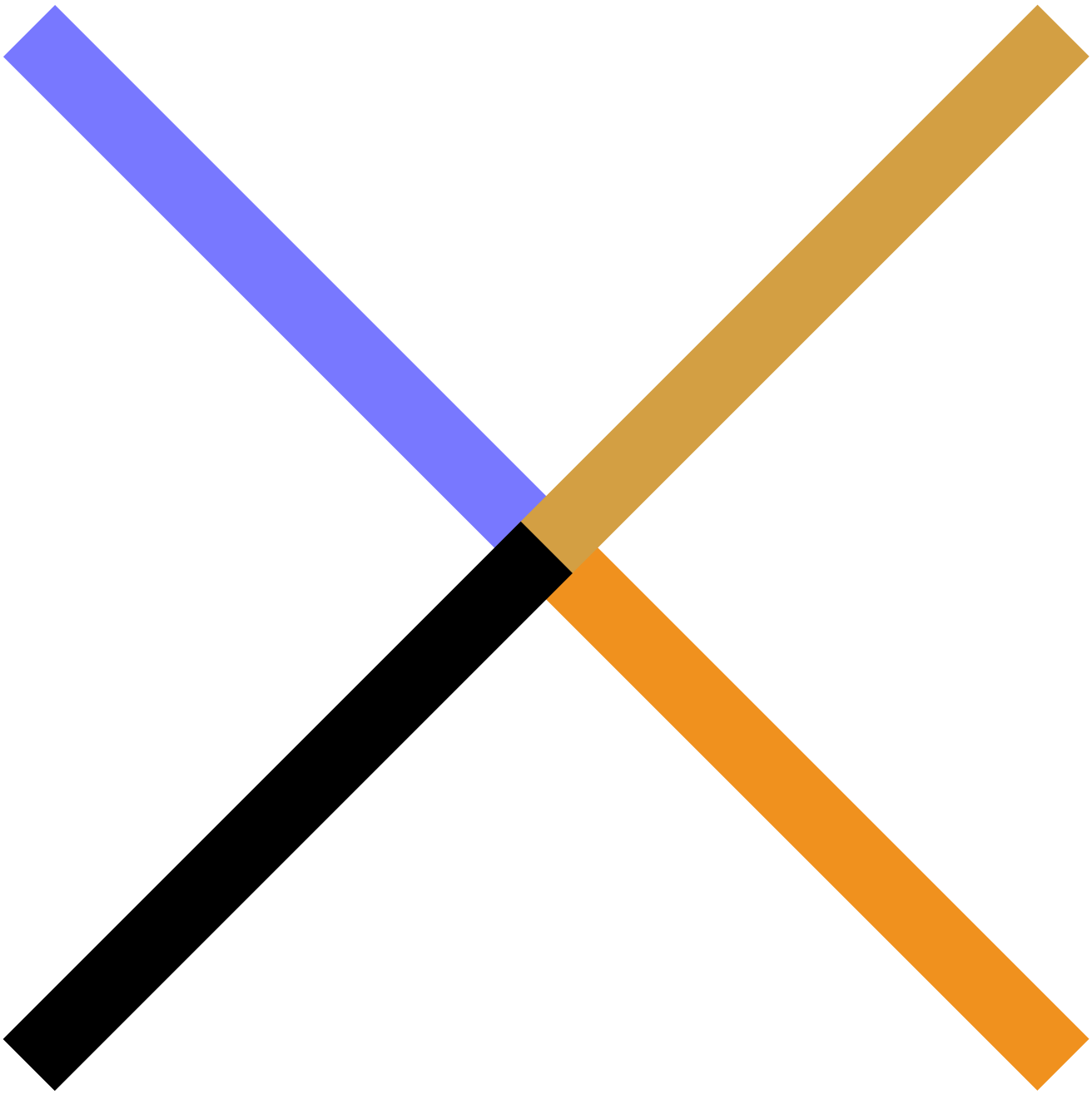
The Dialogue



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Carlos Bayod Lucini

Dr. Carlos Bayod Lucini, Project Director at the Factum Foundation, specializes in using digital technology for conserving and studying Cultural Heritage. He collaborates with leading museums and archeological sites globally, speaks frequently on digital preservation and facsimiles, and has taught at institutions such as Columbia University's MS in Historic Preservation program.

