



Tuesday, Sep 14, 2004 13:00 EDT

Picasso's buried treasure

Using X-rays and Silicon Valley technology, conservators have discovered a previously unknown painting behind the artist's "Rue de Montmartre."

By Barbara Tannenbaum



"Rue de Montmartre," the 1900 Picasso painting beneath which an earlier painting of a French nightclub was discovered.
Photo: David Heald



The black-and-white X-radiograph image of the hidden painting. The colorized version of the image is not available.



"Le Moulin de la Galette," another Picasso painting from 1900, on a theme similar to that of the hidden image.

Thanks to TV shows like "Antiques Roadshow," many of us believe there's treasure inside our junk. One need only tear apart Uncle Henry's paint-by-numbers clown portraits to discover -- sacre bleu! -- a first draft of the

Declaration of Independence!

We know it's a fantasy, but what is less obvious is how destruction sets these discoveries in motion. The bulldozers, the jackhammers, the eager boxes awaiting the garage sale stand at the ready when -- wait a minute! -- what's that odd glittery thing sticking up through the layers?

Now imagine a scenario in which the hidden treasure lurks within a greater masterpiece, a priceless painting by Pablo Picasso, for instance. On Sept. 14, the show "A Hidden Picasso" opens for a two-month exhibition at the Guggenheim Bilbao, in Bilbao, Spain. There on display (thanks to digital technology) will be a full-color version of a painting that Picasso made in 1900, and discarded. He then reused the canvas, painting atop it the famous "Rue de Montmartre."

Will Shank, the show's San Francisco curator, has traced the evolution of theme and subject from the discarded work to a painting art historians consider to be Picasso's first masterpiece, "Le Moulin de la Galette," also painted in 1900, but on a canvas four times the size of "Rue de Montmartre."

Yet the first composition of cancan dancers and nightclub goers (far more detailed than a working sketch) remains covered, as it has been for a century and will doubtless remain. It's a sleight of hand that turns philosopher Walter Benjamin's famous dictum "Art in the era of mechanical reproduction will lose its power to awe" on its head.

The appearance of an unknown work by Picasso will not only add a new chapter to reams of existing scholarship, it will also offer the public a rare glimpse of the craft performed by conservation scientists, whose role in the modern museum is as crucial -- and as low-profile -- as that of the legions of assistants who once painted alongside the masters.

Museums deal in laboriously authenticated rarities, taking care to weed out the forgeries and fakes. No one ever scrapes off the top of something valuable in search of a mere preliminary sketch underneath. The rare exception occurs when a second artist has made a later change to a painting or statue. For the opening of the new Getty Museum in Los Angeles in 1998, for example, conservators were working on a 1335 icon by Bernardo Daddi that featured a portrait of the Madonna, to which a 16th century artist had added a picture of the baby Jesus. After much research and discussion, the conservation department carefully excised the added image to restore the icon to its original form.

Knowing these protocols poses the question: Exactly who is allowed to poke around with Picasso? How could you even find an image sandwiched between layers of paint? And how, like a magician snatching a tablecloth from a table laid with crystal and china, did someone figure out a way to pull forth the image?

Begin with the 1900 painting "Rue de Montmartre." The 19-year-old artist, fresh from Barcelona, Spain, and trying to make a living as an artist in Paris, painted the somber street scene at the urging of his dealer, Pere Mañach, who predicted such paintings would be easy to sell. A melancholy image with a muted palette, all blues and greens, it's noteworthy but not a highlight of Picasso's career.

The painting eventually fell into the hands of Harriet Levy, a San Francisco native and friend of Gertrude Stein. Her estate later donated the artwork to the San Francisco Museum of Modern Art, which still owns it today.

And that might have been the full dossier on the "Rue de Montmartre" had it not been for a conservator named Ann Hoenigswald, and a National Gallery of Art show, "Picasso: The Early Years 1892-1906," mounted by the Washington museum in the early spring of 1997.

Hoenigswald, the National Gallery's senior conservator of paintings with a specialty in the early modernist period, has worked in the museum's conservation lab since 1977. In the lab's X-ray room, Hoenigswald has installed the equipment -- X-ray machines, light boxes, infrared cameras and lead curtain -- that are common tools in her profession.

