

Abstract Submitted
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An analysis of the “accidental painting” technique of D.A. Siqueiros: the Rayleigh Taylor instability as a tool to create explosive textures S. ZETINA, R. ZENIT, Universidad Nacional Autonoma de Mexico — In the spring of 1936, the famous Mexican muralist David Alfaro Siqueiros organized an experimental painting workshop in New York: a group of artists focused in developing painting techniques through empirical experimentation of modern and industrial materials and tools. Among the young artists attending the workshop was Jackson Pollock. They tested different lacquers and a number of experimental techniques. One of the techniques, named by Siqueiros as a “controlled accident,” consisted in pouring layers of paint of different colors on top of each other. After a brief time, the paint from the lower layer emerged from bottom to top creating a relatively regular pattern of blobs. This technique led to the creation of explosion-inspired textures and catastrophic images. We conducted an analysis of this process. We experimentally reproduced the patterns “discovered” by Siquieros and analyzed the behavior of the flow. We found that the flow is driven by the well-known Rayleigh Taylor instability: different colors paints have different densities; a heavy layer on top of a light one is an unstable configuration. The blobs and plumes that result from the instability create the aesthetically pleasing patterns. We discuss the importance of fluid mechanics in artistic creation.

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