

## Notes on Sam Francis's Painting Methods and Materials in Two Grid Paintings

By turns, Sam Francis can be spontaneous and disciplined, baroque and reductive. His colors have a passion that doesn't come in paint tubes, but is always apparent in his work. He is concerned with the physical properties of paint itself and he gives a different attention to each medium—acrylic, gouache, watercolor, oil or lithography. —*Gerald Nordland*

Although Sam Francis is often characterized as a second-generation Abstract Expressionist, he defies easy classification. Francis reinvented the physical act of painting for himself, making the most of drips, splatters, and controlled surface accidents. He used a wide range of paint media on both canvas and paper, from oil and watercolor to a variety of acrylics: solvent-based Magna, commercial emulsions, and custom-mixed dispersion paints.<sup>1</sup> Despite his use of diverse painting materials as well as some unorthodox means of application, little has been written on Francis's materials and working methods. Preliminary insight into his technique can be gained by looking closely at two large, acrylic Grid paintings on canvas: *Untitled* (SFF.701, fig. 1) of 1978 and *Free Floating Clouds* (SFF.733, fig. 2), painted two years later, in 1980.

*Untitled*, which measures 90 $\frac{1}{8}$  by 65 $\frac{7}{8}$  inches (228.92 × 167.32 cm), is striking in both its slender verticality and its colorfulness. The weave of colors, less densely painted at the bottom, pushes out the white negative spaces and becomes more robust as it rises upward. *Free Floating Clouds*, measuring 125 by 254 inches (317.5 × 645.16 cm), is so large that it could almost be considered a small mural. Here Francis has used dark, saturated colors to weave a blue-black, purple, and green matrix over the white ground. Both these works explore the distinct optical and handling properties of acrylic paints, encompassing large washes of thin color, playful drips in varying sizes of brilliant hues, and large, thickly laid orbs of paint that punctuate the composition. Inevitably, the paint frequently invades and marks the tacking margins, which gives these paintings yet another dimension to experience when viewed from the side.

FIGURE 1  
Sam Francis, *Untitled*  
(SFF.701), 1978, acrylic on  
canvas, 90 $\frac{1}{8}$  × 65 $\frac{7}{8}$  in. (228.92 ×  
167.32 cm). Jonathan Novak  
Contemporary Art, Los  
Angeles.