Conservators are charged with the physical care and maintenance of an artwork. "Not all museums have large conservation studios, but ones that do typically X-ray a painting before treating or repairing it or for purposes of research and analysis," says Hoenigswald. All 1,600 paintings in the National Gallery's art collection have been X-rayed, and the museum's extensive files of black-and-white X-radiograph images have been copied and loaned to galleries throughout the world.

X-ray imaging, a process invented by Wilhelm Konrad Roentgen in 1895, was used to establish provenance and uncover forgeries in modern painting as early as the 1920s. Unlike the public, which views paintings as two-dimensional images, conservators are trained to see paintings as three-dimensional objects. They seek ways to peer beneath the surface layer of varnish and paint to the under drawings, preparation layers and support structures of the canvas itself.

The X-ray process became widely popular as a research tool in 1922, when the Minneapolis Institute of Art X-rayed the interior of mummies brought back from Egypt by Howard Carter, the archaeologist who uncovered the tomb of Tutankhamen in the Valley of the Kings. Between 1926 and 1930, Alan Burroughs and Edward Forbes, both research fellows at Harvard's Fogg Art Museum, conducted "X-ray expeditions" through Europe and the United States, building a collection of X-radiographs of fine art paintings from the museums of Antwerp, Belgium; Brussels, Belgium; Florence, Italy; Rome; New York; Philadelphia; and Boston.

With great accuracy, X-rays reveal the internal structure of a painting, showing minute changes in the thickness of a layer of paint. The X-ray's fluorescence either penetrates the paint or is stopped by the atomic weight of the elements used to make the paint. Thus, lead white, lead-tin yellow, or mercury in vermilion, like human bones, all block X-rays to a different degree.

As it happens, Hoenigswald has a special interest in Picasso. In 1980, in preparation for a National Gallery exhibit, she X-rayed one of Picasso's larger paintings, "Family of Saltimbanques," and discovered three sketches underneath.

"It was the most exciting discovery of my career," says Hoenigswald. Thereafter, she sought permission to X-ray every Picasso painting that crossed her path, lecturing and publishing scholarly articles on her findings.

Hoenigswald quickly learned that Picasso deliberately painted on top of his work. Unlike other artists, he did not scrape off a discarded painting or cover it with a white ground layer. "His creativity was spurred by the concept of metamorphosis," she said. "He used the discarded shapes and colors to influence his next composition." And he continued this practice throughout his life, long after poverty ceased being a motivation to reuse old canvases.

The National Gallery has only 15 or so Picassos in its collection, so the 1997 exhibit was an opportunity to see numerous works by the artist that arrived on special loan. Hoenigswald was alert to certain clues: a thickness or impasto that implies heavy brushwork beneath the paint, or a certain crackle pattern from two layers drying at different rates.

"I knew what to look for," she said. "Sometimes I don't even need a loop or a microscope. This top layer of paint had cracks -- I could see underlying bits of orange and yellow colors with my naked eye. I asked myself, What is that doing in a muted blue palette?"

Hoenigswald added that time was a crucial factor. "There are always constraints when a show is about to be mounted," she remembered. "The museum registrar wants the art handlers to take the pictures to the gallery space. Plus I had to ask permission. Not every museum wants their paintings X-rayed. You've got to take it out of its frame and there's always a small risk involved when handling the work."

As her assistants removed the Picassos from the shipping crates, Hoenigswald surveyed the possibilities. The "Rue de Montmartre" was small. "That's an advantage because you can X-ray a small painting in a couple of hours," she said. "A large painting can take up to three days. After all, we use regular X-ray-size film and then must piece it together like a mosaic."

Hoenigswald's long-standing friendship with her counterpart at San Francisco's Museum of Modern Art, Will Shank, also helped her focus on "Rue de Montmartre." They had met in the late '70s when Shank interned as a graduate student at the American Museum of Art at the Smithsonian.

"Obviously, when she called I said 'sure' in the interests of science," Shank remembers. "But more vivid was her call a few days later when she said, 'You'll never believe what we found underneath "Rue de Montemartre."'"

Hoenigswald's black-and-white X-radiograph hinted at a fully realized nightclub scene. This, she recalls, was a rarity. More often, her images uncover only fragments of earlier drawings. Additionally, the ability to trace a connection from sketch work to later painting is not always possible. This time, the image's connection to "Le Moulin de la Galette" did not require extensive detective work.

"She had that painting, on loan from the Solomon Guggenheim, right there, too," Shank remembers. "We quickly made the connection that both images featured men and women in formal dress, visiting a nightclub."

