How Michelangelo and Sebastiano's Roman Chapel Was Recreated in London

For its current exhibition on the Renaissance artists, the National Gallery collaborated with Factum Arte to create a complex reproduction of one of their most famous collaborations.

Installation view of *The Credit Suisse Exhibition: Michelangelo & Sebastiano* at the National Gallery with the reproduction of the Borgherini Chapel (photo © The National Gallery, London)

LONDON — The National Gallery's fascinating exhibition *Michelangelo and Sebastiano* is an academically rigorous survey examining the 25-year relationship between the two Renaissance artists. It uses clear visual examples to explore how their work was at times positively collaborative in the fiercely competitive art scene in Rome, prior to the artists' eventual falling out. Throughout are many instances illustrating their sharing of motifs and ideas, most often in the provision of drawings by Michelangelo that were adapted in paint by Sebastiano. The most startling of these examples is the presence of an almost-life size reconstruction of the domed Borgherini Chapel from Rome's Church of San Pietro in Montorio, painted by Sebastiano, with the originating Michelangelo drawings displayed adjacent. The National Gallery has championed the combination of pioneering technology and traditional craft behind this feat, which is the work of Factum Arte, part of the Madrid-based Factum Foundation for Digital Technology.

The reproduction of the Borgherini Chapel by Factum Arte (photo © Factum Arte)

Factum Arte spent two days on site in Rome taking over 2,400 high-resolution photographs of the Chapel's surface, from which Photogrammetry software extracted data detailing volume, dimension, and color, resulting in a minutely accurate digital 3D model. The greatest difficulty was then realizing the 3D model as a physical print, given that printing operates two-dimensionally; using a similar principle to printing a globe's surface, this involved some complex digital processing, mapping color and texture onto the curved surfaces of the 3D model, and then 'flattening' the data into segments using 3D Studio Max software. These segments could then be printed using flexible material and applied to a physical recreation of the Chapel built of lightweight steel, plywood mounted on aluminum panels, and topped with a fiberglass dome. The plaster elements were created using the same techniques employed in 16th century Italy, and profiles were taken of the original plaster work to aid faithful recreation. Further complicating the process is the fact that the original's dome is not perfectly spherical. The restrictive dimensions of the gallery space at the National also demanded that the reconstruction be 90% of its original scale.

The reproduction of the Borgherini Chapel by Factum Arte (photo © Factum Arte)

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The development of 3D printing technology has been embraced by artists as a new medium to explore and facilitate hitherto impossible realizations of the imagination. Its usage here, in the context of the National's survey, indicates its usefulness as an art historically educative tool — the next step, perhaps, in a long line that progressed from simply making sketches to creating plaster casts to taking photographs. The exhibition includes a 1975 plaster cast of Michelangelo's Pietà (which will never leave St Peters Basilica in Rome) to demonstrate a cross-pollination of visual motifs: most specifically, the adaptation of the Pietà's pose by Sebastiano in his nearby "Lamentation" (1516). The presence of the Borgherini Chapel recreation serves a similar function, showing how Sebastiano adapted the numerous preparatory drawings for the piece by Michelangelo, which are displayed adjacent. Even more illustrative here, however, is that the physical recreation gives a greater visual and three-dimensional understanding of the differences between the drawings and the finished painting in scale, color, modeling, and, most importantly, the final context of display. Put the Michelangelo drawings next to a mere photograph of the original Chapel, and one cannot glean anywhere near the same level of understanding of their relationship. The show proves that when used methodically and with judicious intent, such pioneering technology is far from a mere gimmick.

The reproduction of the Borgherini Chapel by Factum Arte (photo © Factum Arte)

The Factum Foundation raises an interesting point however with the observation in its press release that, “In viewing a faithful reconstruction with original works of art, visitors may be prompted to reconsider their notions of originality, authenticity, and preservation.” The use of the term “authenticity” is a worrying one, and recalls the recent experiment conducted by the Dulwich Picture Gallery in which one of the works in its permanent collection was replaced with a faithful copy, challenging visitors to guess which one. Successful or not, the show’s intention was undoubtedly to get visitors to look closely at the physical works in front of them; to take into consideration the real material value, form, and condition of the paint on canvas, rather than the image contained therein. It is important to recognize that the presence of the recreated Chapel cannot replace the tangible qualities of the original, and that 3D printing should not usurp the place of ‘traditional’ crafted objects and things.

The reproduction of the Borgherini Chapel by Factum Arte (photo © Factum Arte)

Moreover, the Factum Foundation notes that not only does this recreation serve to enhance the *Michelangelo and Sebastiano* exhibition, but that this technological process represents "a significant step in the original Chapel's preservation, acting as a reference of its current state and as a tool for future study". The importance of this singular facet of the project, aside from its use in the exhibition as an educational tool as combined with 'creative' recreation for that purpose, cannot be overestimated in light of the destruction of irreplaceable artworks and monuments around the globe. Geographically, earthquakes in Italy provide a continuing threat to the preservation of artworks, but on a more urgent level it is impossible to not mention here the threat from deliberate destruction by man. The 3D model of Arch of Triumph in Palmyra, Syria, while achieving mixed results in its effectiveness both as a physical recreation and in its purpose of raising awareness about terrorism, nonetheless faithfully recorded an item destroyed by ISIS in 2015. In this light, while it is exciting that such technology is capable of reproducing large monuments and even whole towns, it is chilling to realize that there is increasing necessity for it.

The reproduction of the Borgherini Chapel by Factum Arte (photo © Factum Arte)

Michelangelo & Sebastiano *continues at the National Gallery (Trafalgar Square, London, UK) through June 25.*