

XXI. FILLING AS RETOUCHING: THE USE OF COLOURED FILLERS - IN THE RETOUCHING OF CONTEMPORARY MATTE PAINTINGS

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Abstract

Contemporary paintings - characterized by new textures, unvarnished surfaces or matte finishes - have new aesthetic values that should be strictly respected by conservators. This often leads conservators to establish unconventional treatment methodologies and materials that include the retouching of areas with losses.

This research presents the case of the retouching process carried out on several large paintings by the artist Manuel Padorno (1933-2002), considered one of the most important Spanish painters in the second half of the 20th century. Because of his creative process - distinguished by his freedom in the use of materials and techniques - some of his paintings now have significant conservation problems. This damage includes large losses and major cracks that have required unconventional retouching due to their particular shine, volume and saturation characteristics.

In this case, the retouching of some large losses located in highly saturated and matte areas (some of them made up of synthetic gesso impastos) required the use of coloured synthetic fillers, instead of two separate layers of stucco and retouching, as the tested samples provided a glossier or more satin finish which prevented complete visual integration at the required level of saturation. The retouching methodology includes the preparation of coloured filler samples - using different synthetic reversible binders - to obtain an exact match not only in terms of colour, but also shine. The results showed that the use of these coloured fillers produces extremely matte and saturated colours that can be retouched afterwards if necessary. Wet-on-wet application, which produces complete visual re-integration in the original impasto areas, can also be achieved.

Keywords

Retouching; Contemporary Painting; Filler; Acrylic.

1. INTRODUCTION

Retouching contemporary paintings often requires new methodologies adapted to the unique qualities of the painting in question [1, 2]. This is the case of the retouching process carried out on three large paintings painted by Manuel Padorno (Santa Cruz de Tenerife 1933 - Madrid 2002). Padorno's artistic legacy is full of poetry and the *Urban Nomad series* is essentially influenced by Mondrian, Monet, Giotto, Piero della Francesca, constructivist reticulate and abstract expressionism and is characterized by colour fields [3, 4]. The treated works belong to the aforementioned *Urban Nomad series*, begun in 1969 [5]. The treated paintings include the following:

1. *Urban Nomad 66*, 1980. Acrylic, vinyl paint and mixed media on cotton canvas. 162x102cm.
2. *Urban Nomad 18. Giotto Series* (CE0157) 1981-82. Oil, acrylic and mixed media on cotton canvas. 210x150cm.
3. *Urban Nomad* (CE0106) 1979. Acrylic and mixed media on cotton canvas. 210x160cm.

Manuel Padorno's creative process during this period was specially defined by his freedom in the use of materials and techniques; this approach led to technical problems of adherence on the paint layer, as sometimes acrylic or vinyl dispersions are used on top of oil layers. Because of this, the damage caused includes large losses and major cracks.

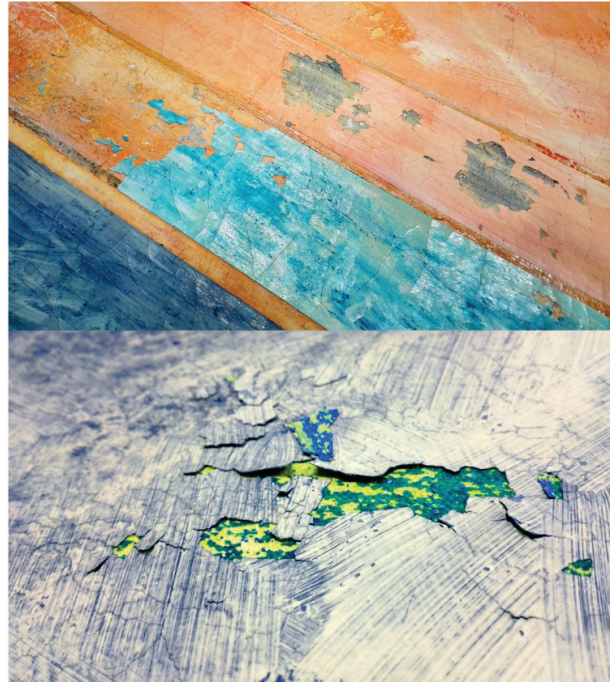


Figure 1. Large losses and major cracks shown on the *Urban Nomad* (CE0106) (above) and *Urban Nomad 66* (below) paintings by Manuel Padorno. © Silvia García Fernández-Villa.

