



BARRY X BATT REMAKING SCULPTURE

Nasher Sculpture Center

BARRY X BALL: REMAKING SCULPTURE

Process: The Example of the *Sleeping Hermaphrodite*

Barry X Ball reinvents traditional sculptural formats and existing art historical landmarks using state-of-the-art 3D scanning technology, computer-aided design (CAD) software, and computer-numerically-controlled (CNC) milling machines, in combination with centuries-old craft techniques requiring thousands of hours of detailed handwork. The *Hermaphrodite Endormi* (*Sleeping Hermaphrodite*) in the Louvre Museum in Paris offered an ideal starting point for Ball's artistic explorations. Not only is the subject an embodiment of duality (see the object label and exhibition catalogue for more information on this), the object is a composite work of art interpreted by numerous authors over centuries. The figure is a second-century CE Roman copy of a second-century BCE Greek original. Discovered near the Baths of Diocletian in Rome in 1608, it joined the distinguished collection of Cardinal Scipione Borghese, who, in 1619, commissioned the young Gian Lorenzo Bernini to carve the mattress for it and David Larique to restore the figure. Ball continues this engagement with the work in the 21st century, reconsidering it for a contemporary audience and using the technological tools at his disposal. The illustrated review that follows elucidates the multi-step process Ball undertakes in making his Masterworks, like *Sleeping Hermaphrodite*.

Ball works with museums to make extremely high-resolution three-dimensional digital scans of works of art. Because of their microscopic detail, the scans are very useful to the institutions charged with preserving the sculpture. Ball donates the scans to the museums for documentation and conservation and uses them as his point of departure for creating a new work.



Digital scanning of *Hermaphrodite Endormi* (*Sleeping Hermaphrodite*) in the Salle des Caryatides, Musée du Louvre, Paris



The digital scans are combined to form a seamless three-dimensional digital model of the *Hermaphrodite Endormi* (opposite, top), capturing every detail of the work—including the losses and dents the work has sustained over time—in extraordinarily high resolution. The digital model can then be rotated and viewed from every angle. The artist can then make alterations to the digital model.

Ball makes a variety of changes to the digital model, typically beginning with flipping its orientation so that it becomes a mirror image of the original sculpture. He often repairs historical surface damage captured by the digital scanning and sharpens or diminishes certain details, eliminating some entirely and adding others. Ball uses 3D-printed rapid-prototype models of his altered composition (opposite, bottom) at various stages to check the progress of his work and see how the digital modeling manifests in real life. Once he is satisfied, a highly detailed final model is made that serves as the maquette of the sculpture for him and his studio carving team to follow.

Ball then selects a stone for the production of the full-scale carving (following spread). His deep knowledge of varieties of stone—especially those rarely used for sculpture—and their material properties allows him to select pieces that will render the aesthetic and expressive effects he desires.

The final digital file is also used to guide the initial, rough cut of the stone block by a CNC milling machine. Although computerized and mechanized, this process can take months of constant milling for the larger works.



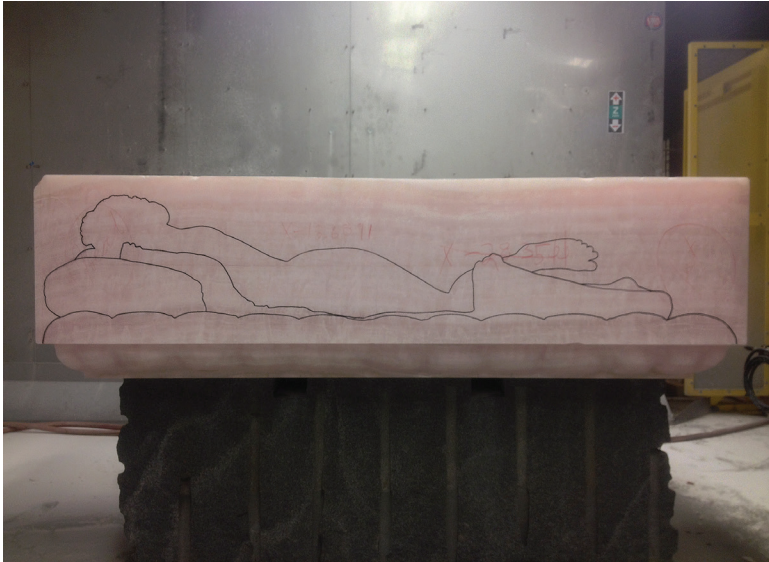
Digital model of *Hermaphrodite Endormi* from scans



