Continuity of core entropy of quadratic polynomials
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The notion of topological entropy, arising from information theory, is a fundamental tool to understand the complexity of a dynamical system. When the dynamical system varies in a family, the natural question arises of how the entropy changes with the parameter.

Recently, W. Thurston has introduced these ideas in the context of complex dynamics by defining the "core entropy" of a quadratic polynomials as the entropy of a certain forward-invariant set of the Julia set (the Hubbard tree).

As we shall see, the core entropy is a purely topological / combinatorial quantity which nonetheless captures the richness of the fractal structure of the Mandelbrot set. In particular, we shall see how to relate the variation of such a function to the geometry of the Mandelbrot set. We will also prove that the core entropy of quadratic polynomials
varies continuously as a function of the external angle, answering a question of Thurston.