Before treatment, the set of paintings were in a critical condition: losses located in large impasto areas required unconventional retouching due to their particular shine, saturation and volume characteristics. Most of the original surrounding paint areas had a matte finish and wet-on-wet application, with two or more colours mixed together (fig.1). Other areas were mainly colour fields – a characteristic feature of abstract expressionism – and therefore required mimetic retouching. Consequently, special materials and an adapted methodology are necessary in the retouching of this set of paintings.

2. MATERIALS AND METHODS

As mentioned above, the original surrounding paint has a wet-on-wet application (mixing two or more colours together), matte finish, high colour saturation and large impasto. The final retouching materials and methods should therefore include all of these features in order to achieve complete re-integration of the retouched areas.

In the context of this research, different kinds of reversible and stable retouching materials have been tested: The first group of retouching samples are made up of the two typical layers: the first one made up of a stucco ground and the second consisting of a top coat of inpainting layer. A ground made up of traditional stucco based on rabbit skin glue (CTS) previously hydrated at a 1:10 ratio is thus prepared, to which carbonate sulphate is added until the required viscosity is achieved. While still warm, the stucco is applied in 3 coats with an intermediate drying time of 12 hours. Different retouching layers are applied to the stucco: the first sample is carried out with watercolour (Horadam® Aquarell, Schmincke), a completely reversible and soluble material in water formulated with a Kordofan Gum Arabic and Ox Gall base. In this case, it is necessary to apply several coats of aquarelle until the high colour saturation shown by the original paint layer is achieved. This is a significant disadvantage, as the top layers re-solubilise those applied previously. The second sample is Gustav Berger's O.F.® PVA Inpainting layer. This is prepared with G. Berger's O.F.® PVA Inpainting Medium, a PVA-based concentrated retouching medium in a 35% solid solution to which the

desired pigment is added, depending on the colour of the selected area. The solution should be diluted in ethyl alcohol (1:4) and is therefore not particularly suited to most acrylic paintings, which are usually soluble in alcohol, as is the case of the treated paintings. Inpainting sample number 3 is prepared using Gamblin Conservation Colours, an excellent and stable inpainting colour with a low molecular weight resin binder that provides a high saturation colour. The last inpainting sample is a gouache tempera layer (Talens Gouache Extra Fine Quality), and colours with high lightfastness (tested in accordance with ASTM Standards D4303) are selected according to the required area.

The second set of inpainting samples includes different kinds of coloured fillers: for the gloss measurement samples, Maimeri 374 Cobalt Blue Deep pigment is added to each of the fillers in all cases until the required saturation is reached. The first filler is a pigmented Modostuc® (commercial formulated filler by Plasvero International), which is water soluble and reversible and has a viscosity highly suitable for the achievement of the required impasto. The second sample is prepared with pigmented Beva® Gesso (Kremer Pigment), a stable and flexible commercially formulated filler which is reversible with heat or low aromatic hydrocarbon solvents. The last sample is a coloured Mowilith® 5/2 (CTS) filler prepared with calcium carbonate (ratio 1:3) and the pigment mentioned above. Mowilith® 5/2 is an aqueous dispersion of a copolymer based on vinyl acetate and maleic acid butyl ester that contains no plasticizers.

The first parameter evaluated on the samples was their ability to provide the required aesthetic and surface finish, in order to provide a wet-on-wet application and obtain the required texture. Not all the samples are suitable for providing both features: for example, the fast drying time of watercolour, PVC and Gamblin colours inpainting means that wet-on-wet effects cannot be achieved. Only pigmented Modostuc®, pigmented Beva Gesso® and pigmented Mowilith® DMC filler are appropriate (table 1). Traditional retouching samples which include two layers (first a layer made up of the stucco filler and then a top coat made up of the colour retouching layer) are not recommended, as they cannot provide the required texture. Even if these inpainting layers are applied on highly textured stucco, the result does not resemble the original impasto, as it is far more artificial than those obtained in the case of the coloured fillers.

The second parameter which had to be tested was the gloss of the samples. Gloss measurements were obtained using the Neurtek Reflectometer mod. RB, with a measuring geometry of 20°, 60° and 85° (Fig. 2). A similar measurement methodology has proven successful in the gloss measurement of painting samples [6, 7].

In this case, 60° geometry was selected [8], with a 5x6cm measurement area.

