



An algorithm carved away the unnecessary bits to create this sublime bookshelf. Joris Laarman, produced by Joris Laarman Lab, *Branch Bookshelf*, 2010, bronze, the Groninger Museum, the Netherlands.

Houston's "Joris Laarman Lab" Exhibit Demonstrates One Giant Leap for Artists

The artist's toolbox just got bigger. Exponentially so. Dutch designer Joris Laarman and filmmaker Anita Star, co-founders of the Joris Laarman Lab, have dominated the relatively new field of 3-D printing and together — along with a team of coders and craftspeople — are reinventing functionality to create objects at the intersection of art and design.

At the Museum of Fine Arts, Houston's media preview for "**Joris Laarman Lab: Design in the Digital Age**," it felt as if I was witnessing "one giant leap" for mankind's art. While we're all struggling trying to 3-D print Thor's hammer, this team has clearly mastered the tools of tomorrow.

Just as my grandfather typeset newspapers by placing backwards metal characters into a tray, and later I set copy first by coding and later on a desktop computer, our children and

Tommaney, Susie. "Houston's "Joris Laarman Lab" Exhibit Demonstrates One Giant Leap for Artists," *Houston Press*, June 22, 2018.

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grandchildren will grow up in a world where 3-D printing is the norm. The 65 objects on view at MFAH represent only 12 years of work and the exhibit is mind-blowing.

Think of the word "algorithm" and we instantly bristle at how Facebook and media outlets use that programming to dictate what we view. Laarman uses algorithms in a completely different way — expanding on early concepts by Dr. Claus Mattheck, a German professor who studied how bones and trees redistribute matter in response to external stimuli — to create his bone series of furniture.



Joris Laarman, produced by Joris Laarman Lab, *Bone Rocker*, from the collection *Bone Furniture*, black marble and resin, the Museum of Fine Arts, Houston, Museum purchase funded by the Mary Kathryn Lynch Kurtz Charitable Lead Trust.

© Photo by Joris Laarman

A chair, table or bookshelf is analyzed and the computer's algorithm takes away material that's not needed to create lightweight organic forms. (A video by Star demonstrates the process.) Laarman himself describes the resulting design as something that he could never have invented himself. Each material reacts differently to the algorithm so, for example, polyurethane cast resin will need to be thicker than marble, bronze or tungsten carbide.

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(L) Joris Laarman, produced by Joris Laarman Lab, *Aluminum Gradient Chair* from the series *Microstructures* and (R) Joris Laarman, produced by Joris Laarman Lab, *Makerchair (Polygon)*, 2014, oak, courtesy of Joris Laarman Lab.

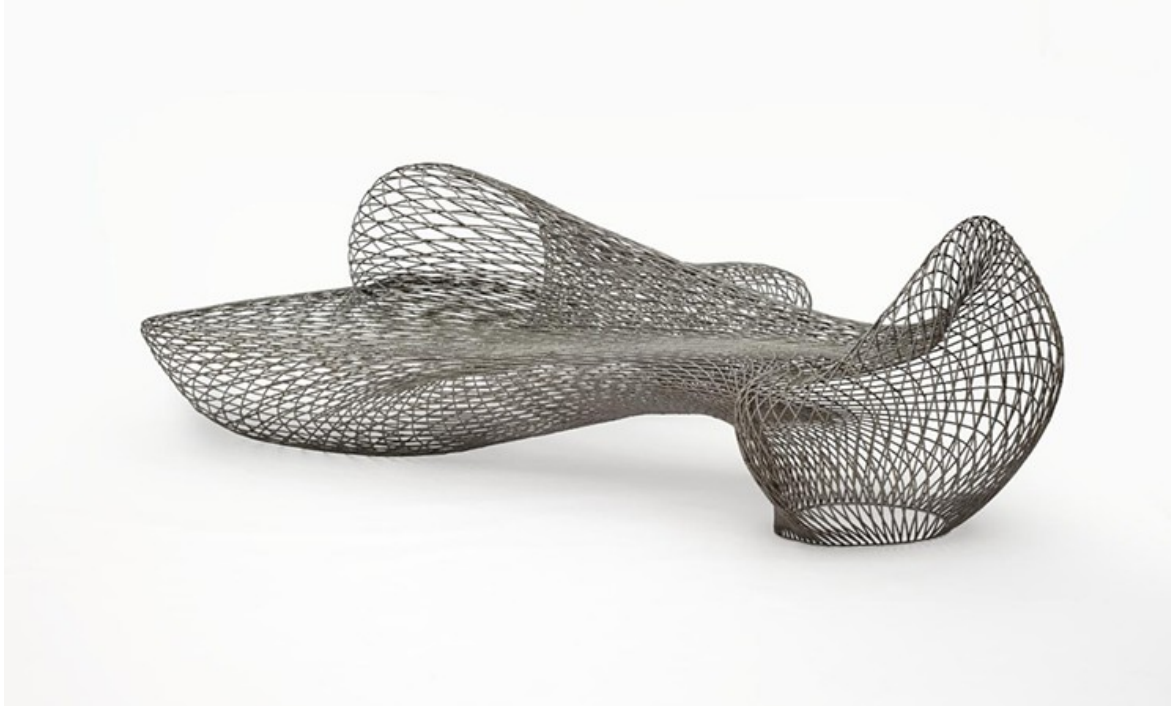
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Equally fascinating is the third room of the exhibit where the Lab has riffed on Danish designer Verner Panton's iconic S-shaped plastic chair from the 1960s. Ten chairs echo the shape but are instead constructed of wood, plastic or a combination of both to create interlocking stripes, jigsaw puzzle pieces, polygons and hexagons. Behind each chair is a mural showing the unassembled elements and Laarman mentions that the chair blueprints can be ordered and that the consumer can self 3-D print or log onto 3dhubs.com to find a neighborhood printer.

The Lab's spinoff company, MX3D, programs robots to draw 3-D objects in the air with molten metal. They're close to completion on a 3-D printed steel bridge being constructed in Amsterdam. Star's video takes us through the process: four robots, 12.5 meters long, six months of printing, 4.500 kilograms of stainless steel and 1100 kilometers of wire. It's a collaboration with experts in the fields of metallurgy, construction, robotics, computing, welding, research and air quality. In addition to the video, viewers can see the *Scale model of MX3D Bridge (1:20)* as well as other metal objects including a massive acquisition by MFAH titled *Dragon Bench*.

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It's much bigger in person. Joris Laarman, produced by Joris Laarman Lab, *Dragon Bench*, designed 2014, made 2015, the Museum of Fine Arts, Houston, Museum purchase funded by the Caroline Wiess Law Accessions Endowment Fund.

© Photo by Joris Laarman

Other highlights include the five polyconcrete *Ivy* climbing walls in the first room, which Laarman says can serve as an alternative to stairs for ascending to the next floor; and the trio of Super Mario Bros. inspired neodymium (magnet) tables with the hidden gaming figures rendered in gradually more refined voxels (3-D pixels). In the second to last room are Escher-inspired home furnishings and the final room demonstrates how bookshelves can be designed on a computer with undulating wave forms until the end consumer presses the "stop" button to freeze their idea of the perfect design.

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