Splash Lab™ Modern Art Entanglement: comment s'emmêler les pinceaux

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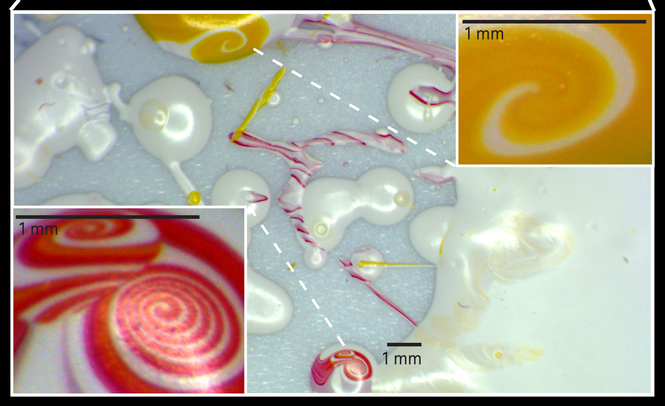
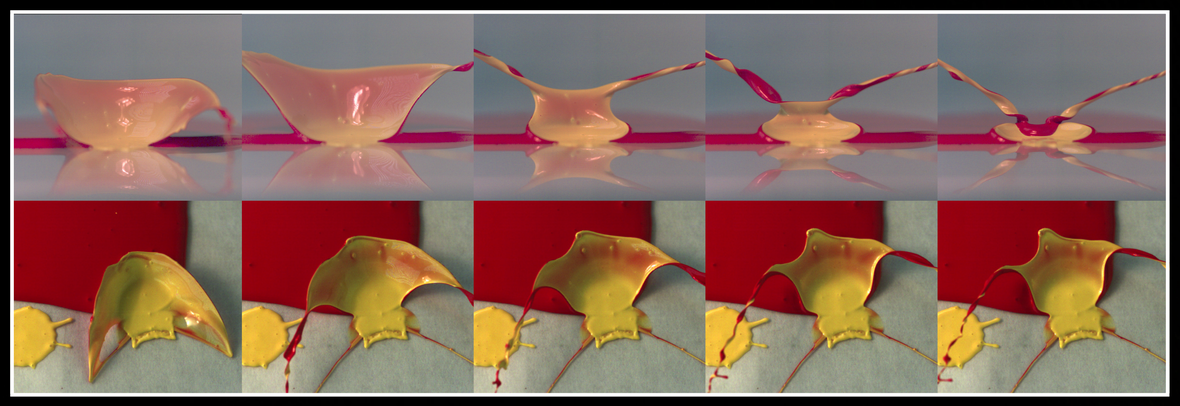
1 mm

From the large facades of our buildings to the refinement of art canvas, paintings literally surround us and make our lives colorful. Artists are continually looking for novel methods to complement their expression and ideas, while instinctively manipulating the underlying physics. We attempt to unravel a phenomenon common to many modern canvas artists. In some paintings small droplets (0.1 – 5 mm) appear as a single color, however, on closer inspection are actually composed of multicolored spiral patterns (e.g., 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. Upon impact, the droplet creates a crown with the falling droplet color on the inside of the crown and the pool colors on the outside. Ripping occurs in thin film feeding a rapid roll-up in the thicker ridge-line regions. These twisted formations are projected outward and break into small droplets that form the paint spirals. These beautiful formations, appreciated in their static form on canvas in museums around the world, are formed by equally beautiful physical phenomena.

Zoomed in view of the spiral aftermath bottom-left. Two time series of a paint droplet falling onto the edge of a larger paint pool side and top views. Approximately 5 ms between images.





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