Table 1. Attributes of tested retouching materials.
(A: Affordable/ NA: Not Affordable)

| | | | Wet-on-wet application | Similar texture to the original |
|---------------------|---------|--|------------------------|---------------------------------|
| STUCCO + RETOUCHING | TS-WAT | TRADITIONAL STUCCO + WATERCOLOUR | NA | NA |
| | TS-PVA | TRADITIONAL STUCCO + PVA INPAINTING MEDIUM | NA | NA |
| | TS-GAMB | TRADITIONAL STUCCO + GAMBLIN | NA | NA |
| | TS-GO | TRADITIONAL STUCCO + GOUACHE | A | NA |
| COLOURED FILLER | MOD | PIGMENTED MODOSTUC | A | A |
| | BEVA | PIGMENTED BEVA GESSO | A | A |
| | MOW | PIGMENTED MOWILITH DMC FILLER | A | A |

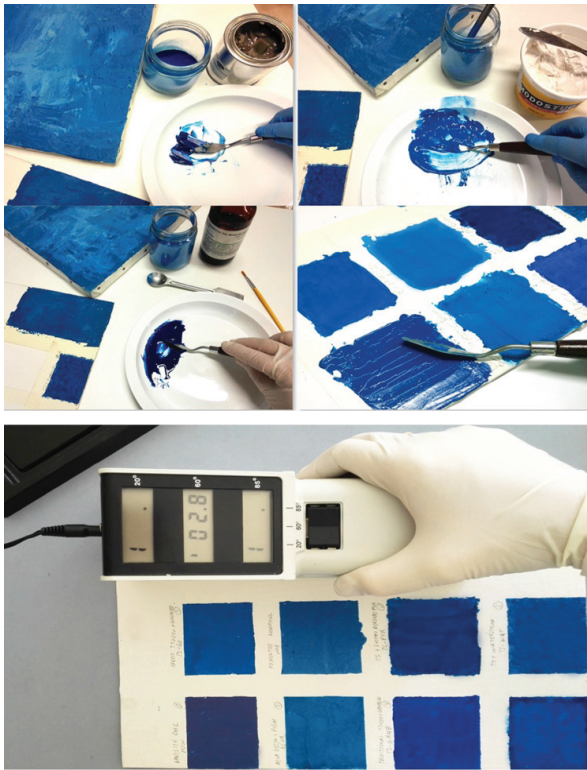


Figure 2. Sample preparation (above) for the filling on Urban Nomad 66. Gloss measurements (below) on the filling and retouching samples. © Silvia García Fernández-Villa.

3. RESULTS AND DISCUSSION

Gloss measurement values were obtained using the aforementioned reflectometer (table 2). Four different measurements were taken on each surface and the average deviation was calculated from the numeric average of the absolute deviations of the series measurement using the following equation:

$$\frac{1}{n} \sum x - \bar{x}$$

The measurements obtained show that Gustav Berger's PVA inpainting Medium and Mowilith® DMC Filler have a more satin or semi-glossy finish, as they have values of 5.8 ± 0.84 and 2.6 ± 0.04 , respectively. These values are far higher than the value of the original painted area, which had a value of 0.7 ± 0.05 . According to their gloss values, the most appropriate materials are traditional stucco with a Gamblin Conservation Colours retouching layer, pigmented Modostuc® and pigmented Beva Gesso®.

Table 2. Gloss values of tested retouching and filling materials (60 degrees)

| | | Gloss values at 60 degrees | | | | Average ± Deviation |
|---------------------------|--|----------------------------|-----|-----|-----|------------------------|
| | | A | B | C | D | |
| ORIG | SURROUNDING PAINTING LAYER | 0.7 | 0.6 | 0.7 | 0.8 | 0.7 ± 0.05 |
| STUCCO + RETOUCHING LAYER | | | | | | |
| TS-WAT | TRADITIONAL STUCCO + WATERCOLOUR | 1.2 | 1.5 | 1.3 | 1.5 | 1.4 ± 0.13 |
| TS-PVA | TRADITIONAL STUCCO + PVA INPAINTING MEDIUM | 6.5 | 6.6 | 4.5 | 5.7 | 5.8 ± 0.84 |
| TS-GAMB | TRADITIONAL STUCCO + GAMBLIN | 0.7 | 0.7 | 0.7 | 0.8 | 0.7 ± 0.04 |
| TS-GO | TRADITIONAL STUCCO + GOUACHE | 0.9 | 0.8 | 0.9 | 0.9 | 0.9 ± 0.04 |
| COLOURED FILLER | | | | | | |
| MOD | PIGMENTED MODOSTUC | 0.7 | 0.7 | 0.8 | 0.7 | 0.7 ± 0.04 |
| BEVA | PIGMENTED BEVA GESSO | 0.7 | 0.6 | 0.6 | 0.7 | 0.7 ± 0.05 |
| MOW | PIGMENTED MOWILITH DMC FILLER | 2.7 | 2.6 | 2.6 | 2.6 | 2.6 ± 0.04 |

