Mystery Painting: 'The Shadow of the Cross'

An enigmatic painting is exhibited at the church of San Francisco de Asis (St. Francis of Assisi) at Ranchos de Taos, New Mexico (figure 1). It depicts a barefoot Jesus standing by the Sea of Galilee; however, when the lights are extinguished, the background luminesces as if the sky and sea were shining in moonlight, and the figure becomes silhouetted, a cross appearing at the left shoulder and a halo over the head (Michell 1979, 94; Colombo 1999, 70–72). (See figure 2.) Other mysterious effects are sometimes reported as well.

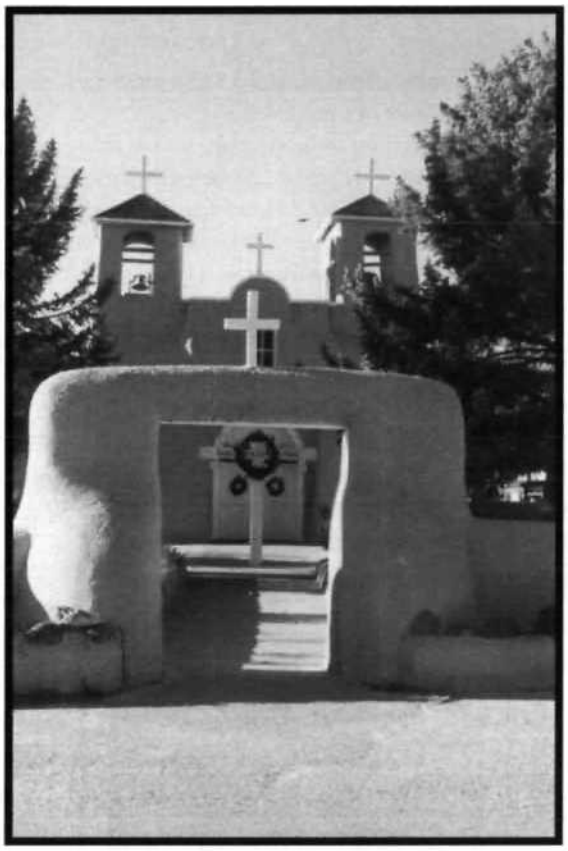

Figure 1. Historic mission church of San Francisco de Asis in Ranchos de Taos, New Mexico, is home to a "mystery painting." (Photo by Joe Nickell)

Background

Known as "The Shadow of the Cross," the life-size painting was created in 1896 by an obscure French-Canadian artist named Henri Ault (d. ca. 1912), who had a studio in the Cobalt, Ontario, region (Rawson 1914, 615–616). Ault is said to have denied being responsible for the effect, which he claimed to have discovered (quite fortuitously) upon entering his studio one night. "He believed he was going mad, and he was never able to explain the reason for the transformation," states writer John Michell (1979, 94).

Reportedly, British scientist and gullible spiritualist William Crookes (1832–1919) was the first to attempt—unsuccessfully—to explain the painting (Michell 1979, 94), which toured Europe and was supposedly an attraction at the 1904 World's Fair in St. Louis. A church brochure claims: "It is not known what causes the background to be luminous. It was painted before radium was discovered and when tested with Geiger counters the results have been negative" (Shadow n.d.).

Sources even allege that more extensive scientific examinations have been conducted, utilizing "Geiger counters, light tests and scrapings"—all to no avail (Michell 1979, 94). However as reported by *New Mexico Magazine*, while a church archivist claimed the painting had once been analyzed "for all known luminescent substances," she conceded "she had no documentation of the testing and was not sure who did the test or when" (Gaussoin 1998). Such alleged analyses appear to be apocryphal, representing attempts to convince the credulous that science is trumped by supernatural mystery.

In 1948 the picture was donated to the church, and in the early 1980s it was relocated in a room of the adjacent parish hall, furnished with folding chairs. A videotape provides an introduction to the local parish.

When the lights are turned out, and the background begins to glow, subjective impressions can prevail. Observes one source (Crystal 2003): "Soon the silhouette of Jesus grows three-dimensional and appears more

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like a dark statue than flat image. His robes seem to billow in the breeze. . . ."

The church takes a cautious view of the phenomenon, and there are no reported healing cures associated with the painting. Pilgrims' reactions vary. Some exclaim "It's a miracle!" says archivist Corina Santistevan. "There are those who are very touched and very moved and very reverent," she says. "And those who continue to be skeptical. And those who are curious and want a scientific explanation" (Chavez 2002).

