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IV 2 Report
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The goal of this project is to visualize the way that ink falls off of the tip of a fountain pen. The intent was to show the motion of the drop through the composition of several still frames. I was specifically attempting to capture the surface tension of the ink and the moment when it finally falls.

A LAMY fountain pen was the primary apparatus of this project. A small cup containing a crumpled tissue was placed below the pen to cleanly catch the fallen inkdrop. Two Neewer LED lights were used to light the subject and a white poster stock was used for the background. The ink was dropped from the pen by tightening the pen's piston converter to push out more ink. Holding the pen horizontally the ink was able to form a uniform droplet on the tip of the pen before dropping into the cup.



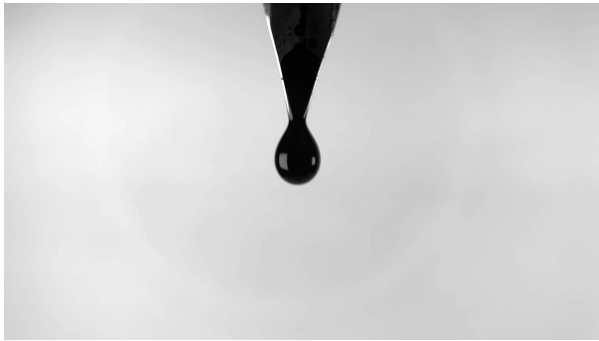
Ink was the primary visualization subject of this project. Filling the fountain pen from a 50ml bottle of black Waterman ink from Paris and purchased from the McGuckin Hardware store in Boulder Colorado. The pen was a clear LAMY safari fountain pen with a LAMY Z28 piston converter. Slow motion video was used to capture the macro shot of ink dropping, and stills were screen grabbed during post production. Pointing the small set of lights at an approximate 45 degree angle in relation to the camera lens, the white background essentially functioned as a bounce board to backlight the fountain pen and ink. A high contrast ratio was accomplished through the use of the dark ink and the backlit tip of the pen staged in front of a brightly lit background.



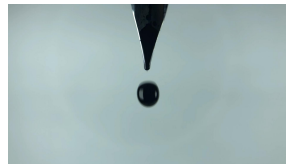
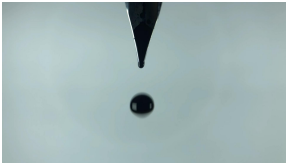
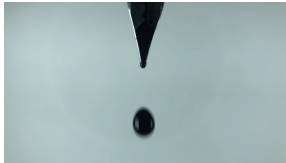
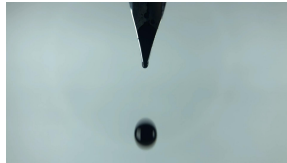
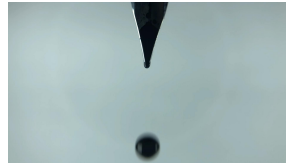
In order to capture the slow motion video FiLMiC Pro was run on an iPhone 8 with a macro clip lens attached. The settings were set to a 16:9 aspect ratio and recorded at 240fps played back at 24fps (23.98fps). The exposure was set for 22 ISO, 1/192 shutter speed, and f/1.8 on a 3.99mm lens. The video was recorded using a HEVC codec and was imported into the Davinci Resolve software. In the color tab the saturation was set to zero to make the image monochromatic, and four frames were selected to be composited in the editing window. The four selected clips were stacked onto one another. Each clip's opacity was changed in order to make

each frame visible. The bottom frame was left at 100% opacity, the next was 50%, then 25% and finally 15% on the top frame. The color wheels were used to normalize the color levels, but the exposure was primarily accomplished from the settings made in camera.

The photograph visualizes the way in which a fluid's surface tension will allow it to hold on to a solid and immediately form a sphere when dropped. I am most fond of the way that a huge drop can stay suspended on a tiny point before falling. I wish that the slow motion video did a better job of capturing the drop of the ink once it left the pen, but the composited image does a good job of visualizing this motion. Another difficulty was holding the pen close enough to the macro lens without pulling it out of focus while the ink was pooling and dropping. Another option for this project could be to rotate the frame 90 degrees for a vertical composition in order to give the ink a further distance to drop in the frame.

<u>Before Color Grade</u>	<u>After Color Grade</u>
	

Original Stills*

1. 	2. 	3. 	4. 
5. 	6. 	7. 	8. 

*(selected from the ungraded slow motion video)