I met Shank in San Francisco in May 2000, three years after Hoenigswald had made the "Rue de Montmartre" X-radiograph. A few months earlier, Shank, who had served as SFMOMA's chief conservator from 1991 to 2000, had resigned to consult. His first project as a freelance curator would be "A Hidden Picasso," which was scheduled to open at SFMOMA during the 2001-02 season.

Shank had pulled a Xerox copy of the X-radiograph from a manila folder. On the left was a group of well-dressed people out for a night on the town: men in top hats, women in bonnets. They were looking at something to the right of the painting, which is harder to decipher. It was, Shank assured me, the swirling dress and petticoats of cancan dancers, no doubt from one of the Montmartre's seedy nightclubs.

"My guess is that Picasso found the composition too crowded," he said. "There was too much going on so he abandoned it. But the idea remained and when he took it up again, he worked on a canvas that was four times the size of this one."

The image changed in other ways, Shank remembered. The dancers were deleted, and in the official painting it is the spectators who are dancing in a scene of gleeful revelry.

A breakthrough was possible, not from the efforts of research and scholarship, but from a physical problem Shank called "a fluke." The top layer of the "Rue de

Montmartre" was riddled with microscopic cracks and lost flakes of paint. If Hoenigswald could see a completely different color palette beneath the image with her naked eye, what could one see with a microscope?

"I realized I could learn exactly what colors Picasso had chosen and apply it to the X-radiograph," Shank said, "and create a digitized version of the earlier composition." Recall the 1,600 X-radiographs on file at the National Gallery of Art alone: No conservator has ever colorized a single one.

This new image of the black-and-white X-radiograph was to be the centerpiece of the SFMOMA show. Shank planned to make a grid of the painting and X-ray film. He planned to transfer Picasso's colors by taking microscopic sample pinpricks from the cracks radiating across the painting's surface. It would have been invasive, but well within the protocol of Shank's field. He expressed great excitement about using the powerful scanning and computing tools that nearby Silicon Valley companies had made available.

But in June 2000, SFMOMA cut the funding for the creation of a color version of the X-radiograph, and by July the entire show was canceled.

Sometime in spring 2002, however, Shank received an e-mail from Paul Schwartzbaum, chief conservator of the Guggenheim museums and technical director of international projects, proposing to Shank that the show might work well in their Bilbao museum, which in 2004 was set to host the 20th Congress of the International Institute for the Conservation of Historic and Artistic Works.

With the Guggenheim's backing, Shank revived the idea of a colorized X-radiograph. He returned to SFMOMA (which, after all, owns both the X-radiograph and the Picasso) to work with Tim Svenonius, the museum's production manager for interactive educational technologies. Together, they digitally scanned the painting at 500 pixels per inch and used Adobe Photoshop to capture the color information.

"You can see just as deeply into a crack with a digitized image as you can with a microscope," says Shank. "Using the eyedropper tool, we lifted the colors out in the most noninvasive way imaginable." The computer also made it easy to overlay the location of each pinprick of color with its coordinate location on the X-ray film. "I can't believe I was originally going to try and do that by hand," he says with a laugh.

"I don't think that what Will has achieved with such elegance and clarity was even possible five years ago," says Hoenigswald.

"My colleagues were pleasantly astonished by this," Shank says. "It's still a replica. There is no nuance of brushwork. But digitally colorizing a black-

and-white image, using the artist's exact specifications without harm to the original? This has never been done before, let alone put on display before a curious public."

Given SFMOMA's role in developing the show, not to mention the importance of Silicon Valley technology in presenting its central discovery, it seems unfortunate that "A Hidden Picasso" was not unveiled in San Francisco, nor will it travel to the Bay Area.

David Ross, the former director of SFMOMA and currently executive vice president of the Artist Pension Trust in New York, says he can't recall precisely why the museum passed on the exhibit four years ago. While the show's modest size and scholarly appeal may have made it a tough sell, he says, "If you put the name 'Picasso' on any exhibit, it'll be popular. People would be interested in his underwear."

Ultimately, Ross says, "it wasn't the topic or funding" that led to the show being cut. "There were other matters happening, politics of another level."

"It was part of the larger picture of budget cuts," Shank offers diplomatically. "'A Hidden Picasso' was not the only exhibition to get axed that year. It happens to all kinds of museum shows. At least my show has a happy ending."

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