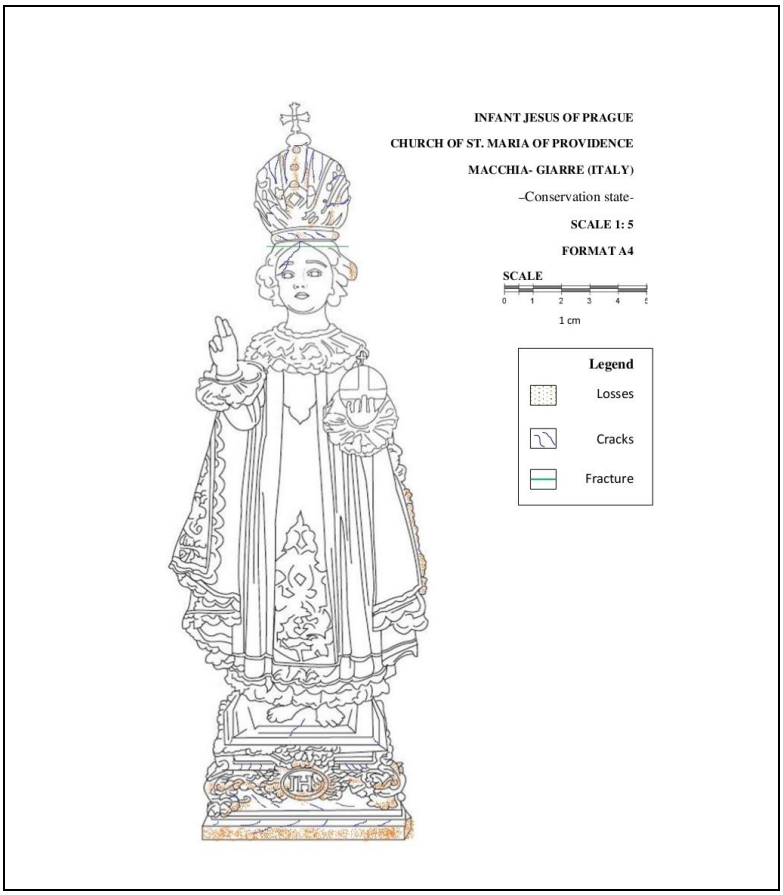

Figure 2. Graphic documentation of the state of preservation of the statue before the 2013 intervention.

3. Materials and methods

3.1. Scientific investigation

CAT was performed by a Dual Energy SOMATON instrument supplied by Siemens in the University General Hospital of Messina (Italy). The investigation was carried out by Dr. Sveva Longo under the supervision of Professor Marcello Longo. The instrument used in the present work can be described as multislice axial tomography system.

XRF spectroscopy was performed by means of a Surface Monitor instrument supplied by Assing. The XRF spectra were obtained with the following experimental conditions: Mo tube operating at 25 kV voltage and 300 μA beam current, scan time 60 s, distance 95 mm. The XRF analysis was performed on the commercial gold leaves used for the restoration. Both pure and French (also known as false gold) gold samples were examined.

3.2. Restoration

The intervention was performed from July to September 2013. All working phases were carefully documented by digital photography [1, p. 37].

First of all consolidation of the most damaged parts was performed such as the big fracture in the head and that in the base. During this phase of the work, some crumpled up newspaper sheets were found inside the head of the Child. The sheets referred to the Italian daily *Il Messaggero* and are dated back to *Saturday, December 29, 1928*. These sheets of newspaper, partially deteriorated, were used to fill head cavity in order to give structural strength without weighing down the statue. They gave us indication on the date and place of forming.

In order to improve the stability and the resistance to the entire statue, an antioxidant pre-treated iron base was created inside the statue in order to move the point of weight unloading to a less damaged area (Figure 3A). The lower part of the statue was re-aligned by means of ropes and was lined from the inside part with jute embedded with vinyl glue and plaster. The back right foot of the base that was completely lacking, was reconstructed by using a silicone mould obtained by another specular foot, from which the plaster casts was derived.

The consolidation of the head was obtained by preliminarily removing the newspaper and then filling the cavity with jute and an iron wire mesh. After re-composing the fragment of the skullcap, a metal pin was inserted at the centre of head to better reposition the crown (Figure 3B).

The second phase of the restoration was devoted to the removal of the thick layer covering the entire statue surface made of a colourless liquid plaster. This work was performed by using sepiolite compresses applied with a mixture of demineralized water and acetone (1:2 v/v) on the entire surface of the statue (Figure 3C-D). The work was carried out with the aid of blade scalpels. The application times for sepiolite compresses varied according to the thickness of

the plaster layer. The *scialbo* removal allowed the full restoration of the original painting layer.