Investigation

I was among the latter group. I visited the historic church on October 27, 2003, accompanied by colleague Vaughn Rees. While photographs—and certainly actual examinations of the painting—are not permitted, we managed to get a close look by staying for two showings and the interval between.

Some of the picture's touted mysteries are easily explained, such as our docent's claim that Jesus' eyes follow the viewer wherever he or she stands. That is merely the result of a three-dimensional view being "fixed" in a two-dimensional representation, and any such portrait in which the subject's eyes gaze directly at the viewer will produce the same effect (Nickell 2003).

The picture is also said to appear more intense the longer one views it, but that would be expected due to the viewer's eyes becoming accustomed to the dark. In the mottled background of the painting, some see a boat, angels, or other images, but these are simply simulacra: pictures perceived, Rorschach-like, in random patterns. Some people report seeing the image of Jesus "vibrate," the docent told us; however, that is attributable to the well-known autokinetic effect, in which a stationary light in the dark appears to be moving, due to slight, involuntary eye movements (Schick and Vaughn 1999, 45). All such effects may be augmented by the power of suggestion.

Regarding the appearance of the halo and cross, it must be noted that—contrary to some sources (e.g., Michell 1979, 94; Crystal 2003)—the halo is *always visible*, consisting of a simple outlined ellipse. It merely becomes silhouetted when the background luminesces. Such an effect—as my own experiments demonstrated—could easily be created by painting the halo outline with ordinary, opaque paint over a background rendered with a phosphorescent (glow-in-the-dark) one.

The same principle could explain the appearing-cross effect, except in that case the phosphorescent paint would need to *visibly match* that of the non-glowing background areas—something easy for an artist to accomplish. This was my preferred hypothesis to explain the mystery, after I first learned of it from Canadian writer John Robert Colombo (1996).

Supporting this hypothesis is the observation that the painting's background—in contrast to the other areas—is badly cracked and flaking, consistent with its having a different composition. (Underneath, where the upper layer has flaked off, is a very bright blue, whose presence suggests the picture was repainted—as with a phosphorescent paint.)[1] Further corroborative evidence comes from the fact that the glowing of the paint begins to diminish after a few minutes—just like phosphorescent paint—and must be re-exposed to light for the effect to continue (Casper 2004).

Proponents' insistence that the picture was created before radium was discovered (by Pierre and Marie Curie in 1898) is largely irrelevant, since non-radium luminous paints had long been available commercially. The first, Balmain's paint (a calcium sulfide phosphor to which was added a small amount of a bismuth compound as an "activator") appeared in 1870 (Phosphorescence 1911; Luminescence 1960). In 1879 an English patent was awarded "for the use of phosphorescent salts, such as sulphid [sulfide] of lime, of strontium, barium, etc., for the purpose of illumination by mixing them with paint or varnish . . ." (Phosphorescent 1879).[2]

Although in 1896 Ault's "The Shadow of the Cross" was a novelty, some modern artists now produce luminous paintings as a special genre (Duffy 1995), and there are commercial transformational pictures (such as a "daylight" seascape that, in the dark, becomes a "sunset" scene using four glow-in-the-dark colors [Spilsbury 1997]).