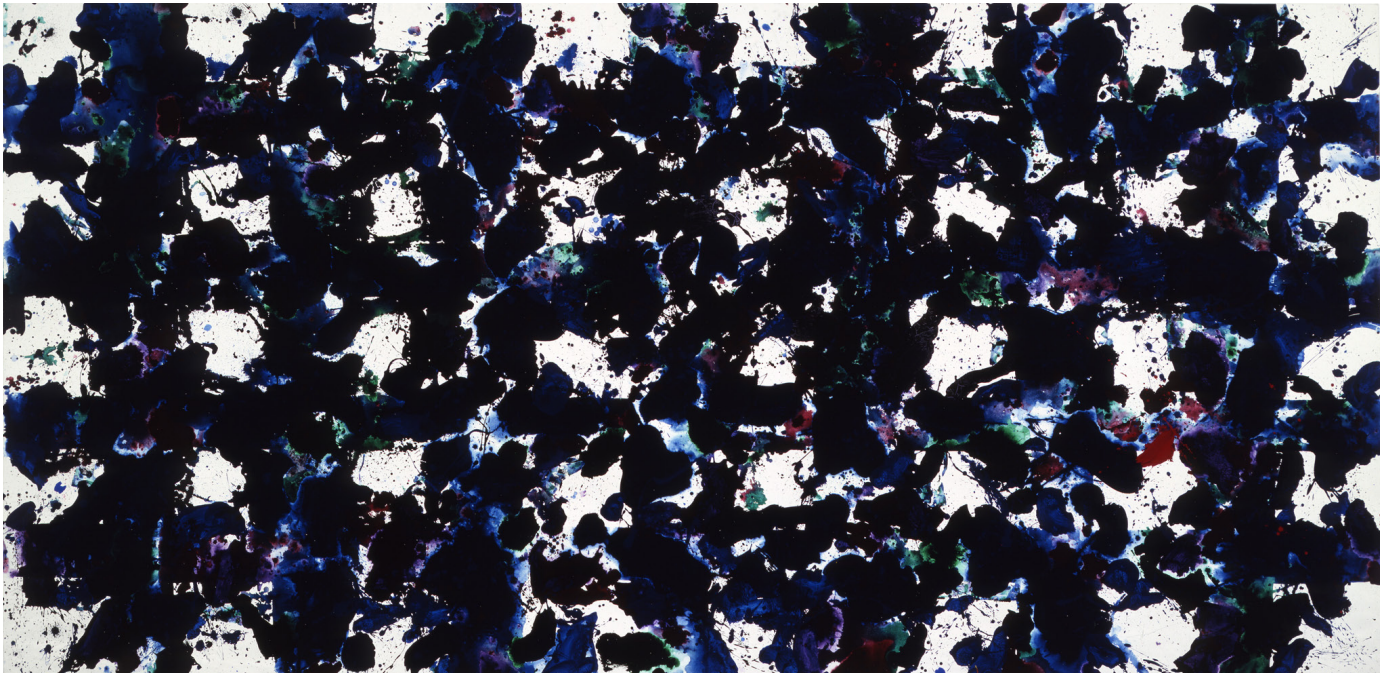


FIGURE 2  
Sam Francis, *Free Floating Clouds* (SFF.733), 1980, acrylic on canvas, 125 × 254 in. (317.5 × 645.16 cm). The Huntington Library, Art Collections, and Botanical Gardens, San Marino, California; Gift of the Sam Francis Foundation, 2008.

Francis began to use acrylic paint regularly in the 1960s, at times combining oil paint with acrylic and other water-based media in the same painting. In doing this, Francis was aware of the different drying times of oil paint versus acrylic. He did not follow a systematic system of experimentation but rather simply allowed oil and acrylic to coexist on the surface—sometimes side by side, sometimes overlapping. (Only a methodical study of multiple works from each period could confirm how many may have acrylic over oil.) Francis did not abide by any formal rules, and at times he freely borrowed from technical innovations in his graphic experiments. In Francis’s monotypes of 1978, Peter Selz describes how “everything is printed all at once, on a single plate. What is more, Francis mixes oil and water, acrylic and watercolor, dry pigment, gouache, and inks all together.”<sup>2</sup>

Francis was always experimenting with color, whether in painting or printmaking. For his prints he chose each color carefully. As Ruth E. Fine, curator of prints at the National Gallery, Washington, D.C., has indicated, his “powerful basic hues are anything but static. Red is sometimes a clear, pure scarlet, or perhaps a cadmium red medium; at other times it is a red violet, or strongly enriched with orange. The same range is seen in Francis’s blues and yellows . . . nuance of hue became essential to the character of each individual work.”<sup>3</sup> The same can be said of his painting, where he often tried out new color sequences and tirelessly created new variations on a particular theme.

Francis liked to use highly pigmented, saturated colors, where the ratio of dry material to liquid dispersion yielded a super-rich tint, one superior to a commercially sold paint. Beginning in 1970, Dan Cytron, Francis’s studio assistant for three decades, manufactured custom acrylic color dispersions and printing inks for him, often using pigments that were unusual or hard to find. “The first color we made was an ultramarine,” Cytron recalled. “There are lots of ultramarines out there, but I found the right one was made in Belgium at the time, that was as beautiful as you could get. And I could make it both in a printing ink and to use on the canvas.





FIGURE 3  
Paints and brushes in Francis's  
Santa Monica studio in 1996.

And then he had something that no one else had.”<sup>4</sup> Francis was very specific about the colors he wanted. As Cytron explained, “Sam could afford any pigments he wanted and he wanted colors which were rare or obscure, such as real cadmium, or cobalt-based colors, not available to the general public.”<sup>5</sup>

So intimate was the dialogue between Francis's painting and printmaking that on occasion he used printing inks from his Litho Shop on his canvases. These inks, his master printer George Page recounted, were “pure colors, not mixed with black or white, and rarely with extenders or transparent mediums.”<sup>6</sup> In addition to these inks and the paints made by Cytron, Francis used various commercial brands of acrylic emulsion paint. In photographs taken in his Santa Monica studio (such as fig. 3), Golden, Liquitex, and other brands of acrylic paint are visible, alongside clear mediums, custom dispersion colors, inks, watercolors, and brilliant color dyes in tiny bottles.

