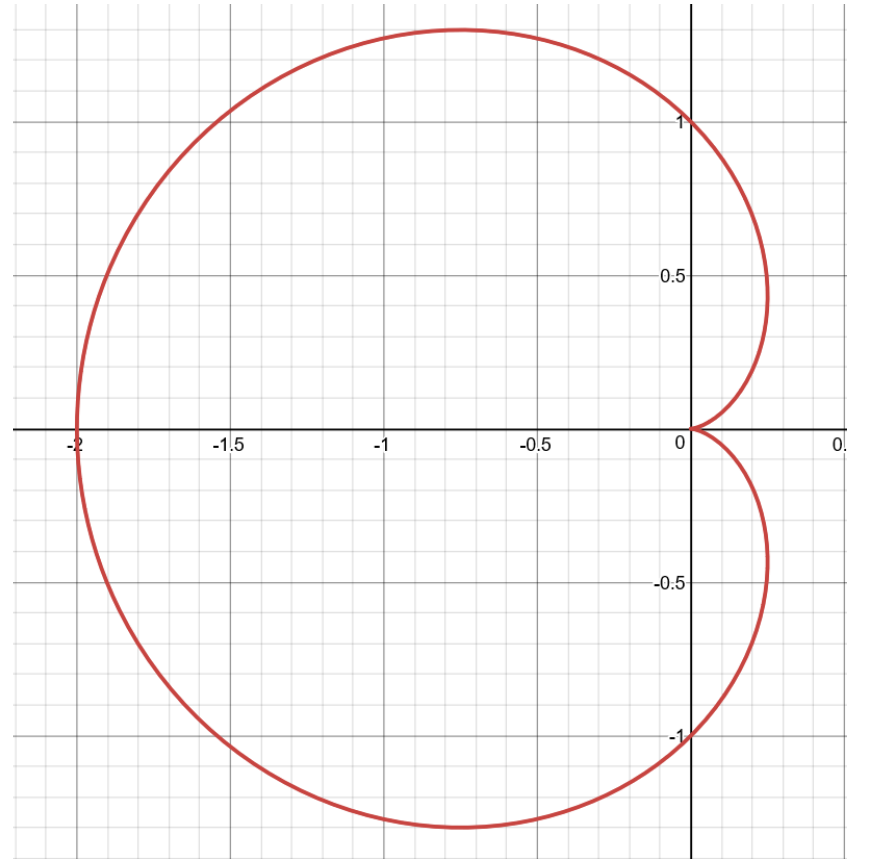
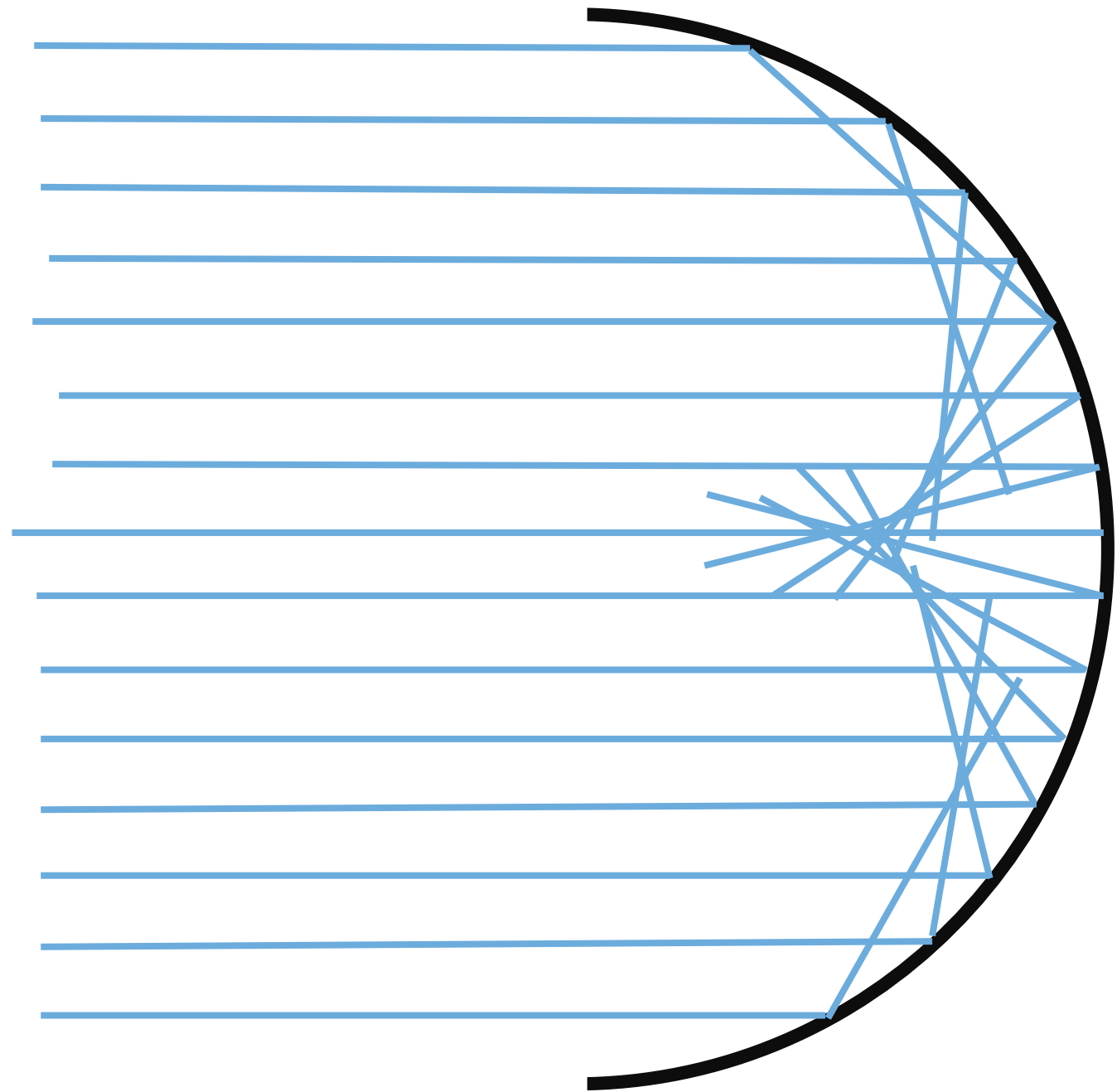


