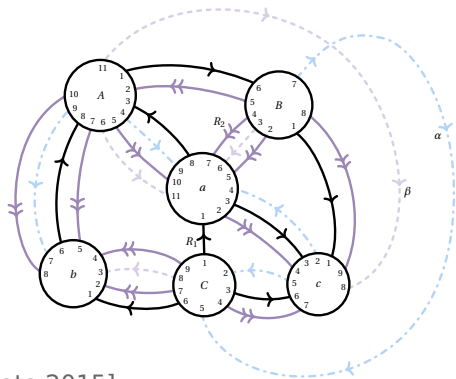
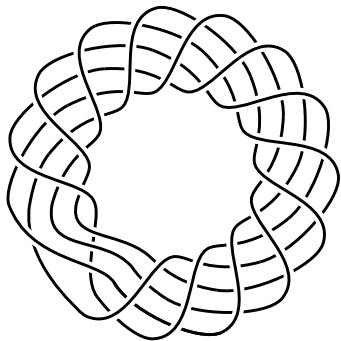
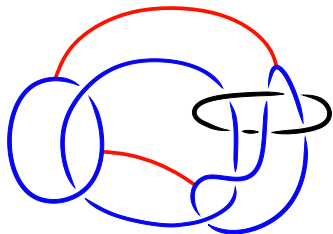
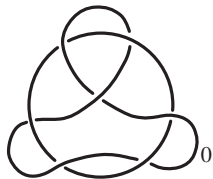


Illustrating 3-dimensional topology and geometry

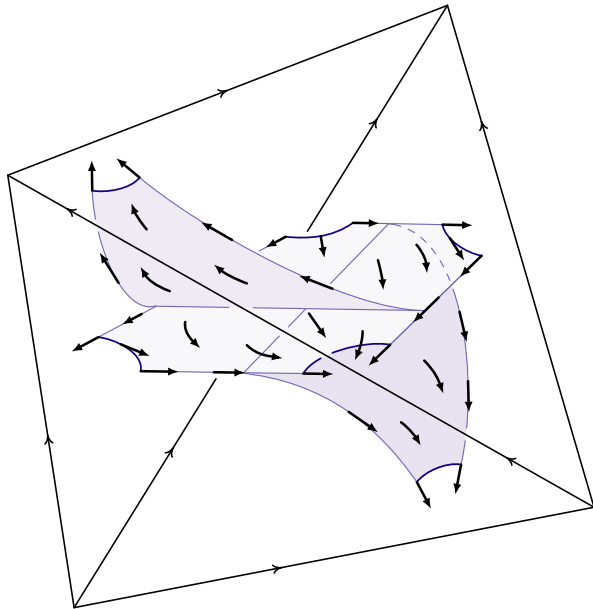
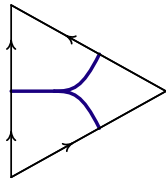
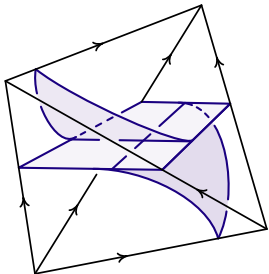
Nathan Dunfield

