

## Fresh From the Lab: Designer Joris Laarman Leads the Way in 3-D Printing

by Janelle Zara

05/05/14 3:43 PM EDT



Joris Laarman's MX3D printer is a 3-D printing robot that can build objects using metals ranging from steel to copper.  
(Courtesy of Joris Laarman Lab)

The state of 3-D printed design is not too inspiring at the moment. "First of all, it's usually done in this crap material that becomes yellow in sunlight and deteriorates after a couple of years," Dutch designer [Joris Laarman](#) said in an interview before the opening of "Bits and Crafts," his show of new digitally fabricated wares on view at Friedman Benda gallery through June 14. "It's also limited by the bounding box; you can only make very small things."

Laarman is an authority on the topic, having at the tender age of 26 created the celebrated Bone Chair, a 2006 piece designed on a computer using an algorithm based on bone-growth patterns and realized with a 3-D printed custom mold. After including the chair in his 2010 Friedman Benda show

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“[Joris Laarman Lab](#),” which focused on combinations of cutting-edge technology with organic design, he’s returned to the Chelsea gallery to demonstrate how to “scale up,” as he said, the 3-D printing scene. One way: try the MX3D printer, his robotic arm that prints lines of metal wire in mid-air.

Laarman’s Amsterdam lab developed a machine that extrudes a molten stream of metal (which at the moment could be steel, stainless steel, aluminium, bronze, or copper) that hardens on contact with the air. Essentially, the robotic arm draws construction-grade wires into being. While Laarman left the machine in his Amsterdam studio (actually called the [Joris Laarman Lab](#)), he did bring over a sample of what it can do. Centrally located in the exhibition is the Dragon Bench, a 12-foot-long welded lattice of thick stainless steel strands sculpted into a sinuous piece of garden furniture. “That it’s standing here is a miracle,” said Laarman, recalling the trial and error involved in its development, including the occasional welder explosion. Admittedly, the finished product is rough to the touch and lacks that stainless steel sheen.

“We’re still optimizing everything,” said Laarman. However, the patent-pending technology has no shortage of companies that would like to play a role in co-developing it. Given its potential for actual architectural use, “we’ve gotten a lot of response from construction companies and shipyards,” he said. “It’s funny that such a small studio could do what these big corporations could not.”

On a more approachable scale, Laarman is also presenting a line of sculpturally curving chairs made of small modular parts, 3-D printed or CNC-milled “cells” that snap together like puzzle pieces (in fact, some of them are actually puzzle-piece shaped), and are affixed with simple epoxy, in the case of wood pieces, or acetone for the ABS plastic ones. Ranging from 30 to 70 pieces each, they can be produced at home on a simple desktop printer for as little as \$30. They’re beautifully done, but more surprisingly, they’re really comfortable; the subtle curves in the backrest fit to those of the human body.

While those chairs, grouped under the heading “Maker,” are perfectly functional and soon to be accessible through downloadable software, the show abounds with pieces fated to a more ornamental existence in collectors’ homes. There’s the aluminum Vortex console, with its bit of horizontal surface for use as a bookshelf and its many ornate curlicues based on patterns of swirling liquids. There are a handful of chairs that show the intricate patterns made possible by 3-D printing, which seem to be more pleasant to look at than sit on.

“How many people does this table seat?” ARTINFO asked of the tungsten carbide Hubble Table, a large circular plate made from the same material as space satellites.

“I don’t know—12, maybe?” he shrugged, apparently regarding the table’s actual function as something of an afterthought. Where certain designers use details like this as their guide (see the

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complex philosophies behind [Jaime Hayon's 2014 Analog Table for Artek](#), for example), it's clear that for Laarman, function is a secondary feature—and, oddly enough, so is form.

His true focus is on the creation of new formal languages through technology, and the use of his lab as a playground for imaginative scientists. “The concept and the experiment are the most important,” Laarman explained. “That should be leading. The aesthetics should come after. Creating things that have never been done or were never possible before makes a much larger impact compared to just a new *style*.”

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