By studying photographs and films of the artist in action, we can see that for his Grid paintings Francis typically had his canvases laid out flat on the studio floor and then primed with several layers of white gesso, with the top layer usually tinted with another slightly detectable color, which varied with each painting.<sup>7</sup> In the smaller-scaled works of the 1950s and 1960s, the gesso was applied with sponges and large brushes; later, as the size and number of canvases expanded, it was easier to apply the gesso with rollers. (Francis may have moved toward using rollers while doing the Edge paintings from the mid-1960s to early 1970s, when he probably realized how long it took to apply layer upon layer of gesso in the traditional fashion and worked with his studio assistants to design a more economical system to achieve the desired results.) In terms of dimensions, Nicholas Wilder, Francis's Los Angeles dealer, has noted: “Each of the paintings has a predetermined size which is adhered to . . . throughout the painting of the canvas. There is never any paring down or actual cutting up of the canvas in order to find a picture after the act of painting is over.”<sup>8</sup> In fact, fragments of blue or red chalked snap-lines are often found along the white edges, as evidence of predetermined size. With both *Untitled* and *Free Floating Clouds*, the white gesso was applied in at least two layers. The first layer of gesso seals the fabric and fills any voids, while subsequent layers create the final white surface, on which the artist will add his vibrant colors.

After the canvas was primed, Francis would sketch his composition directly onto the canvas using a sponge, large round brush, or a paint roller. This process is clearly seen in Mark Whitney's film footage of the creation of the Grid (or Matrix) painting *Joyous Lake* (1977, SFF.681). Francis picks up a six-inch-wide paint roller saturated with very dilute green and defines the composition on the white canvas (fig. 4). In subsequent sessions he builds on this initial layout.



The roller allows him to block in the straight lines of the grid. Working with round and flat brushes as well as sticks, Francis then builds the overall composition quite slowly, returning with rollers and brushes several times to redraw and define the main forms (figs. 5 and 6). “It is not about trying to reproduce something else,” Cytron explains. “He is drawing all the time, and so the shapes that are there are sometimes a drawing that is enlarged, and sometimes it is smaller. And so the strokes are very important, and the shapes are really, really very relevant.”<sup>9</sup>

A different process is evident in Jeffrey Perkins’s film *The Painter Sam Francis*, where the artist holds a large, round paintbrush, with a soft oval-shaped tip, and lays down an almost invisible water drawing on the canvas for the *Berlin Mural* (1970). Francis is subsequently seen painting a perfectly straight line along the edge of the white canvas. Using a brush or a roller, he then drips or splatters custom-made saturated colors of bright acrylic paint—pure pigment, without the additives and fillers used in commercial paints—onto the wet and dry surface. After a while an increasingly complex composition reveals itself to the viewer. As Nicholas Wilder describes: “If more color is called for, the area can be wetted down again without disturbing the previous color, which has already dried. More color, either transparent or opaque, then can be laid in. By this wetting, painting, drying, rewetting and painting again . . . Francis can marry many different colors with different qualities . . . and make it appear that it happened spontaneously, all at one moment. . . . The results are not fortunate accidents, but carefully conceived compositions.”<sup>10</sup>

In *Untitled* (1978) the sequence of colored forms applied to the primed canvas is complex but can be deciphered when examined closely. Francis first organized the canvas into five broad vertical and seven horizontal forms using a thin wash of a transparent aqua applied with a paint roller. The outer edges of these broad shapes, which intersect at right angles, are still vis-

Clockwise (from top left)  
FIGURE 4  
Francis laying down an initial grid composition in dilute green with a paint roller in Mark Whitney’s film *The Painting of Joyous Lake*, 1977.

FIGURE 5  
Francis making subsequent paint applications with a brush in Mark Whitney’s film *The Painting of Joyous Lake*, 1977.

FIGURE 6  
Close-up of Francis applying paint onto the thin green grid composition in Mark Whitney’s film *The Painting of Joyous Lake*, 1977.





ible underneath the upper layers of paint (fig. 7). Overall, the paint is rather thin, thickening where the broad lines intersect, especially given the texture of the canvas, an equally important “partner” in the final effect. The texture variations are most visible when viewed in raking light (figs. 8 and 9). Colors spill into each other and combine into large and small color pools set against thicker solid shapes with small residual holes from air bubbles whipped into the paint on application. The regular texture of the canvas support is often visible through the poured colors. One must not underestimate the role of the canvas texture in creating the final contrasts between the thickly poured colors, the thin washes of colors, and the open expanses of the tinted white gesso.