After evaluating the attributes of the tested retouching materials and their gloss values, the most suitable materials are pigmented Beva Gesso® and pigmented Modostuc®, as they are able to provide the required wet-on-wet application, high colour saturation, impasto texture and matte finish.

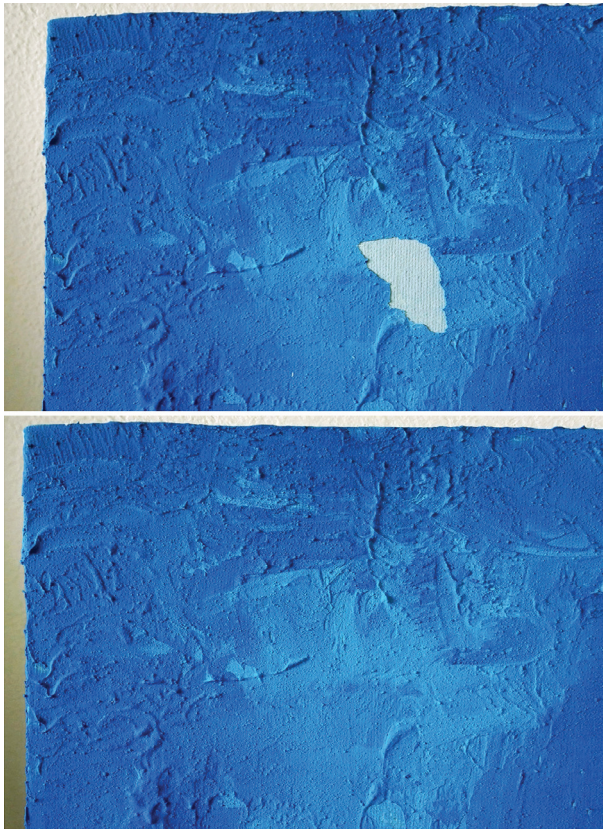


Figure 3. Detail of one of the paintings before (above) and after retouching with coloured Beva Gesso® (below). © Silvia García Fernández-Villa.

Retouching was therefore completed using both materials on the treated paintings. An isolating layer made up of an acrylic resin based on Butyl Methacrylate (Degalan® P550) in benzene (15%) was first applied in the areas with losses. The coloured filling was then applied to all the treated paintings with excellent results (Figs. 3 and 4). Only minor chromatic adjustments using watercolour were required in some areas

in order to complete their visual and chromatic reintegration.

Varnishing the filling area is not recommended in the case of the coloured fillings used, as this has a critical impact on their saturation and lightness.



Figure 4. Detail of the retouching process of the painting Urban Nomad (1979) with coloured Modostuc® filler: before treatment (above), during the retouching process (centre) and after (below). © Silvia García Fernández-Villa.

4. CONCLUSIONS

Coloured synthetic fillers are an interesting alternative to traditional two-component retouching layers (stucco and colour retouching) in the case of paint loss areas with

high colour saturation, large impastos and a matte finish.

In the case of the treated paintings, two-component retouching layers and several coloured fillers were tested to evaluate their aesthetic attributes and shine. According to their gloss values, the most appropriate were traditional stucco with Gamblin Conservation Colours retouching layer, pigmented Modostuc® or pigmented Beva Gesso®. In this case, retouching with pigmented Modostuc and pigmented Beva Gesso® were selected, producing excellent results on the treated paintings as they also provide the required wet-on-wet application, high colour saturation, impasto texture and matte finish.

The disadvantage of these coloured fillers is the high colour change that occurred during the drying process. For this reason, during the retouching, samples of coloured filling should be compared to the original paint area when they are dry, not just wet. Finally, varnishing the retouched area is not recommended, as this would have a critical impact on its lightness and saturation.

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