Adam Lowe

Adam Lowe, director of Factum Arte and founder of Factum Foundation, is a pioneer in digital preservation. Trained in Fine Art at Oxford and RCA, he established Factum Arte in 2001 and the Factum Foundation in 2009. A Columbia University professor and Royal Designer for Industry, his global projects and writings explore originality, authenticity, and cultural heritage preservation.

Tom van der Molen

Drs. Tom van der Molen is a PhD candidate in Art History, as well as senior curator and Deputy Head of Collections and Research at the Amsterdam Museum. He specializes in uncovering untold histories, focusing on migration, identity, and social change, and how these forces have shaped Amsterdam's evolving urban landscape. He is also a writer and guest lecturer at universities and cultural institutions.

Liselore Tissen

Dr. Liselore Tissen, post-doctoral researcher at Leiden University and Delft University of Technology, specializes in art reproduction technologies, ethics, and interdisciplinary research. Her Cum Laude doctoral work (2024) explored the impact of 3D-printed art on conservation and museum practice. She coordinates ethics and digital humanities at the Royal Netherlands Institute of Arts and Science.

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A Dialogue on Art Reproductions between Carlos Bayod Lucini, Adam Lowe, Tom van der Molen and Liselore Tissen

In the Dialogue, AMJournal facilitates a 'guest editor conversation' in the form of an in-depth interview between the guest editor(s) and (another) renowned expert(s) in the field. For this edition, guest editors Tom van der Molen and Liselore Tissen invited Factum Foundation's Carlos Bayod Lucini and Adam Lowe to discuss how digital techniques and reproductions can enable research to and conservation of cultural heritage. Tom van der Molen explains:

"With the Factum Foundation for Digital Technology in Preservation, Adam Lowe and Carlos Bayod Lucini aim to create high-resolution, accurate digital documentation of cultural heritage sites and artworks, to ensure their longevity and conservation for future generations. One exemplary case is Rembrandt's Anatomy lesson of Dr. Deijman*, part of Amsterdam Museum's collection. Besides digitally visualizing the painting, a high-resolution 3D facsimile was made to replace the fragile original during Fondazione Prada's* Human Brains *exhibition during the 2022 Venice Biennale. As we believe their dedication to working, thinking, and exploring the possibilities of facsimiles can provide us with valuable insights into the philosophical and practical challenges they face, we were eager to invite Adam and Carlos for a conversation."*

Edited by Imogen Mills with editorial support by Lola Abbas

TM: Adam Lowe and Carlos Bayod Lucini work at the Factum Foundation for Digital Technology in Preservation. The foundation, founded in 2009 by Adam, aims to create high-resolution, accurate digital documentation of cultural heritage sites and artworks worldwide. The documentation serves as a record for ensuring their longevity and conservation for future generations and can also be used to produce facsimiles that are indistinguishable from the originals – unlimitedly. One exemplary case is Rembrandt's *Anatomy lesson of Dr. Deijman*, part of the collection of the Amsterdam Museum (figure 1 and 2). The digital information is visualized in their multi-layer viewers, which are convenient interfaces that allow the user to interact with the painting and gain hitherto unseen insight into the surface and material properties of the painting. This is a welcome instrument for future research and conservation, as the damage the painting has suffered from the fire now becomes clearly visible. Moreover, besides digitally visualizing the painting, in this case, a high-resolution 3D facsimile was made as a stand-in for the original during the *Human Brains* exhibition at Fondazione Prada during the Venice Biennale of 2022.[1] The reproduction replaced the original and completed the exhibition's story while the original safely remained in Amsterdam. Since this is only one example of the countless projects Factum has completed over almost two decades, we wanted to speak to Adam and Carlos. We believe their dedication to working, thinking, and exploring the possibilities of facsimiles daily can provide us with valuable insights into the philosophical and practical challenges they face. We were eager to learn about the ideas, dilemmas, and possibilities they envisioned in their art reproduction process.

LT: You work with reproductions of many different kinds. Can you explain a bit about the techniques you use?

AL: Factum's team bridges the gap between digital technicians and artisans, and physical technicians and artisans. It is this linking between the digital and physical that is critical. People still associate digitality with being virtual. However, you can have a digital object that is still physical - it just goes through different mediations and transformations.