Analysis has confirmed that the paints used in *Untitled* (1978), as well as *Free Floating Clouds*, are all acrylic emulsion paints.<sup>11</sup> Most pigments detected in *Untitled* are synthetic organic pigments, which often impart extremely bright and intense color. Very few mixtures of pigments were found. In most samples only a single pigment was detected: red quinacridone pigment PR122 in the dark red areas, red azo pigment PR9 for the bright medium red, phthalocyanine blue pigment PB15 for the bright blue, yellow azo pigment PY3 in yellow areas, orange azo pigment PO43 for orange, and green phthalocyanine PG7 in dark green areas. The mixtures occurred in the bright apple green color, made with the green phthalocyanine pigment PG36 and the yellow azo pigment PY3, and in the purple color, which contains synthetic ultramarine and phthalocyanine green PG7.

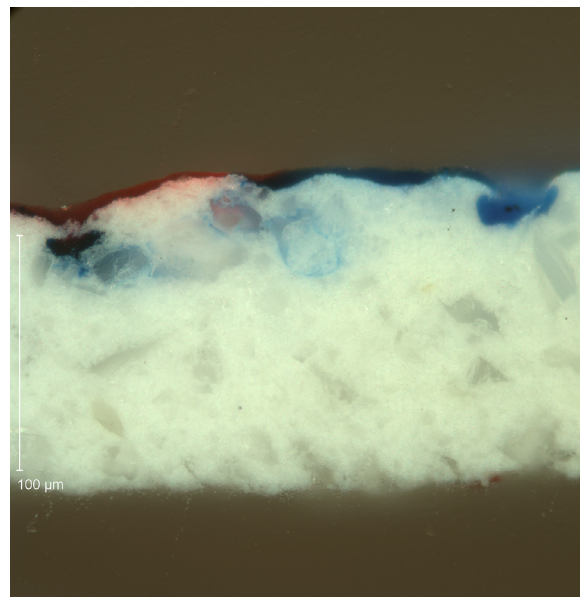
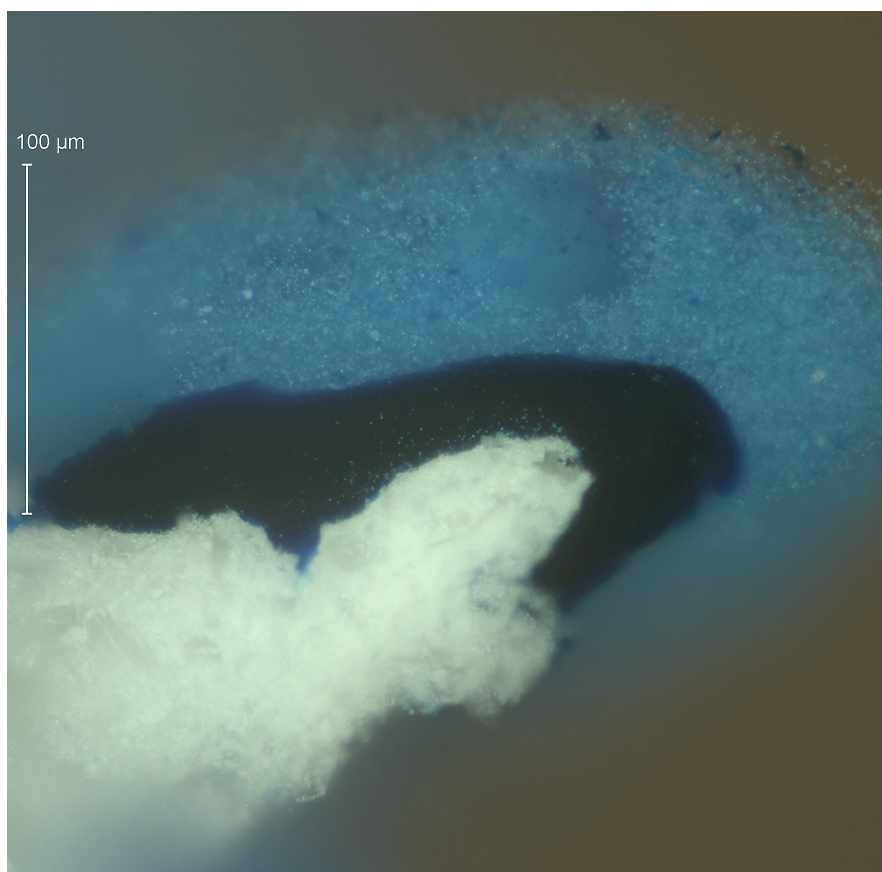
One particularly unorthodox, yet important, technique Francis sometimes employed was to use water enriched with Photo-Flo, a wetting agent, to give the surface a watercolor-like quality. By laying down wide tracks of wet color on the canvas, he made subsequent paint layers flow differently between the wet and dry areas, and encouraged an almost extreme flowing and

FIGURE 7  
Detail from *Untitled* (1978)  
showing the dark blue grid  
lying beneath a variety of  
paint layers.