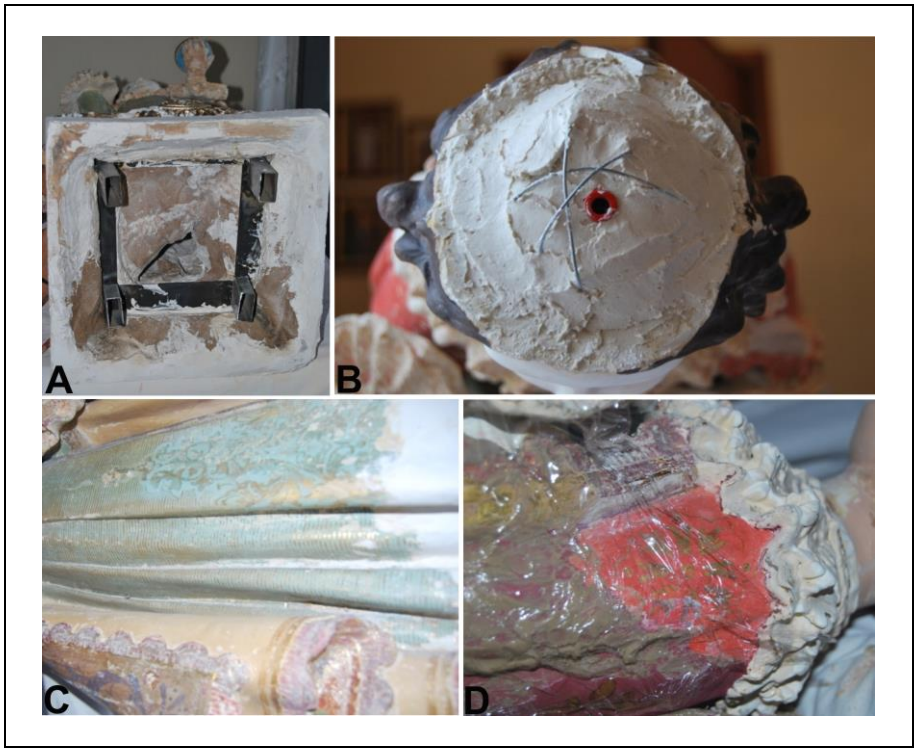

Figure 3. Details of the restoration phases: (A) the metal base, (B) metal pin in the head and wire reinforcement, (C) detail of the garment, (D) use of sepiolite for *scialbo* removal.

After the removal of the *scialbo*, cleaning was performed by using a mixture of water and alcohol (1:1 v/v). Lacunae were repaired with plaster, a new gold leaf was applied in order to re-establish the precious decorations that were destroyed by a previous unsuitable intervention. To do this, a valid help was supplied by the archive photographs and also by the comparison with the statue of Linguaglossa, having the same typological characteristics.

4. Results and discussion

CAT analysis allowed revealing the presence of various materials inside the statue. In particular, wood and paper pieces, jute fibres, and metal parts were found. The CAT images showed that the statue is made of seven distinct parts: the head, the shoulders, the bust, the two side draperies, the hands and the base, probably obtained with a mould (Figure 4).

Subsequently the different parts were joined together by means of two wooden boards that go through the entire height of the artefact. The junction points were finished with stucco. The hands and the draperies of the Infant Jesus

garments are fixed only by stucco. The interior of the statute, apart from the head, is empty. The CAT images highlighted the presence of a further inhomogeneous casting that appears lighter in comparison with the gypsum cover, but with radiopaque appearance similar to that of stucco. This phenomenon is visible also in the side draperies.

