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THE BROOKLYN RAIL
CRITICAL PERSPECTIVES ON ARTS, POLITICS, AND CULTURE
MAILINGLIST

Critics Page

April 2nd, 2014

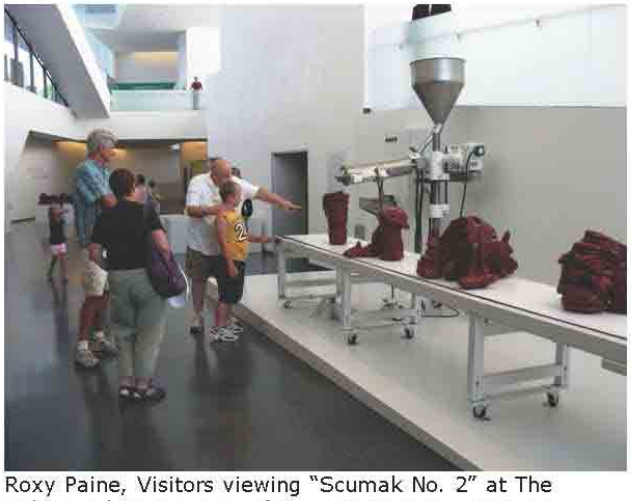
INCONVERSATION

CRAFTING OUT OF HAND

RON LABACO with Lowery Stokes Sims

Lowery Stokes Sims (Rail): You recently organized the exhibition *Out of Hand: Materializing the Postdigital* at the Museum of Arts and Design. This seems to imply that we are past the digital and going back to the hand. Can you talk about what you discovered different artists, designers, and craftspersons were doing with digital media? How were they incorporating digital processes in their work?

Ron Labaco: *Out of Hand* explores the role that digital fabrication, or computer-assisted manufacturing, has played in our built world, in art, design, and architecture since 2005. There are three main methods of digital fabrication that are examined, namely 3D printing, computer-numerically-controlled (C.N.C.) machining, and digital knitting and weaving. All of the works in the exhibition started out as a digital model in the computer, either by using software or as a 3D scan, which was then manipulated and that information sent to a digital fabrication machine for production.



Roxy Paine, Visitors viewing "Scumak No. 2" at The Nelson-Atkins Museum of Art, Kansas City, Missouri, 2011. Aluminum, computer, conveyor, electronics, extruder, stainless steel, polyethylene, Teflon, 90 × 276 × 73". Photography by Adrianne Russell.

The year 2005 was chosen as the point of examination because that was when the first piece of furniture was 3D-printed in one piece as a functional object. Prior to then 3D printing was more commonly referred to as "rapid-prototyping," for the purpose of quickly producing physical models of objects that were meant to be realized at a different scale in different materials. With this in mind, the term "postdigital" does not imply that we are in a period "after" the end of the digital age, but a continuation marked by a critical shift in thinking about how digital technologies are now being utilized in contemporary art practice. It also embraces a more human, individualistic approach in

which these technologies serve the purpose of the artist as another tool in their toolbox, to be used alone or in coordination with more traditional art production methods that require handcraftsmanship.

For example, New York artist Richard Dupont's "Untitled #5" is a larger-than-life, full-figure self-portrait that has a wavy distortion that seems more exaggerated when viewed from different perspectives. He achieved this effect by running a wave pattern through a digital model that was drawn from a 3D scan of his body. Using a combination of further 3D scanning, plaster casting, 3D printing, and C.N.C. milling, the figure was created in sections and assembled together, from which a mold was created, and then the final sculpture cast in polyurethane resin and hand-finished. This combination of 21st-century and traditional production methods is one example of the various artistic approaches of today.

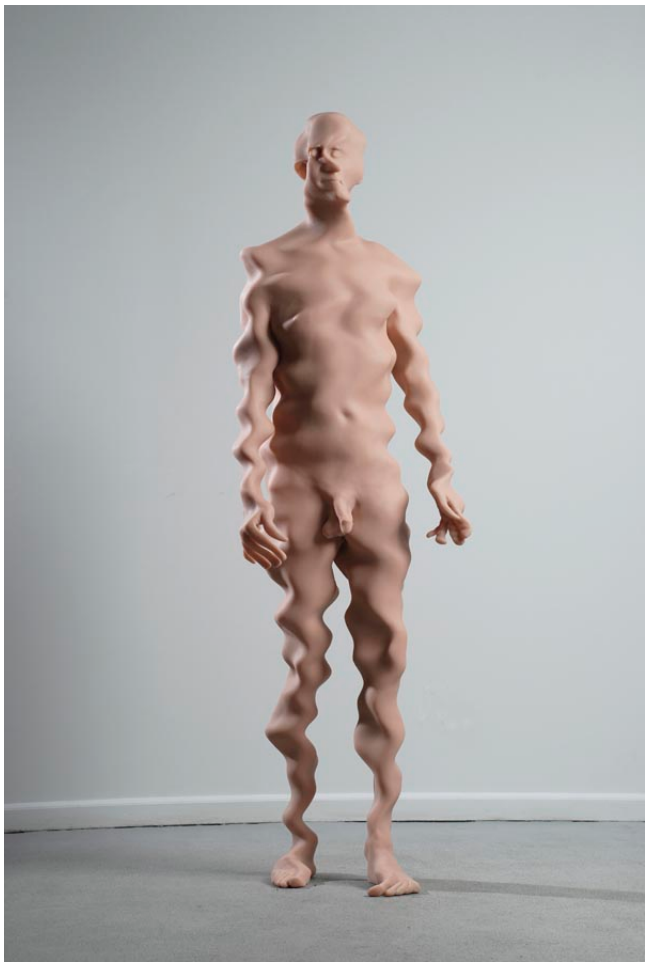
Rail: How would you say this exhibition explores the notion of craft and/or craftsmanship in the contemporary sense of the word?

