

Abstract Submitted  
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**An analysis of the Rayleigh-Taylor instability of thin viscous layers** E.M. DE LA CALLEJA, S. ZETINA, R. ZENIT, Universidad Nacional Autónoma de Mexico — Recently, Zetina and Zenit (2013) showed that certain textures in the early paintings of D.A. Siqueiros resulted from a hydrodynamic instability. Siqueiros invented the so-called “accidental painting” technique, which consisted in pouring layers of different color son top of each other. For the correct color combination, the dual layer became Rayleigh-Taylor unstable and mixed; the density of a paints depends on its color. In this investigation, we conducted experiments to fully understand the instability of thin viscous layers. We varied the densities, viscosities and thicknesses of the layers. We measured the size of the visible blobs and characterized their change in size with the parameters of the flow. We contrasted our observations with the predictions of a linear instability analysis of the flow. We discuss the implications of these results with modern painting techniques.

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