FIGURE 8  
Detail from *Untitled* (1978)  
taken in raking light (from  
left), showing some of the  
texture variations across the  
painting.

FIGURE 9  
Detail from *Untitled* (1978)  
taken in raking light (from  
left), showing visibility of  
canvas texture and popped air  
bubbles (a common feature of  
acrylic emulsion paints).





merging of colors. As William C. Agee has noted, “The wet bands gave an underlying structure into which an infinite variety of color could be added.”<sup>12</sup>

More often, however, Francis layered his color without the use of Photo-Flo, achieving a “wet-on-dry” effect. A cross section from the right edge of *Untitled* (1978) shows such an instance, with distinct borders visible between each layer (fig. 10). Here the first, very dark, medium-rich blue layer, pigmented with a phthalocyanine blue pigment (probably PB15: 4), would have dried completely before the upper, much lighter blue layer (a different phthalocyanine blue pigment, this time mixed with white extenders and richer in pigment) was applied.

In the Grid paintings of the early 1980s, Francis made more frequent use of pouring paint straight out of a container onto the canvas, either directing the flow of color with subtle movements of his hand or letting “controlled accidents” take place. The paint he applied was liquid in consistency and varied from translucent to what conservators refer to as “lean to balanced,” depending on the color and mode of application.<sup>13</sup> One can usually discern brushmarks in the dry surface when a brush was employed, and one can detect the energy with which the paint was dripped or splattered off the stick or brush.

For *Free Floating Clouds*, the artist first organized the canvas into a grouping of vertical and horizontal forms using thin washes of color, the outer edges of which are visible underneath the thickly applied paint. A cross section (fig. 11) shows the incredibly thin layers of blue and red paint lying over the thick white gesso ground, with the very dilute blue diffusing deep into the porous gesso. Francis, who used acrylic paints with high gloss or matte finishes, was aware that the pigment-to-medium ratio and the particle size can alter the paint sheen. Francis took

FIGURE 10

A cross section from right edge of *Untitled* (1978), showing a wet-on-dry technique, an effect easily achieved in and typical for acrylic painting, and often used by Francis.

FIGURE 11

Cross section from *Free Floating Clouds*, showing the very thin blue and red paints bleeding into the white gesso primer.