Labaco: As I mentioned earlier, the exhibition considers these innovative technologies as simply another tool for creative artistry. In 1996, digital theorist and architecture professor Malcolm McCullough's *Abstracting Craft: The Practiced Digital Hand* explored the potential relationship between digital work and traditional craft by suggesting that both required a degree of mastery over the medium. He proposed an analogous relationship between the eye, hand, and tool in skilled craftsmanship and that of the eye, hand, and cursor/pointer in digital modeling. That was over a decade ago, before the advent of commercially available 3D printers and advancements in C.N.C. milling technologies. One doesn't need to take a leap of faith to extend McCullough's equation one step beyond the digital model to that of digital fabrication. While he did draw a distinction between art and design, *Out of Hand* takes a transdisciplinary approach. For example, included are extruded concrete works by British sculptor Anish Kapoor, extruded polyethylene sculptures by American artist Roxy Paine, and extruded vinyl furniture by Dutch designer Dirk Vander Kooij. Although all of these practitioners use the same general method of production, they have come up with very different and unique conclusions. While Kapoor's concrete sculptures reference architecture and geological strata, Paine's works exist as the byproduct of an automatic sculpture making machine, and Vander Kooij's precise furniture made from molten recycled refrigerator vinyl addresses ecological issues. What they share in common is a highly refined concept and aesthetic.

One wonders if the specter of digital production (sometimes called the "new industrial revolution") would impact our relationship to objects and their makers. Is it possible that the digital, with its possibilities for customization of form, would impinge on individual authorship, not to mention the support of handcrafted making?

Of course these are two different issues, and they touch upon even more complicated matters, but I'll address the last question first. In the case of mass-customization, in which an algorithm subtly

changes the design each time a new piece is fabricated to create a unique object, this certainly does undermine support for skillful handcrafted making. This approach in itself gives the computer the ability to make adjustments direct to fabrication, and so eliminates any need for additional handwork other than finishing and any assembly. Regarding mass-customization and authorship, some institutions have now broadened their scope of collecting to include the source code or the script of a design in addition to the digitally fabricated object itself, much as hand-drawn sketches are sometimes acquired either as a document or a work of art. This clearly implies authorship, although the actual individual who created the script may not necessarily receive the credit, especially if it was a commission from an established artist or designer who may not be immersed in the technology.



Richard Dupont, "Untitled #5," 2008. Pigmented cast-polyurethane resin, 80 × 26 × 23″. Courtesy Cheryl Gold. Photography courtesy Richard Dupont.

On the side of furthering handcraftsmanship, I am currently developing an exhibition scheduled for next year on the work of Wendell Castle, who is considered to be the father of the American studio furniture movement. Castle contends that digital fabrication affords him the possibility of creating forms that he would not have been able to achieve in the past due to the complexity of how certain faces may meet. But you will have to stay tuned for more.

Rail: From our passing conversations you indicated that digital fabrication has been around at least since the 1990s. Why is it on everyone's radar all of a sudden? What is going on in the world that made that happen? Is it a generational thing? Or just that the techniques and machines have reached a point of development that it is easier and more accessible?

Labaco: The first C.N.C. machines were developed in the 1960s, and commercially introduced in the 1970s. The first 3D printers were developed in the 1980s, commercially introduced in the 2000s. Digital fabrication has suddenly become a part of the public's consciousness due to the expiration of patents related to 3D printing technologies, making the desktop printer a commercially viable industry. If you think back to three years ago there were only a handful of articles about 3D printing, while most everyone today has come across the term, although they may not necessarily understand what it represents. This coincided with developments in medical applications, as well an increased awareness of the technology by artists and designers. Certain companies started investing in the technologies further, as well as actively working with artists and designers to help bolster their reputations. A cursory glance at the quantity of digitally fabricated works that were covered in the

press takes a sharp spike around 2005 and 2006, followed by another around 2010 that continues to climb.

Rail: As a curator working in a museum that claims craft, design, and art under its purview what are your thoughts on the future impact of digital media in this "postdigital" world?

Labaco: Clearly it is here to stay. Practitioners have reached a point of comfort with the technologies so that they no longer hesitate to reveal digital fabrication as part of their creative process for fear of reprisal from the art community. There is also a fascinating trend, or it may be too soon to be called such, in which artists and designers are reacting to the products of digital fabrication with handmade works in natural materials that embrace a digital aesthetic. I was delighted to learn about a project by the Dutch fashion designer Christian Lagerwaard, in which he sourced local natural materials to create fabrics and developed a handmade line of couture that emulated the skeletal nature of Iris van Herpen's early 3D printed designs, but realized through an elaborate structured design and a network of internal hand-pulled laces to create the distinctive angular folds. So once again the pendulum swings back.

MORE ARTICLES BY THE AUTHOR

Ron Labaco

RON LABACO has been the Marcia Doctor Curator at the Museum of Arts and Design since 2010. Before joining the staff at MAD, Labaco served as the Curator of Decorative Arts and Design at the High Museum in Atlanta, and previously worked as an independent curator and as an Assistant Curator of Decorative Arts at the Los Angeles County Museum of Art. He is the curator for MAD's exhibition *Out of Hand: Materializing the Postdigital* (on view through June 1, 2014).

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