

Unraveling the Mysteries of Degas's Sculpture

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The National Gallery's wax *Little Dancer Aged Fourteen*, 1879-81, the only sculpture Degas ever allowed to be exhibited.

NATIONAL GALLERY OF ART, WASHINGTON, D.C., COLLECTION OF MR. AND MRS. PAUL MELLON

An exhaustive catalogue from the National Gallery of Art draws on both art history and scientific analysis to resolve questions about how Degas made sculpture and what happened to it after his death

by Patricia Failing

The face on the cover of *Edgar Degas Sculpture*, the new catalogue raisonné published by the National Gallery of Art, is both well known and strange. Viewers familiar with the

artist's posthumous tutu-clad bronzes will recognize this image of *Little Dancer Aged Fourteen* as an icon of modern art. But the face is unique. Modeled in translucent beeswax and coiffed with real dark-blond hair poking through layers of tooled wax, she introduces us to the sculpture Edgar Degas conceived and crafted himself.

The National Gallery's unprecedented catalogue examines the sculptures the artist created, in a mixture of materials, during his lifetime—the bronzes in museums and private collections are copies made after his death. Of the 69 surviving lifetime sculptures, 52 are in the collection of the National Gallery. For this volume, two NGA conservators, Daphne S. Barbour and Shelley G. Sturman, and three NGA scientists—Barbara H. Berrie, Suzanne Quillen Lomax, and Michael Palmer—carried out detailed technical investigations of the 52 sculptures, including three-dimensional computer modeling; spectroscopic, chromatographic, and microscopic analyses; laser scans; and radiography. Suzanne Glover Lindsay, of the University of Pennsylvania, a specialist in 19th-century European sculpture, contributed an art-historical overview and analysis. The catalogue brings together discoveries about the sculptures recently published in other venues and offers new revelations about the lifetime sculptures' technical construction and development. *Little Dancer Aged Fourteen*, for example, once had a smaller head and different face, visible as ghosts in a radiographic snapshot.

Lindsay also presents new information about the posthumous marketing of Degas's lifetime sculptures. After the artist's death in 1917, approximately 150 wax and clay sculptures, many damaged beyond repair, were found in his studio. Degas's heirs contracted with the Hébrard foundry in Paris to cast 73 of the sculptures in bronze editions, even though the artist never cast his work in bronze or authorized the casts. When art historian John Rewald published the first catalogue of the bronzes, in 1944, he reported that Degas's original mixed-media figures had been sacrificed in the lost-wax casting process used to create the bronzes. In 1955, however, 69 of the "lost" originals reappeared and, with the assistance of Rewald and French collector Ludwig Charell, were exhibited in 1955 at the Knoedler Gallery in New York. Collector Paul Mellon purchased the entire group for \$400,000, and ultimately donated most of the sculptures to the National Gallery, the museum his father had founded in 1937.

The lifetime sculptures were offered for sale at Knoedler not by Degas's heirs, but by members of the Hébrard family, although it is unclear how or when they might have acquired ownership of the works. The 1955 "discovery" of the original sculptures, as Lindsay notes, turns out to be a myth. Letters in the National Gallery archive from London's Marlborough Gallery testify that the National Gallery was contacted about the sculptures as early as 1953, when Marlborough offered to put the gallery's chief curator (later director), John Walker, in touch with an attorney representing an unnamed benefactor "interested in donating a set of wax models by Degas to the National Gallery of Art."

There is no further information about this offer, but the cast of characters is suggestive. Marlborough was a major venue for the sale of Degas bronzes in the early 1950s. The gallery had connections with Rewald, who became an adviser to Paul Mellon, and with

the Hébrard family. In 1952, Marlborough sold a bronze cast of the *Little Dancer* to Tate Modern in London. The previous owner of the cast was Puvis de Chavannes, a relative of the famed artist, who was married to Nelly Hébrard, daughter of the owner of the Hébrard foundry. Lindsay concludes that the lifetime sculpture was on the market for some years prior to 1955 and that public information about it may have been deliberately "managed" to avoid compromising the market for the bronzes.

The marketing and collecting of bronzes also obscured the fate of Degas's wax and clay figures after they were used to create molds for casting, in the 1920s. The location of the figures—and how they were preserved—after the early 1920s and before the 1955 sale is largely unknown. Their history during Degas's lifetime is also cloudy. Despite decades of study by Degas experts such as Rewald, Theodore Reff, Jean Sutherland Boggs, Charles Millard, Richard Kendall, George Shackelford, Sarah Campbell, Anne Pingeot, and Gary Tinterow, the history and evolution of Degas's lifetime sculptures remain unclear.

