

# GUIDED BY INVOICES

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## **Erik and Martin Demaine: CURVED CREASE SCULPTURES**

January 19 – March 3, 2012

Guided by Invoices is pleased to present an exhibition of origami sculptures by father-and-son collaborative Martin and Erik Demaine, curated by Chris Byrne.

Erik and Martin Demaine combine the art of origami with the science of geometric folding algorithms to create the aesthetic of their sculptures. In 1998, they began to investigate the folding of complex forms using curved patterns that induce paper to self-fold, which culminated in a series of three works titled *Computational Origami*. The series was exhibited at the Museum of Modern Art in 2008 as part of *Design and the Elastic Mind* and is now included in MoMA's permanent collection.

The selection of works on view demonstrates the extension of the Demaines' investigations of materiality and production in the *Computational Origami* series. Here, hand-pleated concentric circles rest in equilibrium, twisted into elegant forms enabled by the very physics of the paper itself. The curved crease, an innovation in the tradition of origami, first appeared with the Bauhaus and Josef Albers, who placed emphasis in his teaching on respecting a material used through an initial physical investigation of its properties. The folded surfaces undulate to represent a form in hyperbolic space, guided by the properties of the paper and those of the underlying mathematical algorithms. To the Demaines, mathematics is an art form, and the ongoing dialogue between art and science is fundamental to their process.

"More and more, we find that our mathematical research and artistic projects converge, with the artistic side inspiring the mathematical side and vice versa. Mathematics itself is an art form, and through other media such as sculpture, puzzles, and magic, the beauty of mathematics can be brought to a wider audience. These artistic endeavors also provide us with deeper insights into the underlying mathematics, by providing physical realizations of objects under consideration, by pointing to interesting special cases and directions to explore, and by suggesting new problems to solve." Dr. Erik Demaine, *Algorithms Meet Art, Puzzles, and Magic, talk given in USA, Canada, U.K., Denmark, Singapore, and Japan, 2009-2011.*

Dr. Erik Demaine joined the MIT faculty in 2001 at age 20, the youngest professor in the history of the Massachusetts Institute of Technology. In 2003 he was awarded a MacArthur Fellowship. His PhD dissertation in the field of computational origami awarded him the Canadian Governor General's Gold Medal and the NSERC Doctoral Prize (2003) for the best PhD thesis and research in Canada (one of four awards). Martin Demaine is an Artist-in-Residence at the Massachusetts Institute of Technology.

Chris Byrne is an independent curator, former chairman of board of the American Visionary Art Museum and co-founder of the Dallas Art Fair. He currently serves on the board of directors at the Dallas Contemporary.

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