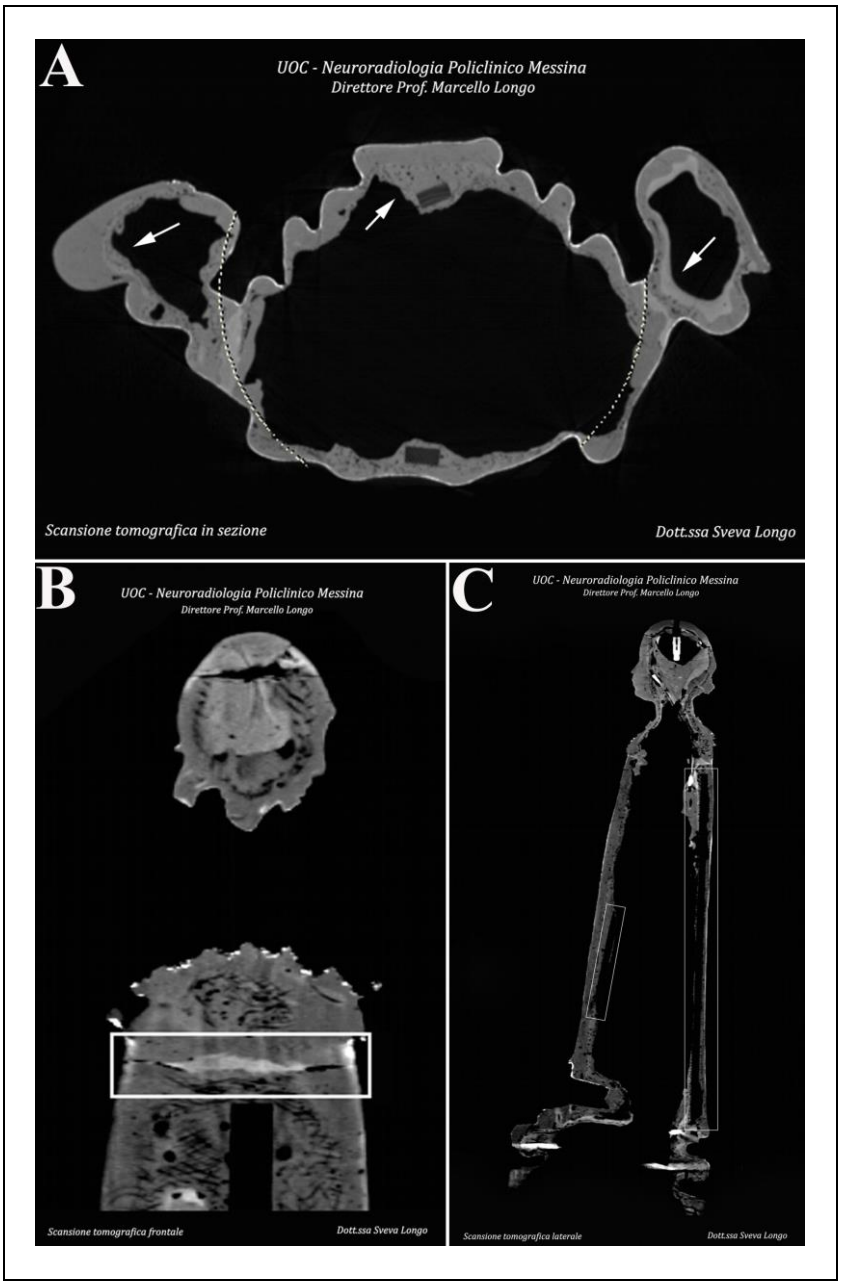

Figure 4. (A) Section view obtained by CAT analysis with the evidence of the wood boards and the gypsum joints, (B-C) evidence of wood boards and gypsum joints.

Table 1. Results of the XRF analysis reported as cps (counts per second) of the elements detected in the examined samples.

Sample	Cu	Au	Zn	Fe
French gold	900 (Kα)	-	165 (Kα)	33 (Kα)
Pure gold	39 (Kα)	522 (Kα)	-	-

Figure 5. A general view of the Infant Jesus of Prague, after the 2013 restoration, during the festivity of 6th January.

Figure 6. The Infant Jesus of Prague on the new sedan during the procession of 6th January.

It can be supposed that the further casting was performed to give more resistance and thickness to the outer layer and to incorporate the wood boards that join the different parts of the statue. CAT investigation revealed the elements of the recent unsuitable restoration, such as: metal pins, external stuccos, interior hemp lining. The painting layer is quite homogeneous on the surface with a reduced thickness in the lower area of the Infant garment.

The CAT images highlight that the gold decorations are lacking, confirming their removal during the 2007 restoration. At last, the statue has some traces of the fracture that need to be repaired.

The XRF analysis revealed that the pure gold leaf is made of gold with traces of copper (Table 1) whereas the French gold leaf is made of copper and zinc (brass alloy) with traces of iron.

The so called French gold leaf has clearly a much lower quality and resistance to the environment or protective treatments in comparison with the pure gold one. So the XRF analysis was fundamental to check the restoration material before its application as should be in common conservation practice.

5. Conclusions

The restoration of the Infant Jesus of Prague was the occasion to study the history and use of plaster casts with a liturgical function and also how the scientific investigation can supply aid to the restoration itself.

CAT analysis was very useful because allowed obtaining information, in a totally non-invasive modality, on the execution techniques and on the preservation state.

The XRF was useful to characterize the composition of commercial materials used in restoration and consequently to evaluate the time resistance also in view of future maintenance interventions. The importance of this study is to better combine art, faith and Science, an inseparable trio closely related to the conservation of Italian liturgical heritage especially those used for processions (Figures 5 and 6).

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