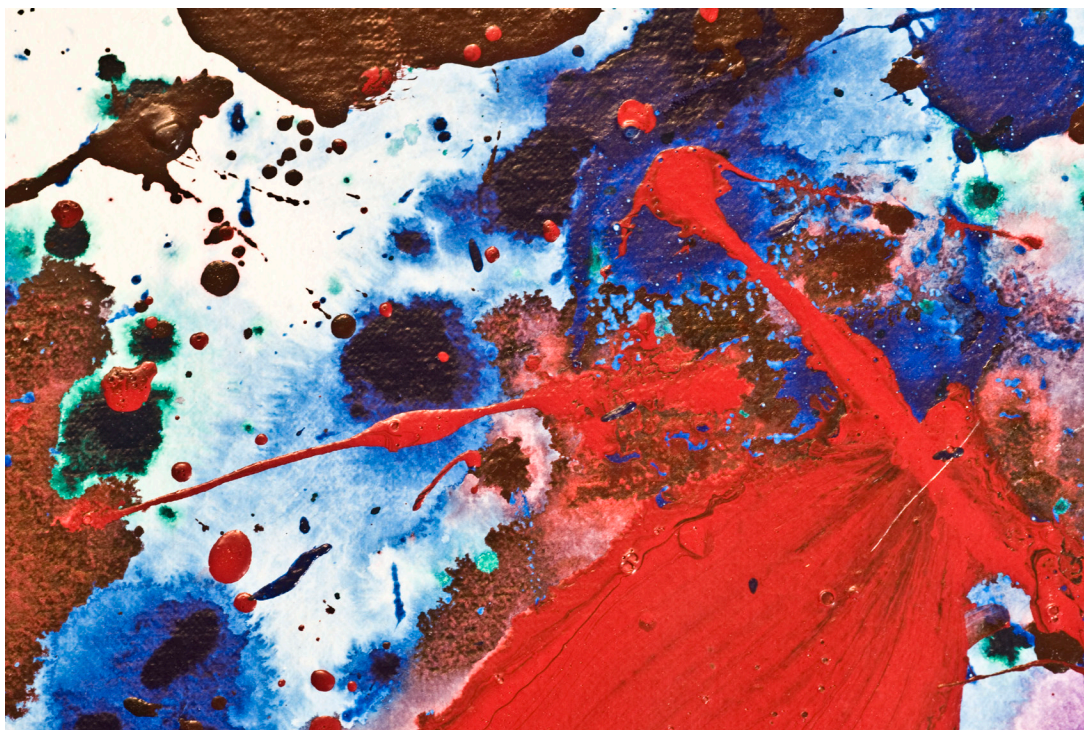


FIGURE 12  
Detail from *Free Floating Clouds* showing the variations in paint thickness, from ultra-thin stains to thicker areas with visible brushstrokes.

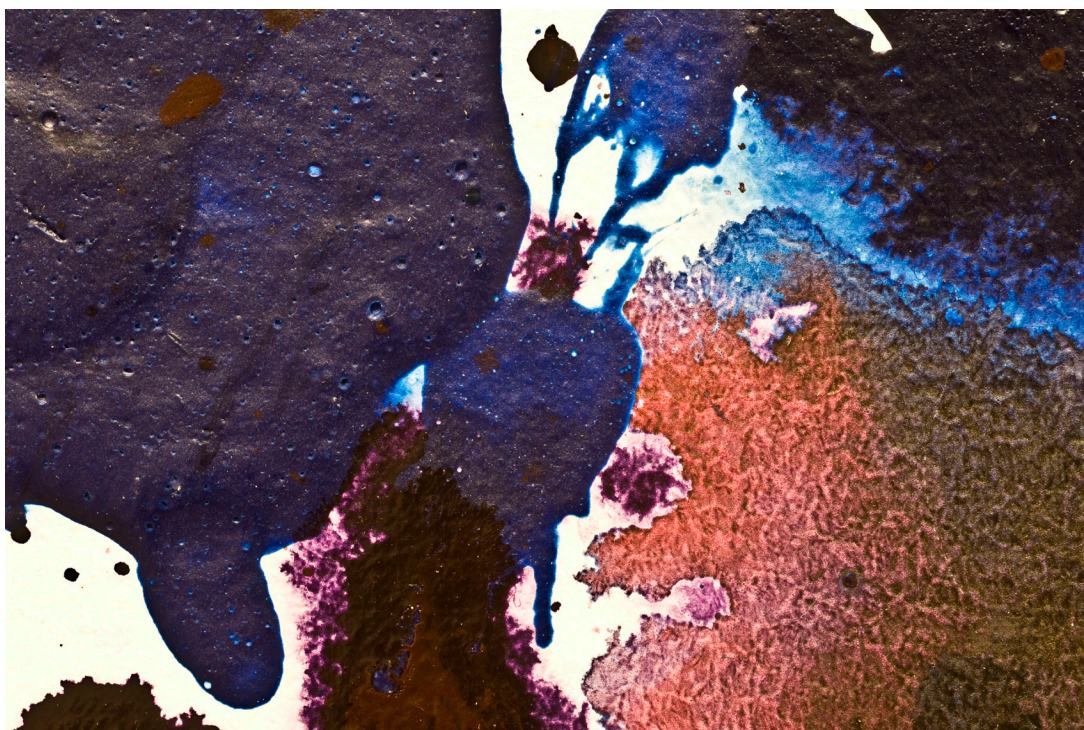


FIGURE 13  
Detail from *Free Floating Clouds* showing the variations in paint sheen, from thinner matte passages to thicker shiny areas.

advantage of this feature to create very elegant surfaces with complex sheen properties. In *Free Floating Clouds* the sheen of the paint is beautifully varied, alternating between matte in the thinner passages, satin, and shiny in most of the large orbs (figs. 12 and 13). Dan Cytron has pointed out how Francis chose to extend the possibilities of his color: “There are five different phthalo blues they make commercially . . . and so it’s the most common color made today. And



