

Editorial

Dear Readers,

welcome to this year's first issue of *Parabola*!


In this issue, you can find three excellent articles, David Angell's beautifully set problems, and more of Robert Schneider's hilarious comics strips *2Z Or Not 2Z* which also offer the occasional cryptic puzzle.

Several recent events led me to think about the nature of mathematics. One of these events was a radio interview in which I was asked about mathematics, its role in society, and the experience of being a mathematician. This is a very deep and broad subject on which thick and fascinating books could be written – but a few answers spring immediate to mind.

First, mathematics is a fundamental and growing part of the world that we have constructed for ourselves: big data, algorithms, statistics, and mathematical thinking influence most parts of our lives. As if to illustrate this, the first article of this issue is an accessible and interesting introduction, by Jeremy Muskat, to modern cryptography and to the elliptic curves that are prevalently used for cryptography.

Mathematics is also about creativity and happy exploration, and everyone is welcome to join in on the fun of research and problem-solving. As students, Michael Barz and Sin Keong Tong demonstrate this in the second and third articles of this issue by offering each their own interesting mathematical research results, on interesting properties of certain polynomial roots and on iterative digit summation.

Mathematics is also an art form, offering beauty, enjoyment, humour, and a deep range of other emotions. Like music and painting and other art forms, mathematics forms an arena in which order and chaos together dance and sometimes battle. Symmetry and patterns please us, often through our brains' chemical rewards for pattern recognition and other problem solving. We also find joy and humour in the unexpected, and in new and exciting ideas: that is what chaos and its randomness can offer.

To celebrate the art of mathematics, and the art of creating art mathematically, I invite submissions from you, dear Reader. Please send me your own art – interesting, beautiful, funny, tragic, happy, sinister, full of love, or whatever – but preferably mathematical in nature *and/or* written in [TikZ](#). I will collect your submissions into an article, or, if there are many submissions, a whole issue, along with their TikZ code if you send it to me. To begin this celebration, here is my tiny submission, the icon  :

```
\begin{tikzpicture}[red!75,scale=.075]
  \clip[fill] (0,1.3) circle (2);
  \fill[white] (0,0) .. controls (2.5,1.5) and (.8,2.8) .. (0,1.9)
    .. controls (-.8,2.8) and (-2.5,1.5) .. (0,0);
\end{tikzpicture}
```

I look very much forward to your art submissions!

Thomas Britz
Editor