University of Illinois

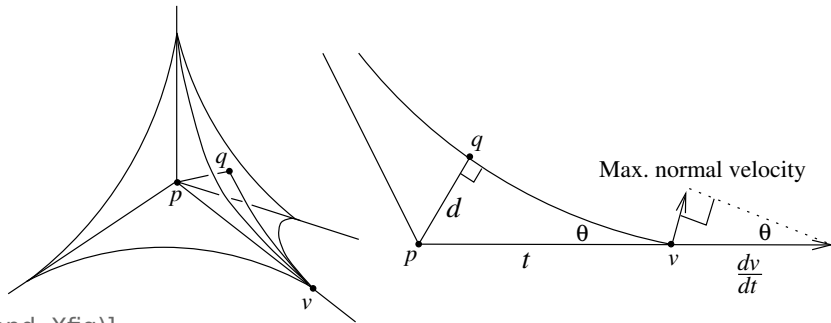
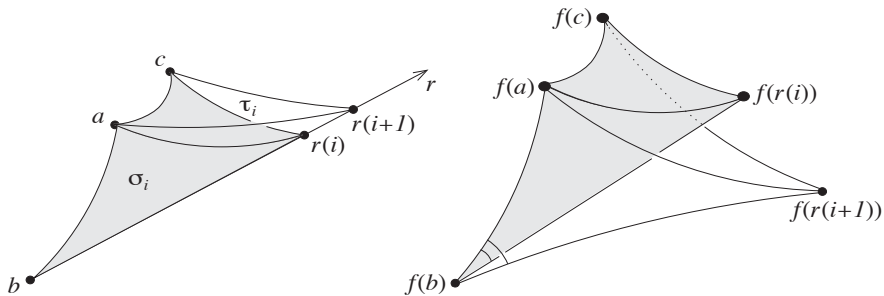
<http://dunfield.info/slides/illustrating.pdf>

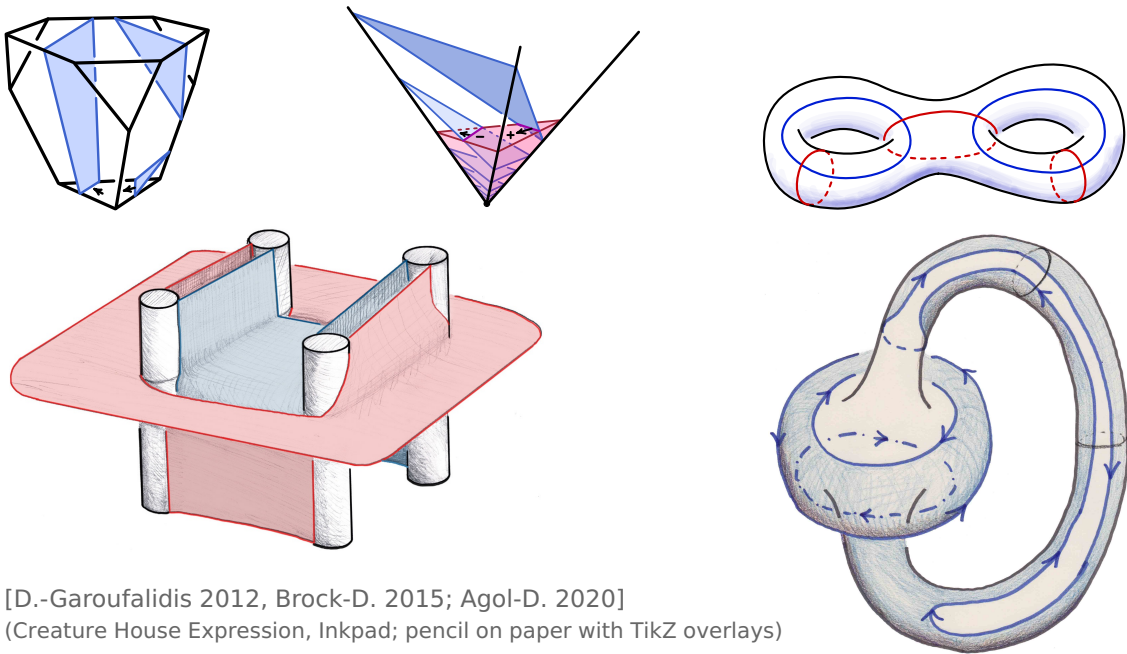


[D. 1999a, F. Calegari-D. 2006; D. 2016, D.-Hoffman-Licata 2015]

