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Dynamics of drops dancing on the ceiling JOHN LISTER, SIMON REES, JOHN RALLISON, DAMTP, University of Cambridge — A layer of fluid coating the underside of a horizontal ceiling is stabilised by surface tension and destabilised by gravity to yield pendent drops. We show that a single pendent drop is capable of self-sustained quasisteady translation in a straight line over an otherwise uniform film. The drop leaves behind it a 'wake' in which the average film thickness is a factor 0.095 that of the initial uniform film, and the drop thus grows by accumulation. When such a self-translating drop encounters a region of nonuniform thickness, for example another drop or its wake, the drop is deflected on a curved trajectory. Curious dynamics ensue.

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