According to his dealer, Joseph Durand-Ruel, Degas created sculptures for more than 40 years. Yet the artist rarely mentioned these works in his notebooks or correspondence, and most of the other relevant documentary sources are posthumous or secondhand. Acknowledging this gap, the National Gallery catalogue compiles a broad new range of physical evidence and cutting-edge technical analysis of Degas's sculptural production, providing a turning point in our appreciation of this elusive artist.

Barbour and Sturman confirm that most of Degas's sculptures were modeled from colored beeswax, air-dried clay, and plastiline, a nondrying clay. These materials were sometimes combined in different proportions and built up around improvised handmade armatures. Interiors of the forms were frequently bulked up with wine corks, which are surprisingly effective in mitigating the weight of the interior mass. Degas began modeling with pellets or rods of beeswax, sometimes applied in layers to build an entire figure, but more often used as cladding over a core of wires, clay, organic materials, or plaster. Using his fingers or special spatulas, he created a range of surface textures to engage absorbed and reflected light.

Degas also worked in plaster, sometimes with the assistance of professional moldmakers. His plaster composition *Woman Rubbing Her Back with a Sponge, Torso*, for example, turns out to be a pastiche of separately modeled body parts of slightly different scales, joined together with a complex piece-molding process. *Head Resting on One Hand, Bust* was recently discovered to be a plaster cast, probably made from an earlier version of the sculpture. Details such as the figure's lace collar, however, appear to be modeled directly in the plaster.

This new information suggests that these sculptures should be understood as a separate genre of production, distinct from two other plaster casts made during Degas's lifetime. The other two examples are literal replicas of highly finished surviving waxes, *Spanish Dance* and *Dancer Looking at the Sole of Her Right Foot*, and may have been created especially for display in a cabinet in Degas's home containing, according to visitors, "several plaster statuettes that [he] modeled himself."

The only sculpture Degas exhibited in public, *Little Dancer Aged Fourteen*, in the National Gallery, receives the most attention in this new survey. The technical studies should quiet, if not settle, several longstanding debates among Degas scholars. The dancer's hair is human hair, straight and dark blonde, not dark and woolly, as collector Louisine Havemeyer reported after she visited Degas's studio in 1903. Wax was applied over the hair as part of the original fabrication: the wax on the hair is the same as applied to the rest of the figure, indicating that it was not a later addition to facilitate casting.

The dancer's shoes are real ballet slippers, coated with pink wax, but her stockings are sculpted illusions. Her cloth bodice is a manufactured garment, tailored somewhat haphazardly in situ to fit her body. Barbour and Sturman also propose that the figure's very fragile five-layer tutu may be original, or at least the same tutu shown in an inventory photo of the sculpture taken shortly after Degas's death. As a recent "tutu war" made clear, the original garment was certainly not the limp miniskirt worn today by the posthumous bronze casts. Barbour and Sturman's proposal about the possible originality of the current tutu, however, is unlikely to be taken as the last word.

Among the most surprising discoveries reported in the study is the evidence of an earlier version of the *Little Dancer's* head and face concealed inside the current head. The overall internal structure of the figure is impressively intricate. Degas began the work with a lead-pipe armature anchored to metal plates at the base of the legs. Organic bulking material, including wood chips, was tied to the pipes with wire, followed in the central portion of the torso by material resembling cotton batting bound with rope to the first layers. Over this roughed-out contour Degas added clay and then wax to model the exterior of the figure. He sculpted the first head from the same kind of clay sampled from the interior of the legs, where the clay was added directly to the armature pipe.

Dissatisfied with the results, he added several additional layers of clay and wax to enlarge the head and provide the foundation for a new face. To compensate for the proportional increase in the size of the new head, he raised the shoulders of the figure by about four centimeters and elongated the neck with circles of wire resembling a spring.

The public debut of the *Little Dancer* was announced in the catalogue for the 1880 Impressionist exhibition in Paris, but the sculpture failed to appear. It was shown instead, for the first and only time, the next year, at the 1881 exhibition. We may finally have an explanation for the delay. A last-minute decision to rework the head would have been entirely consistent with Degas's methods and may well account for the sculpture's mysterious absence from the 1880 exhibition.

