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By Amy Reinink



Barton Rubenstein stands with his kinetic sculpture "Field of Dreams" at Somerset Elementary in Chevy Chase.

The Science of Beauty

A Chevy Chase sculptor applies the principles of physics to his award-winning art

Barton Rubenstein's art is a study in motion and balance. A seemingly precarious, 10-foot-tall stack of steel shapes rotates in unison in "Circle Up." Water cascades between bronze boxes in "Blairs Gateway." And curvy, steel "dancers" sway in the wind in "Botero Ballerinas."

Dozens of Rubenstein's water and kinetic sculptures dot parks, backyards and other outdoor spaces in the Bethesda area, from "Familia" in a garden at The Mansion at Strathmore in North

Bethesda to "River Twist" at the Blairs apartments in Silver Spring. His works, which can be found as far away as California and Utah, have earned the Chevy Chase artist numerous local and national awards, including a 2010 official citation from the Maryland General Assembly in recognition of his public art.

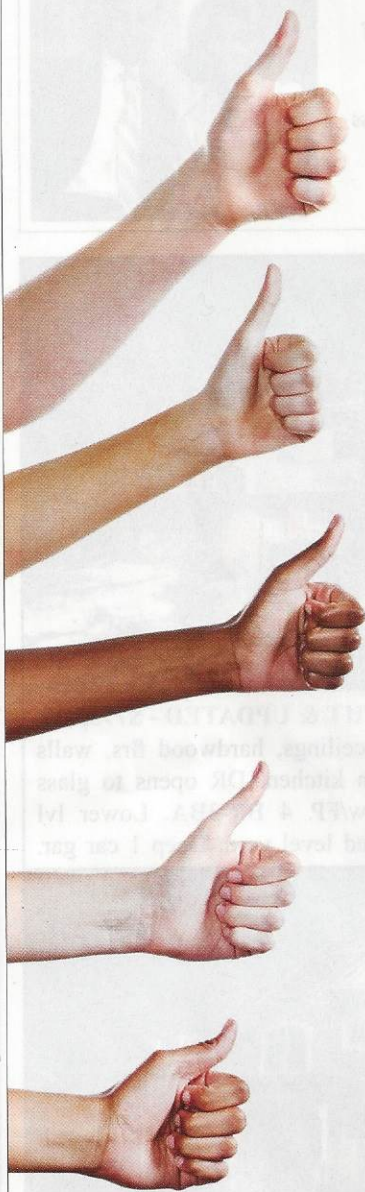
Rubenstein's unique aesthetic is grounded in a seemingly unlikely source: a background in physics and neuroscience, which he studied before turning to sculpture full time in 1994.

Growing up in Northwest Washington, D.C., Rubenstein, 52, loved working on projects with his dad, from tree houses to elaborate snow sculptures they built in the front yard. Family dinners were often spent talking about art and architecture—his mother was a curator and art historian for the Smithsonian.

Rubenstein also loved astronomy and other sciences, and as a student at Sidwell Friends School in Northwest D.C., he discovered he had a gift for numbers.

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He majored in physics at Haverford College near Philadelphia, and returned to Sidwell after graduation to establish the school's first computer lab. After a few years there, Rubenstein decided to pursue his doctorate in neuroscience at the Weizmann Institute of Science in Israel. There, he immersed himself in researching how the brain perceives and interprets objects.

"When we open our eyes, it's just a lot of colors and lines, and yet somehow we make sense of it all," Rubenstein says. "It's really an astounding task."

Midway through his six years at Weizmann, Rubenstein met his wife, Shereen, during a research trip to Rutgers University in New Jersey. They married shortly afterward, and she moved to Israel for his final two years there.

She recalls that every time they went out to dinner, her new husband would spend the night sketching detailed, professional-looking sculptures on napkins. So she wasn't surprised when Rubenstein decided to defer an offer of a post-doctoral position at the National Institutes of Health in Bethesda in order to spend a year making art.

"I had more than an inkling that he would go in this direction," Shereen says. "When he told me about it, I didn't hesitate in saying he should definitely do it. ...I really believed there was a good chance he would be successful."

Rubenstein never made it to that job at NIH. Instead, thanks in part to financial support from his family, he spent the year learning how to weld at the Corcoran College of Art and Design in the District, and fabricating his first seven sculptures in the small garage at the couple's first home in Chevy Chase. He created big, metal designs that involved water—an undertaking for which his scientific background had uniquely prepared him.

"There are only a few of us in the country that do this because there are a lot of headaches related to working with

water," Rubenstein says. "You need to have a lot of knowledge about how water moves."

Rubenstein produced his first commissioned piece for roughly \$6,000 about 18 months after he started sculpting, and has averaged four to six commissions a year since. Clients range from homeowners and businesses to universities and city governments, and they pay from \$25,000 to hundreds of thousands of dollars for Rubenstein's sculptures.

Rubenstein has applied his scientific mind to many areas of his artistic life. For example, his knowledge of kinetics helped him create a cable system that allows the various pieces of his sculptures to move in the wind without spinning in circles.

His background researching neuroscience and the way the brain perceives the world also helped him relate to other scientists—experts in printing, holograms and other fields—when the National Academies asked him several years ago to help redesign the \$100 bill in order to prevent counterfeiting. Rubenstein says he contributed to the design of a holographic barcode to the right of Benjamin Franklin's image—a design that makes the bills difficult to duplicate. The new bill was unveiled last October.

Rubenstein does all his welding, cutting and fabricating in a converted two-car garage behind his Chevy Chase home, where he lives with his wife and three children, ages 11 to 17. Years after turning down the opportunity to work at NIH, Rubenstein says he didn't so much abandon his earlier career plans as simply never get back to them.

"I never intended to leave science," Rubenstein says. "I just felt really happy making stuff." ■

Amy Reinink is a frequent contributor to the magazine who also writes for Runner's World and other outdoor publications. To comment on this story, email comments@bethesdamagazine.com.