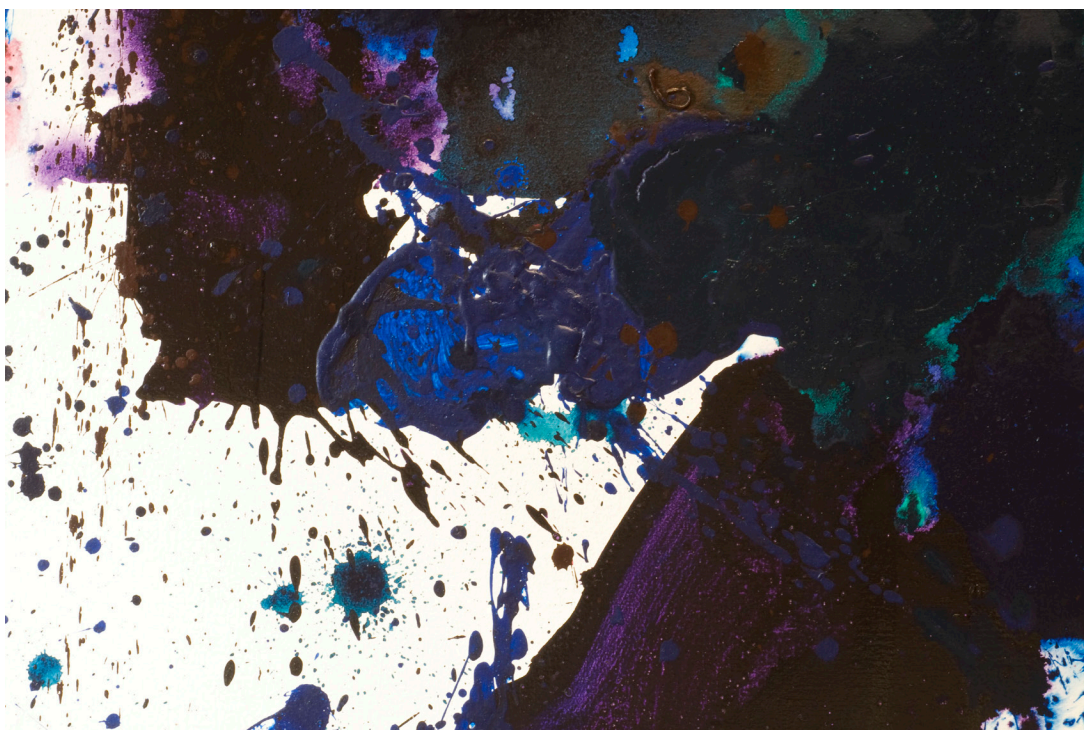


FIGURE 14  
Detail from *Free Floating Clouds* viewed in an oblique light, showing the “bronzing effect” of opalescent areas.

if you see it more glossy, it’s because [Francis] put more resin in it. Because the reflection aspect is the resin.”<sup>14</sup>

Francis was also interested in opalescent and metallic colors and experimented with these in printing first and then in his painting. In *Free Floating Clouds*, there are some opalescent areas that give the surface a “bronzing” effect, especially visible when viewed in oblique light (fig. 14). As Cytron puts it: “Some of the pigment, when it is very highly dense, looks very metallic. And that’s a quality of the pigment . . . and that’s called bronzing. . . . And Sam would use that. He liked it, [saying] ‘Leave it. I want it to bronze.’”<sup>15</sup> These bronzed surfaces are actually very delicate and can easily be “marred” and change appearance if treated by a conservator with any cleaning system, even water or organic solvents.

Despite the wide range of paints Francis used and his somewhat unorthodox application techniques, the Grid paintings have survived remarkably well over time. The colors have retained their vivid intensity, the variations in gloss are still evident, and it is rare to see any type of flaking or delamination. One change that is often visible and might be considered as deterioration is cracking, which can range from a fine, overall craquelure to deep crevasses, and is most common in the thicker, poured orbs of paint. All of these cracks, however, probably developed shortly after the completion of the painting, and the incredible adhesive power of acrylic resins has ensured that the paint remains stable with no danger of loss. In most cases, Francis would have seen these cracks, and in some instances he even applied additional paint layers over a recently formed crack. Most important, for conservation thinking, is that he was reportedly not at all concerned with it; instead, he accepted this change as part of the natural aging process of the already complex three-dimensional surfaces that characterize his paintings.<sup>16</sup>



## Notes

This essay is part of *Sam Francis: Catalogue Raisonné of Canvas and Panel Paintings, 1946–1994*, edited by Debra Burchett-Lere, published by University of California Press and Sam Francis Foundation (© 2011 Sam Francis Foundation). The epigraph by Gerald Nordland, “Notes on Sam Francis and His Work,” is in *Sam Francis 1964–1979*, exh. cat. (Los Angeles: Manny Silverman Gallery, 1993), 11.