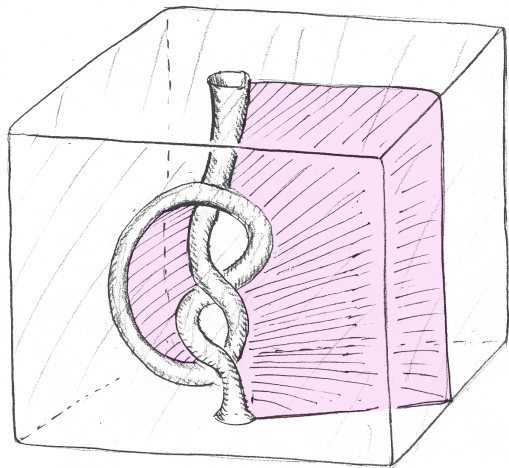
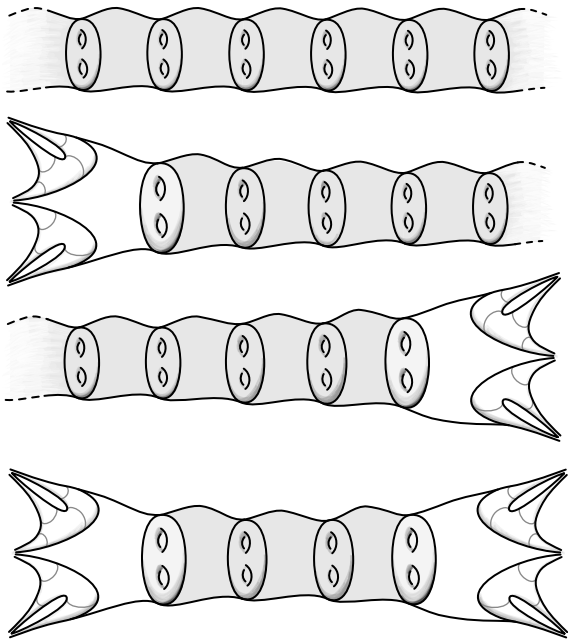


[D. 2019 (TikZ)]

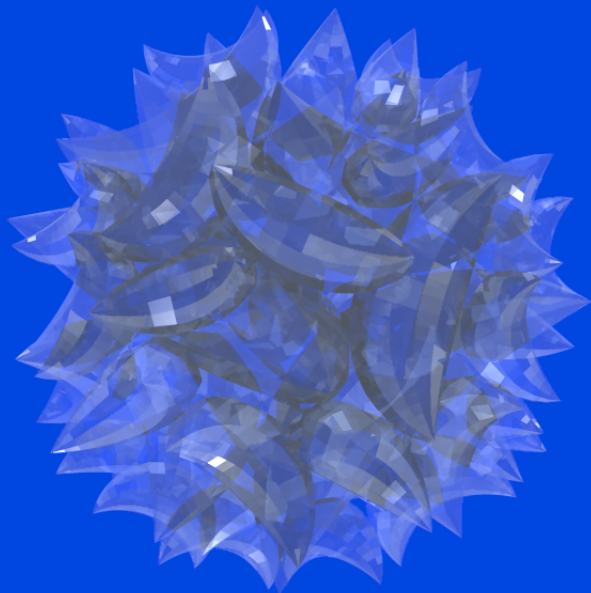


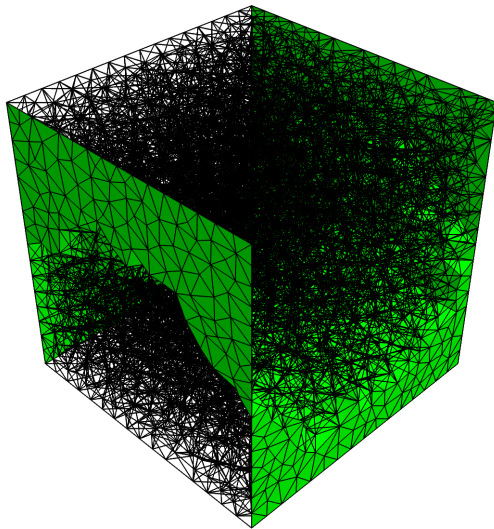
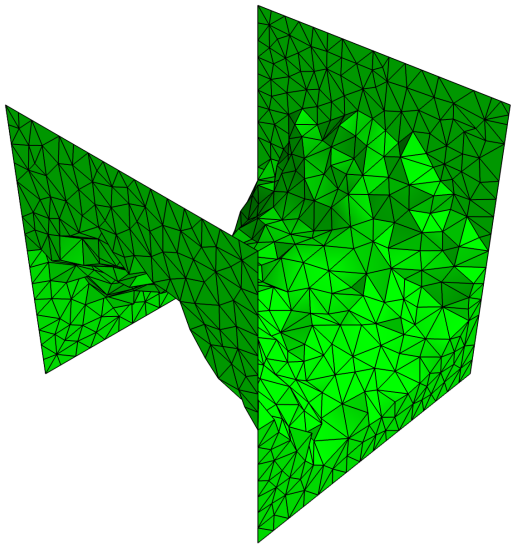


