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# THE COMPUTER AND THE CHISEL

## HOW DIGITAL INNOVATIONS SERVE THE ARTIST

A Visit with Sculptors Carole Feuerman and Barry X Ball

by Jodie A. Shull

**T**he technological revolution of the last quarter century has touched every aspect of human life—including art. Visions that were only present in dreams can now be realized in material form on any scale. Consider Jeff Koons (b. 1955) whose experiments with cutting-edge fabrication techniques let him create monumental stainless steel works that look for all

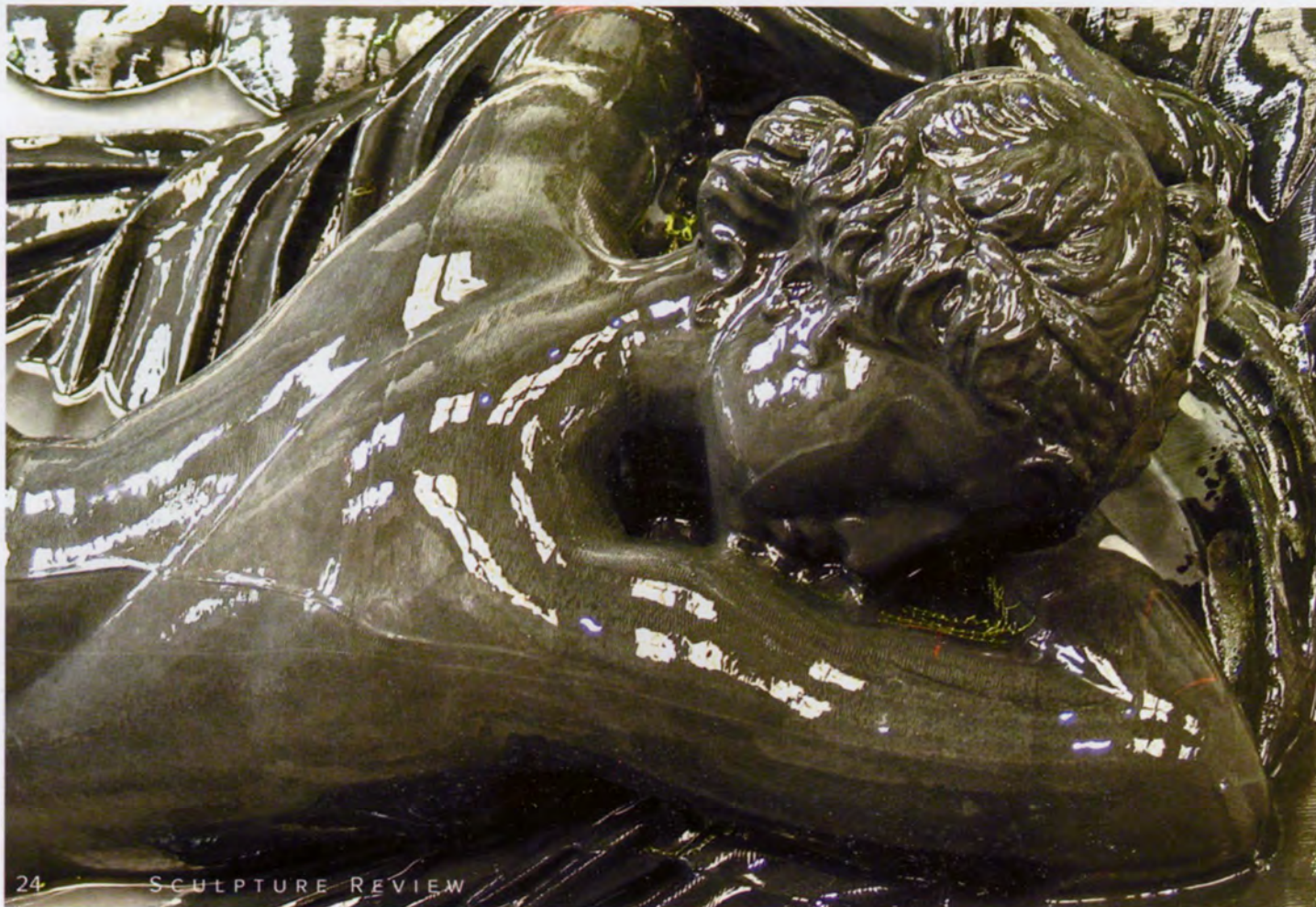
purposes like balloon dogs made of latex and hot air! The winter 2007 issue of *Sculpture Review* reported on the work of two established artists who were joining the bold experiment and bringing digital techniques into their sculpture practice. Here, more than a decade later, we talk to Carole Feuerman (b. 1945) and Barry X Ball (b. 1955) to see how technology contributes to their art today.



