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Brancusi & Brain Waves: 3-D Printing Goes to the Museum

BY Stephanie Strasnick POSTED 10/07/13

An exhibition at the Museum of Arts & Design showcases how 3-D printing is growing up--and getting personal

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“How comfortable is the term ‘comfort?’” asks [Ron Labaco](#), a curator at the [Museum of Arts and Design in New York](#). His question is in reference to the 2010 creation *Brain Wave Sofa* by [Lucas Maassen](#) and [Dries Verbruggen](#) from the Belgian design team [Unfold](#). For the piece, Maassen used an electroencephalogram (EEG) to monitor his brain waves while he closed his eyes and thought of the word “comfort.” Software translated the data into a three-dimensional image, and the designers programmed a computerized milling machine, called a CNC mill, to carve a foam replica of that image to use as the foundation for the couch.

Brain Wave Sofa is one of more than 100 pieces featured in “[Out of Hand: Materializing the Postdigital](#).” Opening at MAD on October 16, the exhibition showcases works of art, fashion, furniture, and architecture that have been constructed with 3-D printing and CNC milling devices.

Some of the most dynamic pieces allow visitors to experience firsthand how these technologies work. For [François Brument](#)’s *Vase #44* (2009), museumgoers are encouraged to speak into a microphone that uses a special algorithm to translate a voice into an image of a vase. The height, width, and texture of the vase are determined by the speaker’s volume and the duration of speech. [Tim Knapen](#) collaborated with [Unfold](#) to create a virtual pottery wheel for the interactive piece *l’Artisan Électronique* (2010). Sensors enable participants to manipulate a simulated mound of clay on the spinning wheel, and then a ceramic 3-D printer will generate their creations.

Richard Dupont’s *Untitled (5)*, 2008, pigmented polyurethane resin.

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Even though these high-tech artworks are incredibly contemporary, several pieces derive from 19th- and 20th-century art history. For [Nick Hornby](#)’s 2010 *I never wanted to weigh more heavily on a man than a bird* ([Coco Chanel](#)), the British artist used a computer-controlled hotwire to combine [Brancusi](#)’s *Bird in Space* and [Rodin](#)’s *The Walking Man* into one sculptural mash-up. And for the sculpture *Perfect Forms*—begun in 2010 and exhibited for the first time in this show—[Barry X Ball](#) employed 3-D scanning and sculpting techniques to create a highly refined mirror image of [Umberto Boccioni](#)’s *Unique Forms of Continuity in Space*.

By including such a wide range of objects, Labaco hopes to demonstrate that 3-D scanners, 3-D printers, and CNC mills have become more accessible to the general public. “This technology, which seems so futuristic, has actually been in use in the last decade,” he says. “It’s all around.”