1098-00-2 **L. Mahadevan**, Harvard University, Pierce Hall, 29 Oxford St, Cambridge, MA. *Title to be announced.*

The range of shapes in the plant (and animal) world is "enough to drive even the sanest man mad", wrote Darwin. Motivated by qualitative and quantitative biological observations, I will show that there is a "method in the madness" - using examples of growth and form in tissues and organs such as the coiling of tendrils, the undulating fringes on a leaf or petal, the looping and patterning of the gut . In each case, we will see how a combination of biological and physical experiments, mathematical models and computations allow us to unravel the quantitative basis for the diversity and complexity of biological form, and suggest new questions in geometry and analysis. No text available. (Received April 16, 2013)