[D.-Garoufalidis 2012, Brock-D. 2015; Agol-D. 2020]
 (Creature House Expression, Inkscape; pencil on paper with TikZ overlays)

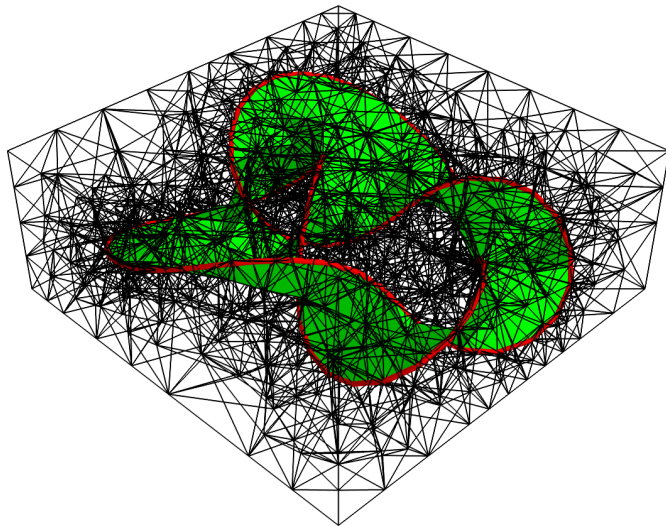
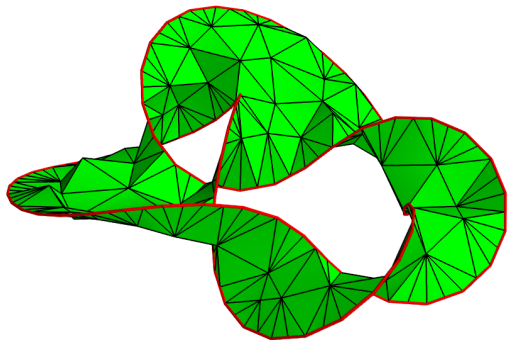


[Brock.-D 2015, D. 2007]
(Inkpad, pencil on paper)





[D.-Hirani 2011]



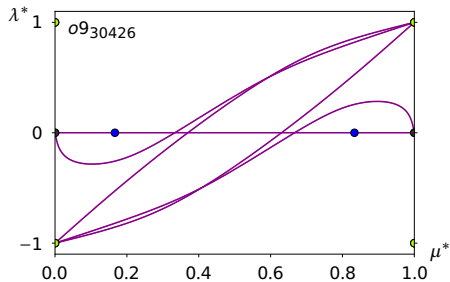
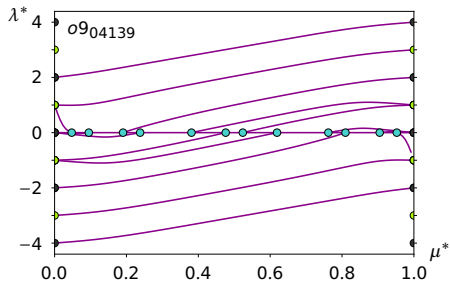
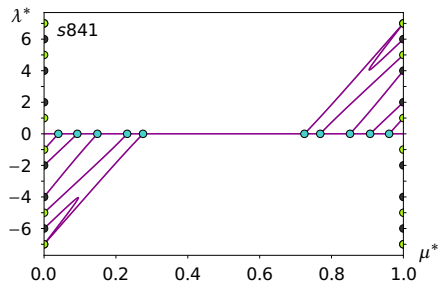
[D.-Hirani 2011]

