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Marangoni Effect and "chasing drops" PREETI YADAV, PRASHANT BAHADUR, RAFAEL TADMOR, Lamar University — The spontaneous motion of a liquid droplet due to the placement of another drop of a different liquid has been studied. The motion is recorded when both the drops are placed on one smooth surface as well as when the two drops are kept on different surfaces still retaining the same distance between them. It is traditionally believed that Marangoni Effect is caused when vapors of one liquid deposit on the closer region of the other drop thus creating surface tension gradient within the drop. Through our experiments, we observed that despite keeping the same distance between the drops, thereby allowing for vapor deposition, upon surface separation the pursued drop did not run away spontaneously the way it did for continuous smooth surface. This indicates that the surface is an important factor in the spontaneous drop flow.

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