Sleeping Hermaphrodite rapid prototype

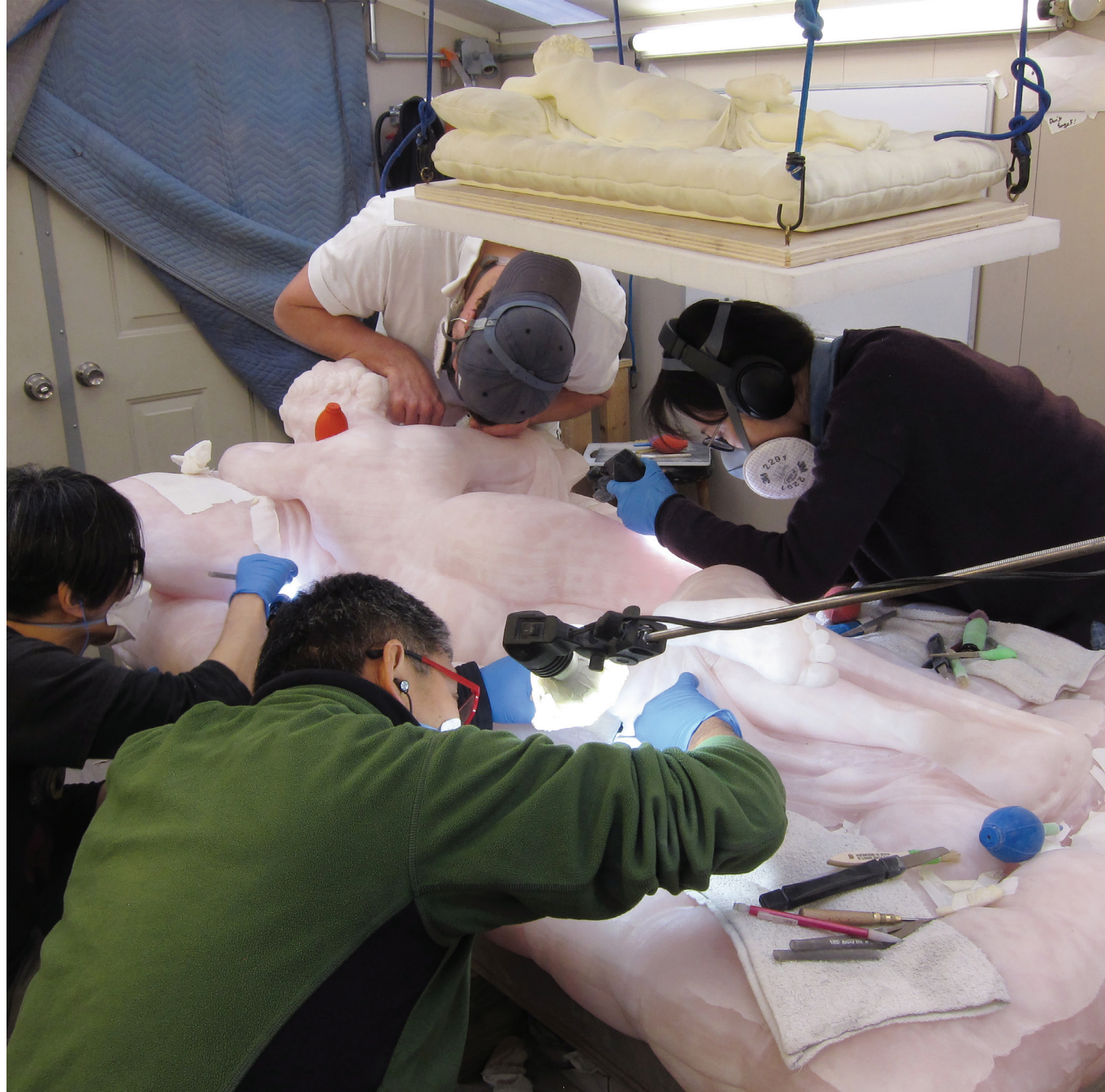


Ball selecting the translucent pink Iranian onyx for *Sleeping Hermaphrodite* in the stone yards in Carrara, Italy



Above and opposite: CNC milling of the stone

Once the sculpture is machine-milled, it goes to the studio for detailed carving and polishing by hand. The direction, spacing, and relief of the micro-fluted surface left by the carbide and diamond milling cutters of the machine is specified by the artist. Subsequently, this fluting is either diminished or enhanced through careful hand carving and sanding. Ball also selects some areas of the work to be polished and others to be left with a matte finish. This painstaking handwork takes numerous assistants thousands of hours to achieve.



Hand-carving the details of *Sleeping Hermaphrodite* with the high-resolution 3D printed model above, Barry X Ball Studio, New York



Barry X Ball Studio team with *Sleeping Hermaphrodite*



Barry X Ball Studio with *Sleeping Hermaphrodite* in the foreground and *Saint Bartholomew Flayed*, in progress, in the background



BARRY X BALL: REMAKING SCULPTURE CATALOGUE

The publication *Barry X Ball: Remaking Sculpture* documents the first major US museum survey of the artist's work over the past three decades. Lavishly illustrated with 69 color photographs, the book features new scholarly essays by Nasher Chief Curator, and curator of the exhibition, Jed Morse; as well as contributions by Glenn Adamson, a noted curator and scholar who works at the intersection of craft, design history, and contemporary art; and David C. Hunt, an independent curator and writer.

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COVER: Barry X Ball, *Envy / Purity*, 2008–2018 (detail). Italian Portoro marble / translucent white Iranian onyx. 23 x 17 1/4 x 9 1/2 in. (58.4 x 43.8 x 24.1 cm) / 24 x 16 1/2 x 11 1/4 in. (61 x 41.9 x 28.6 cm). Private Collection. All works © Barry X Ball. All photos courtesy of Barry X Ball Studio, New York.

Barry X Ball: Remaking Sculpture is made possible by major support from Elizabeth Redleaf and the TurningPoint Foundation, with additional support provided by The Hartland & Mackie Family Foundation and Betty Regard.

Support for all Nasher Sculpture Center exhibitions and programming is provided, in part, by the Texas Commission on the Arts and the generosity of our Members and donors.