Barry X Ball was one of the first artists to explore the potential of digital technology for sculpture. After twenty years of experience in making art with digital techniques, he confirms that for him there is no going back. His new \$20 million, state-of-the-art digital sculpture workshop in Brooklyn is a testament to his faith. In fact, he says his latest work, a re-envisioning of Michelangelo's final and unfinished masterpiece, the *Pietà Rondanini* (1552–1553 and 1555–1564), could not have been realized in his traditional studio. "This is the first real work that has been made with the new studio's capacities and capabilities in mind," he says.

Ball's foray into digital technology for sculpture was not a "Rubicon" decision that called him to abandon all previous practice. "There are sculptors who look at it that way—that something will be lost if you give in to this technology," he says. "Yet, all the artists I know see nothing but benefits from working this way. Michelangelo himself would be all over digital technology if it were present in 1500."

Ball acknowledges that one big barrier to using digital technology is the cost. But he expresses concern that making price an insurmountable barrier may mean that sculptors are undervaluing their time, discounting all the hours of work they put in and pay themselves nothing for. "You can use robots to do the roughing out which is not very glamorous, nor particularly





creative. Then you can do the final finishing work by hand," he says. "Despite the use of 3D digital scanners, 3D modeling programs, CNC robots and mills, a large sculpture of mine could still need 10,000 hours of handwork to complete. I have not eliminated handwork; I've just used the robot to help me get to that point a little quicker and better."

For Ball, an important benefit of 3D scanning technology is the ability to capture a digital version of classic sculptures. He has "reimagined" a number of classics, using technology to make changes and to produce them in stones that are unworkable with traditional sculpture tools. Of his reimagined *Pietà Rondanini* he says: "This late work has an incredible spirituality. It's unfinished, and, in effect, Michelangelo's own funeral monument." While making a 3D scan of the *Pietà Rondanini* in 2011, Ball learned that Michelangelo's sculpture would soon be moved to a new museum. "They used my scan to make a rough copy of the sculpture for seismic testing for the new installation. I always give my scans to the institution so they can use them for any possible restoration."

**Opposite page, and bottom left on this page:** *Sleeping Hermaphrodite* by Barry X Ball (2008–2010), Belgian black marble, 68-1/8 inches long; after the *Hermaphrodite Endormi* (Ermafrodito Borghese).


**On this page, top left:** *Envy* by Barry X Ball (2008–2010), translucent white Iranian onyx and stainless steel, 22 inches high; after *La Invidia* by Giusto Le Court; **bottom right:** *Purity* by Barry X Ball (2008–2018), translucent white Iranian onyx and stainless steel, 24 inches high; after *La Purità* by Antonio Corradini.







Ball's Pietà will be on exhibit in the spot formerly occupied by the historic sculpture. "I've been working on it digitally and physically since I scanned it," he says, "making many changes." Ball morphed the face of Michelangelo onto the work in place of the roughed out face of Christ. He reversed the orientation of the sculpture, creating a mirror image. "My stone is translucent Iranian onyx," he says. "There are a lot of subtle changes which I hope retain all the power of the original but push it to a new place so it is at once familiar and new." Ball says a 3D scan gives him the cold hard facts about a work of sculpture. "I start with the actual data and take it from that point to a new place. And I can see the sculpture in ways that the artist who created the historical work never saw it—above, below, inside. I begin where the historical work ends," he says.

Carole Feuerman and Barry X Ball, two unique and accomplished sculptors on the global stage, embrace digital technology as an important tool for achieving their creative visions. 

Jodie A. Shull, M.A., is an independent scholar who focuses on writing about the arts.

\*All quotes are from phone interviews with author.

**Opposite page:** Pietà Rondanini by Michelangelo Buonarroti (1552–1564), white marble, Museo Pietà Rondanini, Castello Sforzesco, Milan, Italy.

**On this page:** Pietà by Barry X Ball (2011–2018), translucent white Iranian onyx, stainless steel, ABS plastic, 77-1/2 inches high (pedestal not included).