Cardioids in Coffee Cups

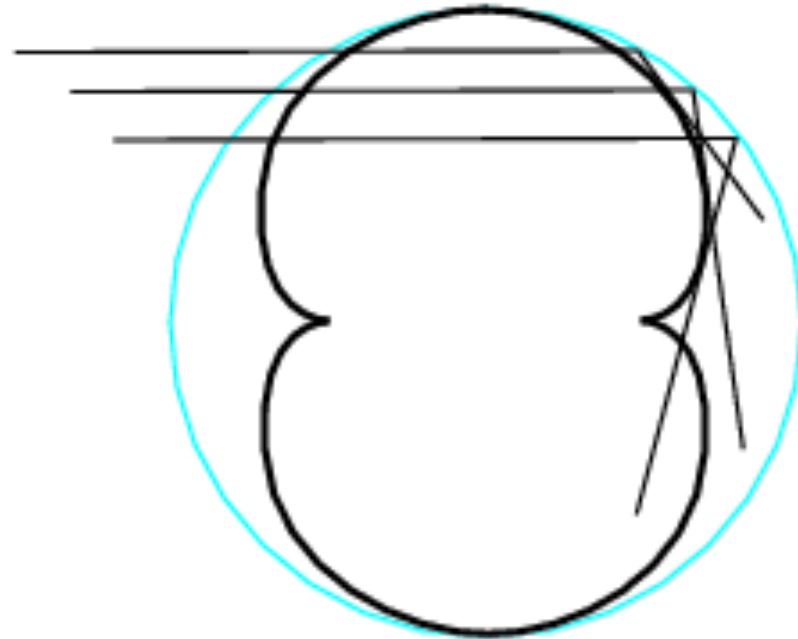
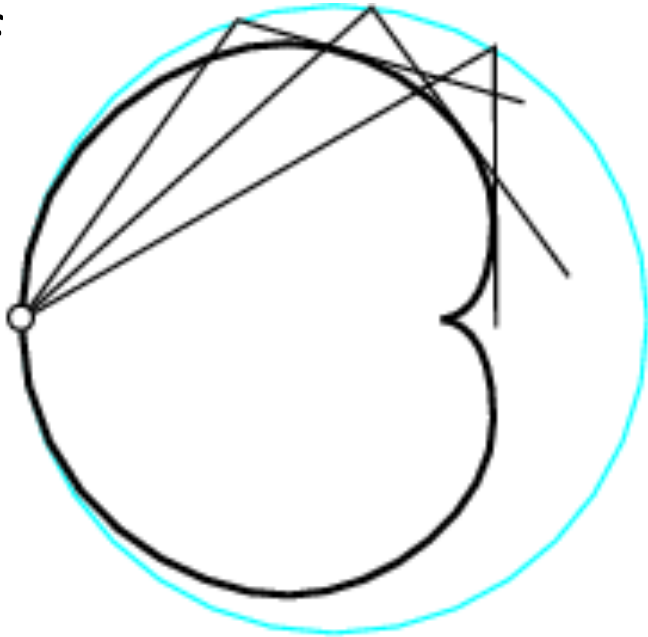
Dominika Vasilkova (@dragon_dodo)