Factum's international team includes professionals from very diverse backgrounds. Different skills are put to work together in projects that are essentially experimental. Every project requires a specific combination of digital technologies and traditional craft techniques. Nevertheless, conventional limits among fields are usually blurred. Technicians and artisans alike operate with both digital and physical matter, in a complex process of *mediation* from material to virtual (and vice versa); and from the original to its reproduction.

CBL: Most projects begin with the non-contact 2D/3D digitization of an original artifact, employing the best possible systems and methodologies available – usually adapted or developed by Factum for Cultural Heritage applications. What

Figure 1: *Process of digital documentation of Rembrandt's Anatomy lesson of Dr. Deijman*: 2021. Photograph by: Liselore Tissen.

Figure 2: *Process of digital documentation of Rembrandt's Anatomy lesson of Dr. Deijman*: 2021. Photograph by: Liselore Tissen.

follows is a digital process of transformation, from raw to usable data, for say, documentation or re-materialization. The digital data can then be printed or prototyped to become material again. From the prototype, a new series of physical processes based on manual skills produce the final facsimile.

So really, everything starts with the original; by recording the surface of an object we capture its digital data. That is where the essential information lays. In many cases the goal is not to create reproductions, but to create this database of information that allows us to see the originals in a new light, and that facilitates better access for researchers, scholars, and the public. Whether the original has a flat or (partly) raised surface, in any case our aim is always to capture them with the highest possible resolution and the closest possible correspondence to the original object. Once you have this data in your computer, you can then work with it in different ways. In some cases, we will employ it towards virtual documentation only. In other cases, it can evolve into a physical reproduction. But in all these cases, we work separately from the original. That is the radical leap that we at Factum propose.

TM: Could you give us an example of a project where you created this database and a reproduction?

AL: One of the most exemplary cases is a project we did with Liselore Tissen. It involves *The Crucifixion of Christ by the Master of Lamentation in Lindau* (ca. 1425): a medieval panel painting showing the crucifixion of Christ on the cross, with Maria and St. John the Baptist mourning next to him. The panel is richly decorated, with angels catching Christ's blood in challises, a textured blue background and golden tendrils. However, the restorer of the panel discovered the blue background is not original (figure 3). Instead, it is a sixteenth-century overpaint that is currently covering the original, golden background (figure 4).

CBL: Here, the panel's materials pose a dilemma. Should that layer be removed, or should it be considered part of the painting's history; part of the complex subject it was before? To remove the blue azurite layer and restore the golden background is against conservation ethics, since it is an irreversible action and would remove a layer of historical material. However, with the shiny golden background and the more expressive pattern in the background, the panel suddenly makes a lot more sense. Now, imagine how magical the panel must have looked, with the gold reflecting the flickering candlelight that is contrasted by the blood of Christ, which has been painted in a more matte material. This is where Factum can offer a third option: to work through facsimiles in discerning these two scenarios.

AL: Liselore approached us to make reproductions to help with the final restoration decision. The reproductions would not only help the restorer and prevent damage to the original, but would also allow for a more democratic and inclusive discussion. We made a reproduction of the original before restoration and another reconstruction of

what the background might have looked like. The reconstructions do not only provide a better understanding of the panel's materials, but also offer the opportunity to see the panel in its original context - a church.

CBL: As a result, we could present to the public a reproduction of the painting in two alternative ways. This is a clear example of how reproduction can thus enable a contactless approach to preservation. This project exemplifies how digital technology can provoke a new way of approaching the conservation of a painting. The goal of this project was to make a facsimile of the painting in two versions. One as it is now, and the other an interpretation of the way it must have looked before it underwent a radical change in appearance.

TM: What, then, is your ultimate goal with this, if it is not attempting to reach some form of originality? Is it to make people reflect on what is authentic, and what are copies?

Figure 3: *Facsimile of the Master of the Lindau Lamentation, Crucifixion with Mary and Saint John the Evangelist, c. 1425,* Museum Catherijneconvent, Utrecht, inv. no. ABM s34.
Photograph by: Oak Taylor-Smith for Factum Foundation.

