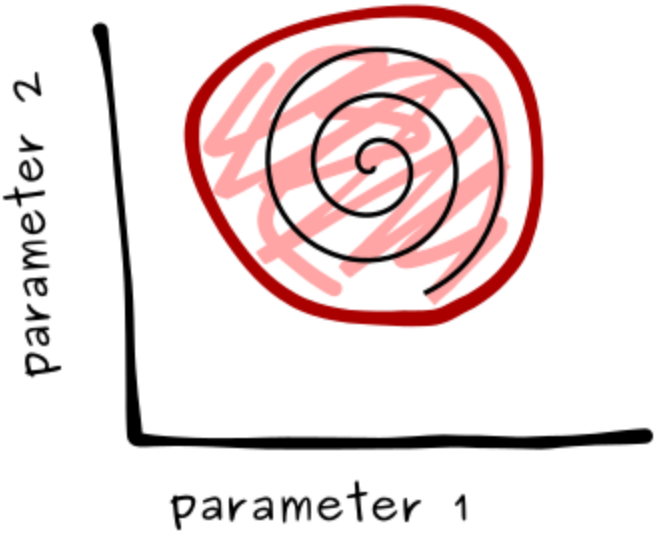
Why are funnels bad?

Good

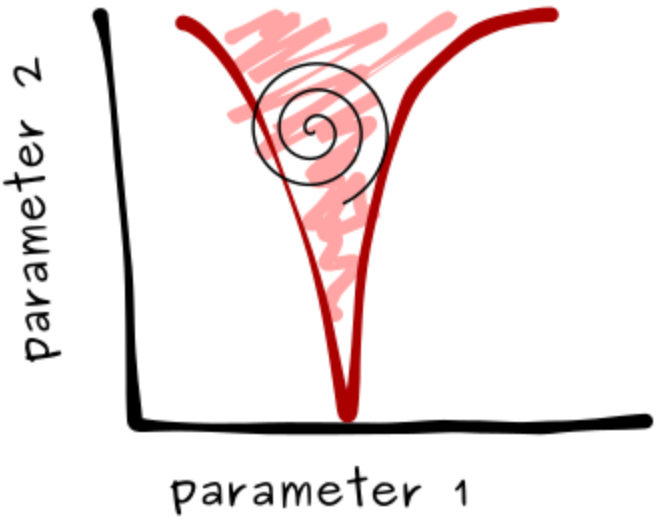


The model looks for new numbers to try out as parameter values by going in spiral shapes. The size of the spiral is controlled by adapt.delta. Big spirals are more efficiant than small spirals because they cover more parameter options (the red shape)

Bad posterior

A funnel shape is bad because it is hard for the model to explore all the possibel values in the shape. This is because the spiral doesnt fit in mos of the shape. When teh spiral hits an edge of the shape it breaks and we get a divergent transition.

Higher adapt.delta



Setting the adapt.delta) parameter to be higher (i.e. 0.99) makes the spiral shape smaller. Sometimes thie is enouph to help the model explore the difficult bits of the shape. But it also makes the model sloper because it takes more spirals to explore all of the parameter space. It also can't solve a really bad funnel.