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Unraveling the motion of a fluid from dry paint

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Herein, we attempt to unravel two phenomena common to some modern canvas artists. In some paintings, small droplets (0.1 5 mm in diameter) appear as a single color, however, on closer inspection are actually composed of multicolored spiral patterns (e.g., in non-Newtonian acrylic paint). High-speed imaging reveals that these assemblies occur when a droplet impinges on the edge of a small pool of paint. The splash crown forms color on two sides and the edges are rolled up to eventually form paint spirals, resulting in varying colored droplets from a distance. This intriguing painting technique could inspire new mixing techniques for small scale ultra-viscous fluids. Other artists use slower pouring techniques with color after color poured onto three-dimensional shapes. The paint forms expanded rings of color, lines of increasing radius, and cascades of color as the paint is sped up passing over slopes and valleys. These beautiful formations are formed by equally beautiful physical phenomena that preserve the motion of the fluid even after the paint is dry.

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