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**On tail formation during gravure printing of sessile drops** UMUT CEYHAN, S.J.S. MORRIS, University of California, Berkeley — Kitsomboonloha et al.(2012) study the deposition of femtolitre drops by the gravure method. The substrate (gravure plate) passes under a stationary blade; liquid placed on the substrate upstream of the blade fills the engraved wells as they enter the blade–substrate gap. Motion of the substrate beneath the blade removes the excess, leaving liquid–filled wells. The resulting pattern can then be printed. As a well leaves the blade, some liquid is, however, subtracted from it and left as a tail between the well and blade. Tails are undesirable because they reduce the sharpness of printed features. It was proposed that tails form by a 3–dimensional mechanism involving lateral wicking of liquid from the wells along the blade–substrate intersection. Here, lubrication theory is used to show that the effect can be understood within the context of plane flow. As a well passes under the trailing edge of the blade, capillary suction causes the meniscus to rise on the blade, but once the well has left, the increased drag exerted by the substrate pulls the meniscus down. Liquid dragged from the meniscus forms the tail. We conclude that tail formation is a problem in plane Stokes flow.

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