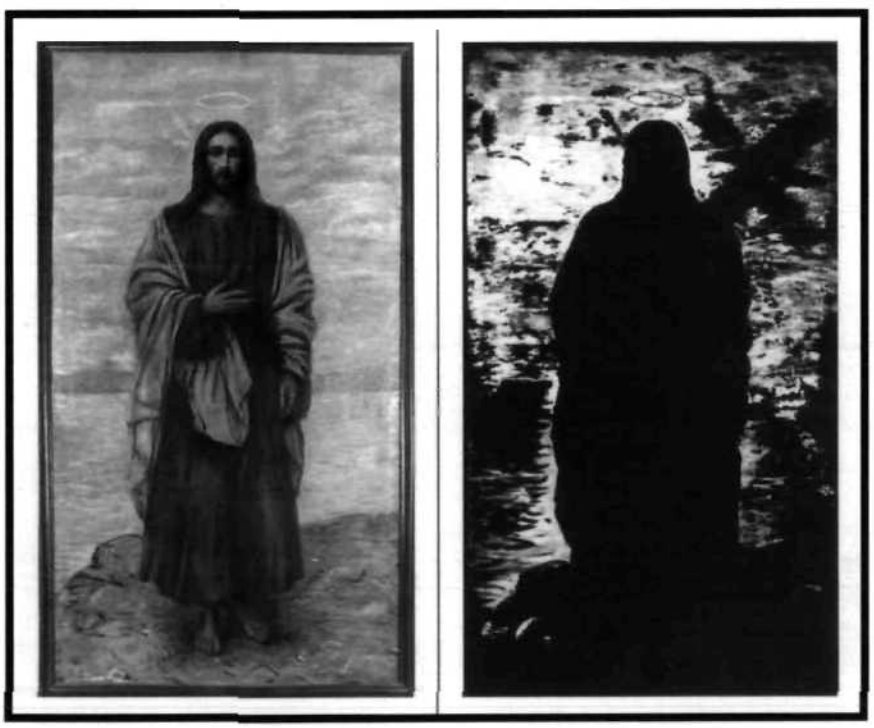

Figure 2. Before-and-after photos of the transformational painting, "The Shadow of the Cross," illustrate a mystery that supposedly baffles science. (Photos reproduced courtesy of Sarbo Photography, Albuquerque, N.M.)

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too elaborate and cunningly put together to raise the suspicion of a significant number of paleontologists. National pride probably also played a role in a professional establishment that at the time was dominated by British scientists, with the British Museum being the epicenter of all the activities surrounding the study of the Piltdown fossils.

Yet suspicions about the authenticity of *Eoanthropus dawsoni* grew, until a group of researchers, including Wilfrid Le Gros Clark, Kenneth Oakley, and Joe Weiner, applied stringent chemical tests to the remains, demonstrating that the "fossils" had been planted and chemically altered to make them seem appropriately ancient: the Dawn Man was nothing but a perfectly ordinary human skull paired up with a somewhat unusually small jaw from an orangutan. What Weiner and colleagues couldn't say for sure was who carried out the hoax, although a strong case was then made by Weiner in his 1955 book that the perpetrator was none other than Dawson himself. [See also review of Miles Russell, *Piltdown Man*, on p. 50.]

Be that as it may, what does this story tell us about how science works? Well, on the negative side, it is painfully clear that science depends on an assumption of honesty on the part of its practitioners. Peer review is focused on uncovering methodological or reasoning errors, not possible frauds. But since science is, after all, a human activity, egos, money, and the search for glory—however brief—are still to be reckoned with. As Piltdown and other forgeries have shown, scientists are continuously open to the possibility of someone fooling them by not playing by the rules of the game.

On the other hand, science is a social activity unlike any other that human beings engage in: it is a game of discovery played against a powerful but neutral opponent, nature itself. And nature cannot be fooled, at least not for long. The reason suspicions kept mounting about the true origin of the Piltdown remains was that the more paleontologists uncovered about human evolution, the less Dawn Man seem to fit with the rest of the puzzle. In a sense, the very factor that made the acceptance of *Eoanthropus dawsoni* so fast in the beginning—because it seemed to be the much sought-after "missing link" in human evolution—was also the reason why, four decades later, scientists kept pursuing the possibility that it was not genuine after all. While four decades of delay may seem an inordinate amount of time, they are but the blink of an eye when compared to the history of the human quest for knowledge. Moreover, it is important to note that it was *scientists* who uncovered the hoax, not creationists, which is both an immense credit to the self-correcting nature of science and yet another indication that creationism is only a religious doctrine with no power of discovery.

This is, then, why Piltdown—far from being an embarrassment—should be prominently featured in biology textbooks: it is an example of how the nature of science is not that of a steady, linear march toward the Truth but rather of a tortuous road, often characterized by dead ends and U-turns, yet ultimately progressing toward a better, if tentative, understanding of the natural world. □

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Conclusions

Evidence suggests that despite his reported protestations to the contrary, artist Henri Ault deliberately and cleverly created "The Shadow of the Cross" effects. Just such a metamorphosing picture could have been accomplished using glow-in-the-dark pigments or paints that were well known and even commercially available at the time the painting was produced. It is no longer much of a mystery and certainly no miracle, notwithstanding the disingenuity with which the painting's custodians claim science is baffled while at the same time avoiding the testing that could lay the matter to rest.

Acknowledgments

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Notes

1. Vaughn Rees used a hand-held ultraviolet lamp (both short-wave and long-wave) to examine the area around the cross but the UV showed nothing remarkable.

2. One source claims that any known luminous paint should have ceased to be phosphorescent by now due to oxidation (Shadow n.d.). Be that as it may, paintings are often given a protective coat of varnish (Laurie 1967, 169–171) which can improve the longevity and brightness of luminous paints (Phosphorescent 2003).

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