CBL: In this case, the purpose is the process. Since you are not working with the original directly, you can propose not one hypothesis, but five or ten different hypotheses. Simultaneously, you never transform the original forever; everything you are doing is non-invasive. It enables us to bring back, for example, a texture that has disappeared over time. Of course, there are subjective decisions. But as severely changing an artwork is against the shared code of ethics in conservation, producing facsimiles offers a way to contribute to a more democratic discussion, and to communicate about the different approaches to conservation and restoration.

AL: Within most approaches to preservation, there is a notion of returning to the original. I think this approach to preservation gives rise to certain challenges. Which

bits of this painting are authentic? And which bits should we look at? One important thing our method demonstrates is that originality is a process. Simultaneously, the entire process involved in making something that is a reproduction of something else helps us to better understand its complexity.

Take for example the Black Paintings by Goya (figure 5-6). This is a series of paintings created by Goya as a part of his own intimate environment. They were originally part of his house on the outskirts of Madrid, a house that no longer exists. Now, they are presented in a very different way. They reside in the Museo Prado, in their own dedicated room.

Figure 4: *Facsimile of the digitally restored Crucifixion.* Photograph by: Oak Taylor-Smith for Factum Foundation.

CBL: We are now working with the Prado on a way to present them closer to how Goya would have intended. Because the order of the paintings matters, as well as the way the light interacted with them, or how the images talked to each other. By bringing something back to its original context – in this case, through a hypothetical reconstruction – we allow people to have a more authentic experience even though they are not facing the original. In some cases, facsimiles can help to bridge this gap between how artworks are presented nowadays in a museum versus how they might have been in the original architectural context.[2] This may never have been possible without the technology to record and reproduce these paintings.

AL: It is important to make a distinction between authenticity and originality. For me, that was a major point of transformation. One of my favorite experiences was when the newly discovered Caravaggio was displayed in the Museo Prado next to their restored Caravaggio, both protected in a dark room behind glass. Afterwards, Carlos and I went to a bar where we presented a facsimile of the painting both during (figure 7) and after (figure 8) restoration. The way people engaged with it was completely different to the way they engaged in the museum. Everyone was going up to it, tapping the surface, touching it, moving it, and the facsimiles totally came alive. For me, this is the goal of what we at Factum are doing: trying to give works of art enough breathing space to come back to life.

