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THE PRODUCT ISSUE

The world's
first 3-D printed
metal chair
and other icons
of the maker
revolution

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SHOW HIGHLIGHTS: OUR PICKS
FROM TORONTO AND COLOGNE

“Makers + Shakers,” *Azure*, Spring 2016.

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MAKERS + SHAKERS

Five renegade designers who are pushing the boundaries of high design



Product manufacturing and distribution have shifted dramatically in recent years, opening up endless opportunities for designers to tap new markets, explore unconventional materials – even use their skills for social good. Welcome to the next generation of independent makers

By Nicola Homer, Kendra Jackson, Will Myers, Catherine Sweeney and Léa-Catherine Szacka

88 MAY 2016

Joris Laarman

The undisputed leader of the 3-D printing brigade

The Joris Laarman Lab in Amsterdam is a blender of materials, new technologies and traditions, all powered by a commitment to originality and, probably most important, a willingness to fail. The designs that emerge from the studio – which is run by the 36-year-old Dutchman and his partner, Anita Star – foretell a future of biologically inspired objects produced by local 3-D printers. We've heard this sort of thing before, where we are all destined to become makers of our own furniture and homes. But Laarman's recent creation, the Aluminum Gradient Chair, sweeps aside the pale,

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disposable look of the many 3-D-printed objects that have come before it. Elegantly shaped, with a wide seat pan, the chair is part of the designer's ongoing micro-structural experiments with printed furniture. Chairs are his preferred format for pushing the boundaries of digital fabrication; most of his prototypes are so far ahead of the pack that they have enjoyed near-instantaneous acquisition by such institutions as MoMA, the Vitra Design Museum and the Denver Art Museum. He describes the Gradient chair as the world's first to be fabricated from metal; lasers were used to apply focused heat to an aluminum powder substrate, making the chair rigid at precise points. The computer-guided process creates tiny horizontal layers, a few millimetres at a time. The layers rise on the printing platform like a figure emerging from a bath amid a barrage of laser blasts. The pieces are

then welded together and polished to form a chair that would look right at home in the office of a James Bond villain.

The pixelated surface is achieved by repeating tiny, standard-sized cells that vary in solidity, and that have been digitally optimized to use as little material as possible. While this generates a pleasing form, the processes and labour are costly. Laarman is optimistic, however, that 3-D-printed furniture will one day become accessible to everyone. "Digital fabrication tools are unnecessarily expensive, slow and limited," he says, "but I can see that changing rapidly. I would love to create a product with a highly adaptable blueprint that can be distributed over the internet to local manufacturers, who can then produce it at reasonable price." - W.M. jorislaarman.com

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