But according to maths, I'm wrong

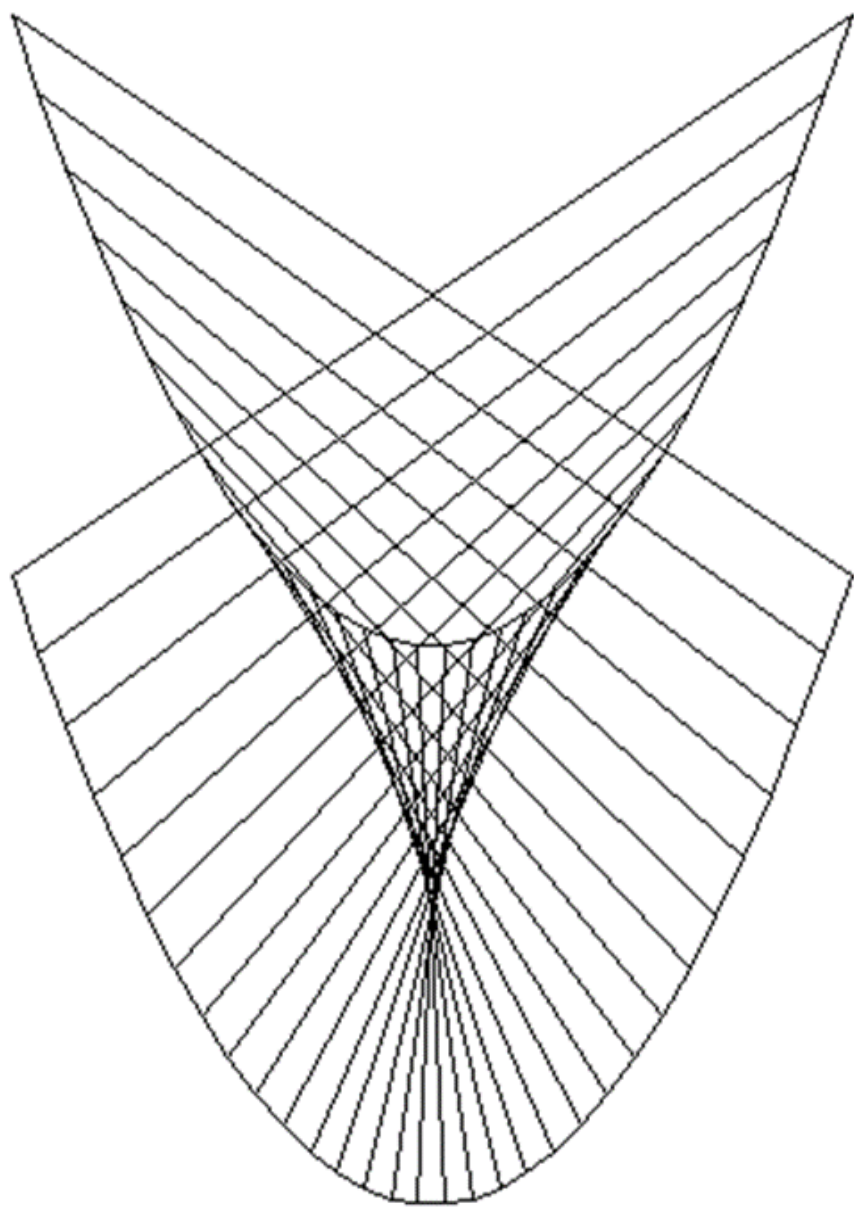
- With unif
- Point sou



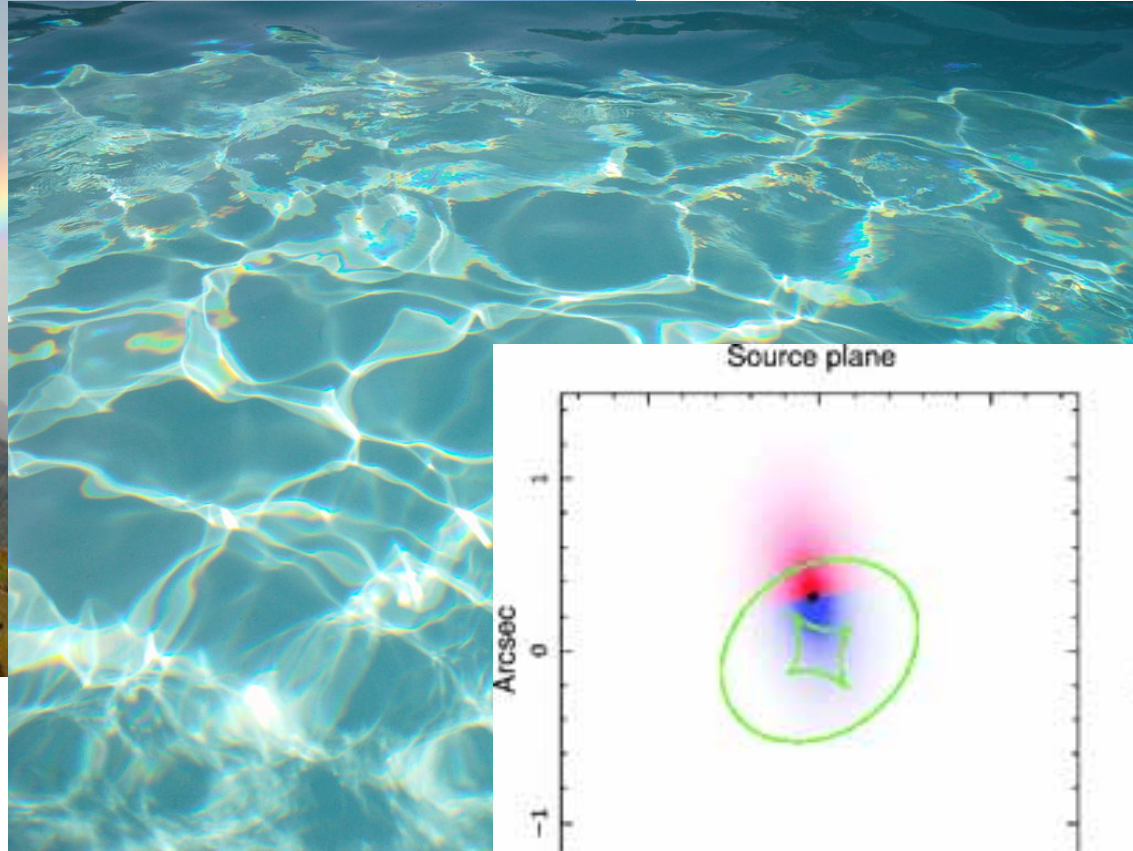
But cups are 3D...oh no.

- I didn't realise this for an embarrassingly long time.

$$V = x^4 + ax^2 + bx$$

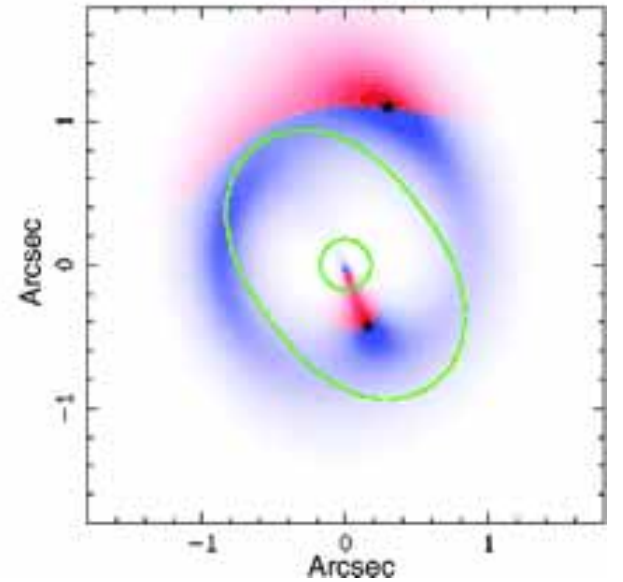


Other places to see caustics



Source plane

Image plane



Thanks for listening!

Image credits:

<https://thatsmaths.com/2014/09/25/curves-with-singularities/>

http://www.tankonyvtar.hu/hu/tartalom/tamop425/0038_matematika_Miklos_Hoffmann-Topology_and_differential_geometry/images/caustic_circle.png

<http://www.singsurf.org/parade/caustics.php>

<http://www.mnn.com/earth-matters/climate-weather/photos/10-stunning-images-of-rainbows-and-their-less-famous-cousins/at>

<http://emerald-stock.deviantart.com/art/Blue-water-light-302043993>

<http://www.ams.org/news/math-in-the-media/mmarc-07-2003-media#caustics>