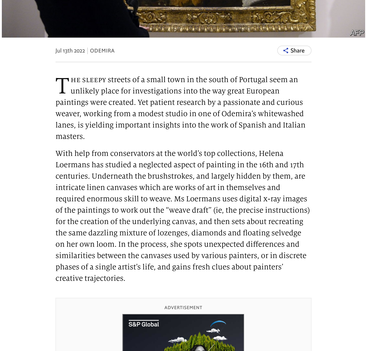
Culture | Beneath the brushwork

Why study the warp and weft of canvases?

Using a combination of ancient and modern techniques, a weaver is providing new insight into the work of master painters



Jul 13th 2022 | ODEMIRA

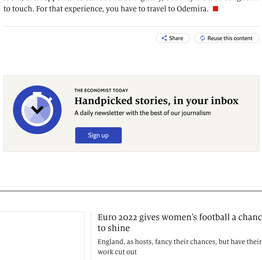
THE SLEEPY streets of a small town in the south of Portugal seem an unlikely place for investigations into the way great European paintings were created. Yet patient research by a passionate and curious weaver, working from a modest studio in one of Odemira's whitewashed lanes, is yielding important insights into the work of Spanish and Italian masters.

With help from conservators at the world's top collections, Helena Loermans has studied a neglected aspect of painting in the 16th and 17th centuries. Underneath the brushstrokes, and largely hidden by them, are intricate linen canvases which are works of art in themselves and required enormous skill to weave. Ms Loermans uses digital x-ray images of the paintings to work out the "weave draft" (ie, the precise instructions) for the creation of the underlying canvas, and then sets about recreating the same dazzling mixture of lozenges, diamonds and floating selvedge on her own loom. In the process, she spots unexpected differences and similarities between the canvases used by various painters, or in discrete phases of a single artist's life, and gains fresh clues about painters' creative trajectories.

So far she has focused on two Italian masters, Titian and Caravaggio, and on Diego Velázquez of Spain (including his painting "The Education of the Virgin", pictured). Above all, she has studied the intriguing figure of El Greco, who was born in Crete in 1541, trained in Venice and Rome, and flourished in Spain until his death in 1614. At least 250 extant works by Spanish and Italian masters from that period were produced on ornate canvases; to date Ms Loermans has worked out weave drafts for 30 of them and physically reproduced nine. Her aim is to create a database of patterns that will be available to researchers.

As a craft weaver who migrated to Portugal from her native Netherlands, Ms Loermans's career took a dramatic turn when a curator from the Prado museum in Madrid visited her studio in 2015. It was this curator who mentioned that El Greco had used elaborate canvases. Ms Loermans then discovered that a weave draft had survived for one of El Greco's best-known paintings, "The Burial of the Count of Orgaz", and she set about reproducing the pattern. But this scrap of written evidence turned out to be almost unique: with every subsequent painting she has had to work out the draft from x-ray imagery.

In his Spanish phase, El Greco's canvases were similar but not identical to those he favoured in Rome. Comparing two works by El Greco in middle life, Ms Loermans found they had the same warp—and may have come from the same loom—but different cross-threads, or weft. In the 1580s he and another Spanish painter, Alonso Sánchez Coello, were using identical canvases. In a well-known work towards the end of his life, "View and Plan of Toledo", El Greco mysteriously reverts to a kind of canvas he had favoured 40 years earlier. For El Greco scholars, these titbits of information may open new lines of research.



According to Cleo Nisse, a doctoral student at Columbia University, there are several theories as to why painters used such sophisticated canvases. One is that beautiful underlying patterns created a more striking visual effect, albeit subtly; another is that complex canvases were more robust than plain ones, as some modern artists will attest. A third reason is that patrons insisted that canvases look seamless, as a visible seam was considered ugly, and detailed patterns were a way of ensuring that. A fourth theory is that artists simply reached for whatever was available, including second-hand tablecloths or altar cloths (although Ms Nisse considers that unlikely). And as is noted by Rocío Bruquetas Galán, a Madrid-based conservator, artists in the era of El Greco probably cherished the ideal of "hidden beauty", or beauty visible only to God.

Ms Loermans's work fills a gap in art-history research. Other forms of physical investigation—scrutinising pigments or dating wooden frames—have been diligently pursued, but the study of canvases has lagged behind. To correct this, the Getty Foundation, an American art institution, launched a drive in 2018 to advance and share knowledge about canvases. In late 2019 Getty helped organise a gathering of around 400 experts at Yale University, where Ms Loermans gave a well-received presentation and established many conservator contacts who then supplied her with digital data through two years of intermittent lockdowns.

One of her work's keenest supporters is Adam Lowe of the Factum Foundation, which helped invent a pioneering 3D scanner that can scrutinise the brushwork, relief and pigments of a work of art, enabling its reproduction with virtually perfect accuracy. As it happens, both he and Ms Loermans are engaged in probing some of the mysteries posed by El Greco's oeuvre. "He is penetrating the surface," she says. "I am looking at the other side."

Ms Loermans's approach is by comparison low-tech—though not quite as low-tech as it initially appears. She uses a computer to guide her hand loom, but she could, if necessary, produce her patterns without its help, moving dexterously with hands and feet. That gives her an unusual empathy with the weavers of the past. As for the fabrics that roll off her loom, their appearance can be shared digitally, but they are also delightful to touch. For that experience, you have to travel to Odemira. ■

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