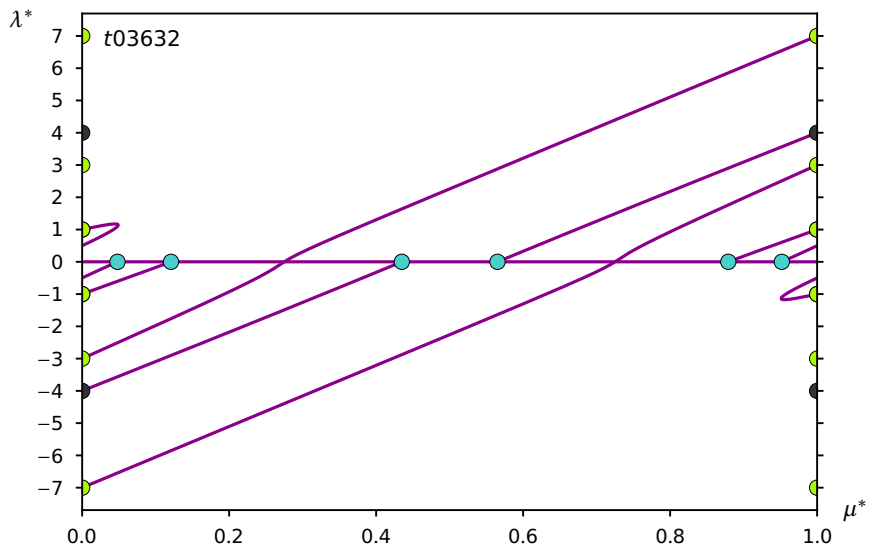
Orderability and Dehn Filling

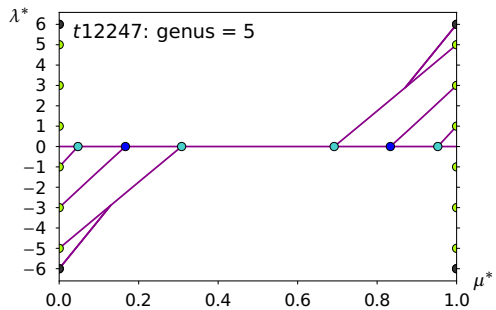
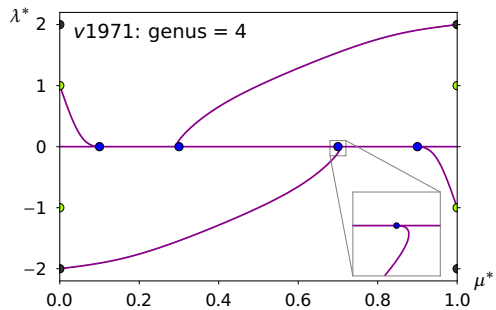
Nathan Dunfield, joint with Marc Culler