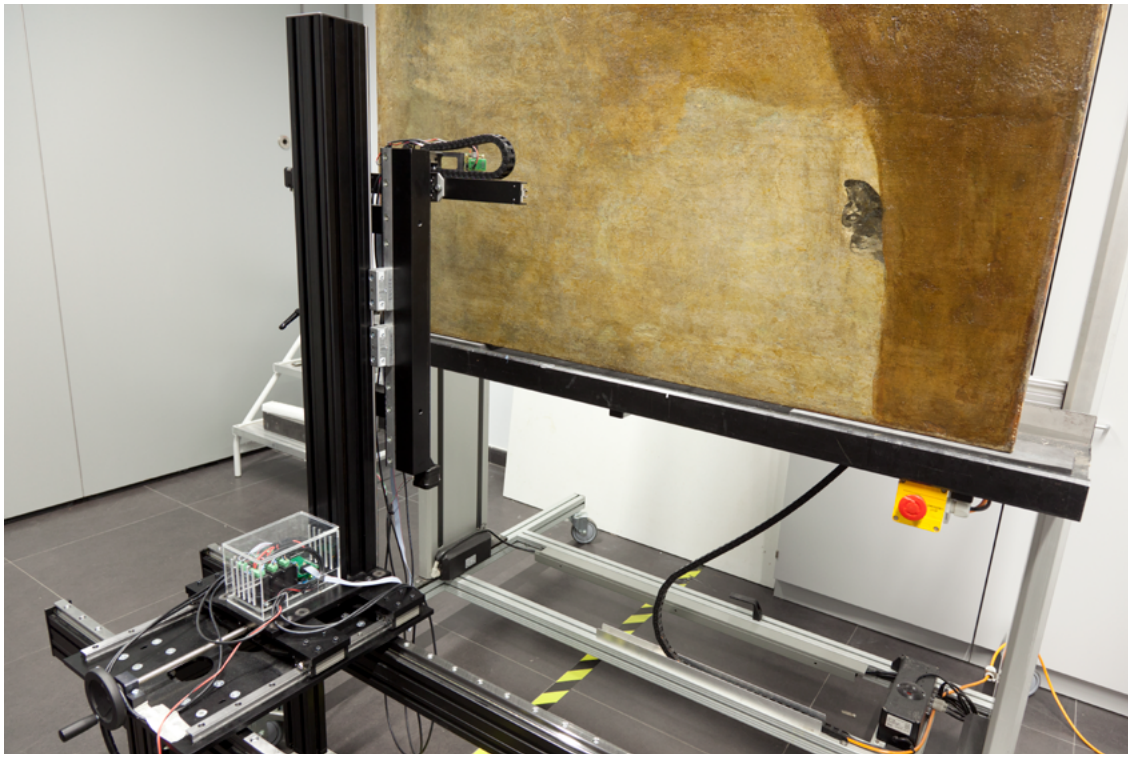

Figure 5: *The Lucida 3D Scanner recording the surface of The Drowning Dog (one of the Black Paintings originally in Goya's house 'la Quinta del Sordo').* Photograph by: Alicia Guirao del Fresno for Factum Arte.

Figure 6: *Facsimile edition of an original size detail of Francisco de Goya's The Drowning Dog.* Photograph by: Oak Taylor-Smith for Factum Foundation.

TM: As a curator, I think many of the existing concerns are about the aesthetical notion of an artwork, because in that aspect the hand of the artist is deemed important. But it seems that what you are doing is restoring all kinds of other layers of meaning to a painting.

AL: I think what Factum is doing makes the hand of the artist even more important, as we are drawing attention to the surface and to how the marks are made. Let's look at that thorny old issue of the aura, the subject of one of Walter Benjamin's most well-known essays, *The Work of Art in the Age of Mechanical Reproduction* (1935).[3] In it, he expresses that art loses its "*aura*" (the magic the viewer feels when face to face with the original's materials, eds.) through mechanical or mass reproduction, and that through the loss of the ritual of making art, art becomes inherently political. However, I believe the aura is the surface. Reproductions, however good, rarely have the surface, unless it is added to it. Similarly, for countless original artworks we can no longer see the surface because they are either covered by bulletproof glass, or we are too far removed from them, or because they have been newly varnished – leaving us to no longer be able to see the hand of the artist. In a way, that is where our interest lies: how can we better represent the complex intricacies of the skin of works of art?

Figure 7: *Facsimile of Caravaggio's Ecce Homo using the data recorded during the painting's restoration.* Photograph by: Oak Taylor-Smith for Factum Foundation.

LT: When I started my research people were quite hesitant to have their works reproduced. Have you seen this change over the years, and how do you see this evolve into the future?

AL: I think people are slow when it comes to confronting their prejudices and thinking about how to better engage with and study the world around us. Around 25 years ago, when I would talk about scanning an artwork and making a facsimile, people would be horrified. Now, people say: "*It's amazing what you can do; in the new context of this reproduction, this painting makes sense.*" There are professional resistances. But history moves in various complex ways.

CBL: Whether you present to experts or to non-experts, the reactions we get to the reproduction of a painting are often still characterized by resistance. The reason for this, however, has changed: while some 10 or 20 years ago, the reason was that the reproduction supposedly undermined the value of the original; nowadays the usual reason for rejecting a reproduction is the opposite – they are simply too good, too close to the original. In any case, I would say the important thing is that this kind of digital technology, for recording and reproduction, is at the service of conservation. It can be integrated into the toolbox of the restorer, the conservator, or the curator. We are at that point, and it is an incredibly exciting point in historical terms.

Figure 8: *Facsimile of Caravaggio's Ecce Homo after the painting's restoration.*
Photograph by: Oak Taylor-Smith for Factum Foundation.

Endnotes

1 For more on the facisimiles made for Fondazione Prada's exhibition *Human Brains*, see Factum Foundation's website: factumfoundation.org/our-projects/digitisation/facsimiles-for-human-brains-it-begins-with-an-idea/

2 This has been done for example in the case of Rembrandt's painting 'The Anatomical Lesson of Dr. Deijman' (1656), of which only a fragment was saved after it got damaged in a fire. A reproduction of the painting is currently on display at Amsterdam Museum until April 2025.

3 Benjamin, Walter. 1935. "The Work of Art in the Age of Mechanical Reproduction." *Illuminations*, edited by Hannah Arendt, translated by Harry Zohn, New York: Schocken Books, 1969.