1. The latter comprise pigment dispersions mixed into a clear acrylic emulsion medium.
2. Peter Selz, *Sam Francis*, rev. ed. (New York: Harry N. Abrams, 1982), 277–78.
3. Ruth E. Fine, “Patterns across the Membrane of the Mind,” in Connie W. Lembark, *The Prints of Sam Francis: A Catalogue Raisonné 1960–1990*, vol. 1 (New York: Hudson Hills Press, 1992), 21.
4. Dan Cytron, in “Sam Francis: Discussion by William C. Agee, Daniel Cytron, and Carol Mancusi-Ungaro,” interview taped at the Menil Collection, Houston, 1999; transcript in the conservation department, Menil Collection, 29.
5. Dan Cytron, in roundtable discussion with members of the Getty Conservation Institute, including Tom Learner, Carrie Menke, Rachel Rivenc, Francis conservator Aneta Zebala, and Debra Burchett-Lere, Getty Center, Los Angeles, October 25, 2007; transcript in the Sam Francis archives.
6. George Page, quoted in Connie W. Lembark, “Preface,” in *The Prints of Sam Francis*, vol. 1, 8.
7. See Jeffrey Perkins, dir., *The Painter Sam Francis* (New York: Body and Soul Productions, 2008), film, and Mark Whitney, dir., *The Painting of Joyous Lake* (1977), film.
8. Nicholas Wilder, “A Statement,” in *Sam Francis: Paintings*, exh. cat. (Los Angeles: Nicholas Wilder Gallery, 1978), 8.
9. Cytron, in “Sam Francis: Discussion,” 11.
10. Wilder, “A Statement,” 8.
11. The analysis was conducted with a combination of Fourier Transform Infra-Red (FTIR) spectroscopy, Direct Temperature Mass Spectrometry (DTMS), pyrolysis-Gas Chromatography/Mass Spectrometry (py-GCMS), and Raman Spectrometry. For more on the paints found in Francis’s Santa Monica studio in 1994, as well as those used on *Untitled* (1978), see Carrie Ann Menke, Rachel Rivenc, and Tom Learner, “The Use of Direct Temperature-Resolved Mass Spectrometry (DTMS) in the Detection of Organic Pigments found in Acrylic Paints Used by Sam Francis,” *International Journal of Mass Spectrometry* 284 (2009): 2–11; and Michel Bouchard, Rachel Rivenc, Carrie Ann Menke, and Tom Learner, “Micro-FTIR and Micro-Raman Study of Paints Used by Sam Francis,” *e-Preservation Science* 6 (2009): 27–37.
12. William C. Agee, “Sam Francis: Color, Structure, and the Modern Tradition,” in *Sam Francis: Paintings 1947–1990*, exh. cat. (Los Angeles: Museum of Contemporary Art, 1999), 42.
13. “Lean” applies mostly to pigment with little binder (it looks matte in raking or oblique light), and “balanced” has enough binder to hold all the paint without the paint “chalking out” (it looks more satin in raking or oblique light).
14. Cytron, in “Sam Francis: Discussion,” 39.
15. *Ibid.*, 39.
16. As noted by Jacob Samuel, Francis’s master etcher, in conversation with Tom Learner and Aneta Zebala, Litho Shop and Lapis Press, Venice, California, 1999.

Aneta Zebala is the Paintings Conservator for the Sam Francis Foundation. Tom Learner and Rachel Rivenc both work at the Getty Conservation Institute.

Image credits: fig. 1 photo courtesy Jonathan Novak Contemporary Art, Los Angeles; fig. 2 photo by Brian Forrest, Santa Monica; fig. 3 photo by Aneta Zebala; figs. 4, 5, and 6 © 2011 Mark Whitney, California; figs. 7 and 11 photos by Alan Phenix; figs. 8, 9, 10, 12, 13, and 14 photos by Aurora Tang.