Based on: arXiv:1602.03793

Slides at: <http://dunfield.info/slides/shanks.pdf>







Mathematical Truths: Experiment, Proof, and Understanding

Nathan M. Dunfield

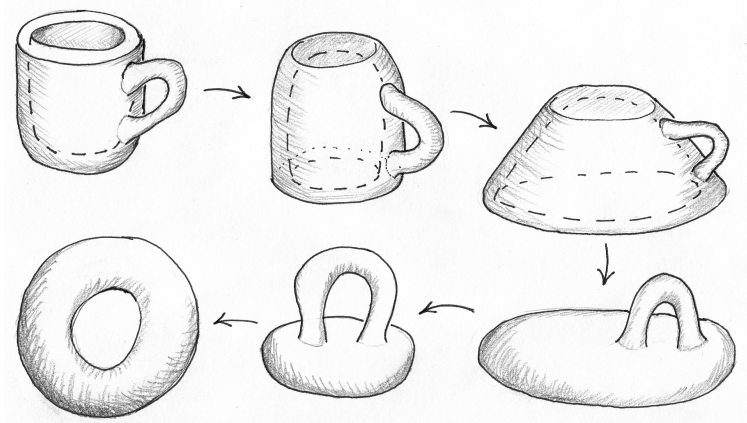
University of Illinois

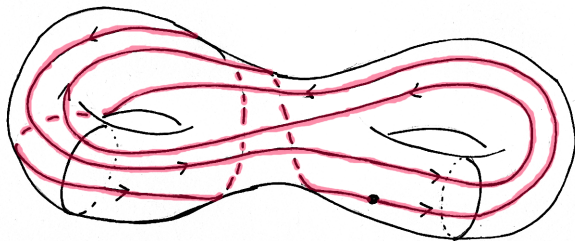
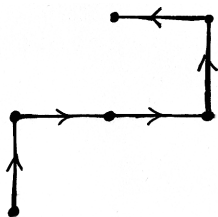
[Public lecture, Bowdoin College 2007; based on D.-D. Thurston 2006]

What is topology? The study of objects up to rubbery stretching.

What is a topologist?

Someone who can't tell a coffee cup from a doughnut.

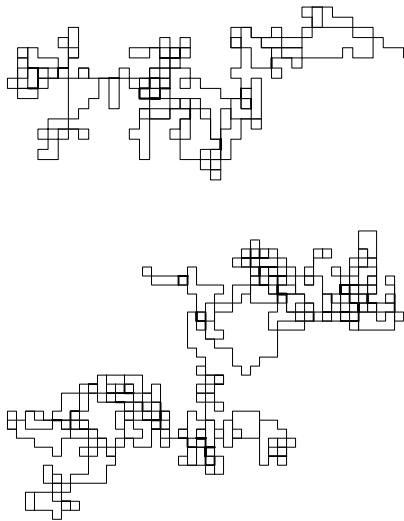


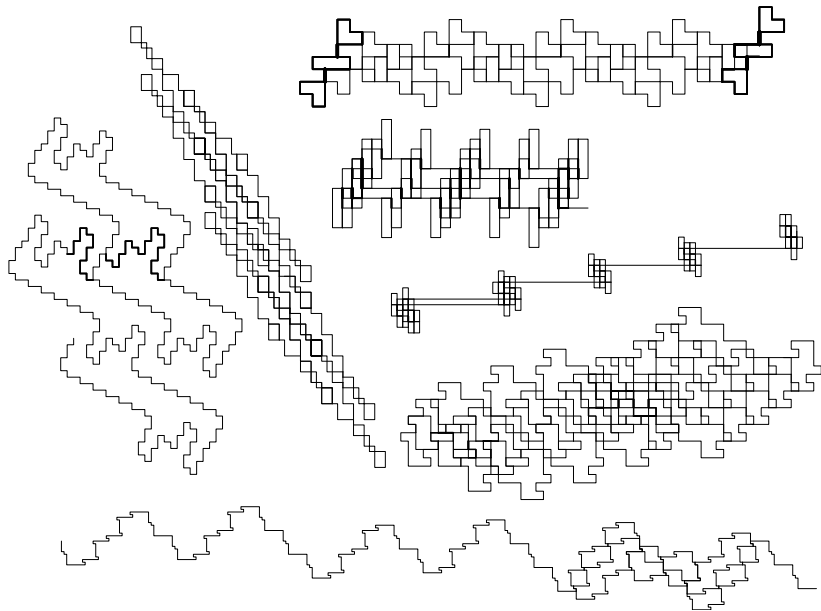


left | right

down | up

Two random walks in the plane





Interactive graphics:

Quadric surfaces: <http://dunfield.info/quadrics>

SnapPy: <http://snappy.computop.org>

References:

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