New York art dealers Walter Maibaum and Gregory Hedberg claim to have discovered a previously unknown lifetime plaster cast of the *Little Dancer* that retains the figure's original 1881 appearance. The plaster is said to have made its way to the Valsuani foundry in Paris in 1955, together with plaster casts of all the other extant lifetime Degas sculptures, where they were stored until the foundry business was sold to its current owner, Leonardo Benatov (see "A Controversy Over Degas," April 2010).

As Hedberg acknowledges, the Valsuani *Little Dancer* plaster differs from the mixed-media *Little Dancer* found in Degas's studio and now in the National Gallery, "most importantly [in] the figure's pose." The figure in the National Gallery stands in contrapposto, the right hip elevated and weight primarily on the right foot. The Valsuani figure has level, squarely frontal hips and shoulders, as well as thicker legs and more pronounced collarbones, among other anatomical anomalies.

There is no historical evidence to support the assertion that any of the Valsuani plasters were made during Degas's lifetime. Hedberg argues, nevertheless, that the Valsuani *Little Dancer* plaster replicates Degas's first version of the sculpture in the National Gallery, and that the National Gallery sculpture acquired its current pose and appearance when the artist made radical revisions in the composition (another assumption that has never been verified) early in 20th century.

Despite evidence of an earlier version of the face and head, technical studies of the National Gallery's *Little Dancer* undermine Hedberg's historical scenario. To change the dancer's pose from level hips to contrapposto would entail radical shifts in the dynamics of the sculpture's complicated inner construction. It would have required penetrating the figure's groin, shifting the angle of the inverted U-shaped lead pipe at the hips, and adjusting the legs, where the pipes are bent to accommodate the contrapposto pose. The armature pipes in the legs, furthermore, are embedded in solid clay and screwed into metal plates at the base of each leg.

Barbour and Sturman meticulously record alterations of the surfaces and interiors of the 52 Degas sculptures in the gallery's collection, when armatures were changed or added before or after the artist's death. No such alterations are noted here, and the odds that a radical remodel would leave no identifiable physical traces are almost zero.

The changes to the head also undermine Hedberg's thesis. The vestige of the earlier face inside the current head looks straight forward and lacks the upward-tilted chin that distinguishes the finished figure. The Valsuani plaster, therefore, is not a record of this "first version" of the sculpture, since the Valsuani head and chin also tilt upward.

The National Gallery does not comment on issues of authentication regarding work that is not in the museum's collection, but a footnote repeated three times in this study of Degas's lifetime sculptures states: "A group of plasters reported to have been found in the Valsuani foundry came to our attention as work on the present catalogue was in progress. They are intentionally not included herein" (see sidebar).

The new catalogue does offer comparative studies of the *Little Dancer* recovered from Degas's studio and of two posthumous plaster copies of the sculpture made when the well-known bronzes were cast in the early 1920s. One of these plasters, a 1956 wedding gift from Knoedler Gallery to John Rewald, who later sold it to Paul Mellon, is in the National Gallery collection. The second plaster is in the collection of the Joslyn Art Museum in Omaha, Nebraska.

Arthur Beale, chair emeritus of conservation and collections management at the Museum of Fine Arts, Boston, began studying Degas sculpture in 1971, and determined in the early 1980s that these *Little Dancer* plaster casts played a special role in the casting of the *Little Dancer* bronzes. All the other Degas bronzes are cast from a unique set of master bronzes now in the Norton Simon Museum in Pasadena, California. Hébrard foundry ledgers record a master bronze for the *Little Dancer*, but this bronze has never been found. Beale's technical studies led him to conclude that the *Little Dancer* bronzes were all cast instead from the Joslyn plaster, and that the twin National Gallery plaster functioned as a color guide for the bronze series.

Beale's analysis has been accepted in recent histories of Degas sculpture. Sturman and Barbour's laser scans, however, may cast doubt on this established assumption about the genealogy of the bronzes. All three conservators relied on the same basic science: bronze shrinks as it cools and plaster expands as it sets. The *Little Dancer* plaster casts, therefore, are slightly larger than the original wax. The bronzes are slightly smaller than both the plasters and the original waxes.

Calculating shrinking and expansion rates of these materials, among other factors, Beale found the measurements of the Joslyn plaster to be consistent with his proposition that this figure is the "mother" of all the bronze casts. Sturman and Barbour, in contrast, utilized three-dimensional laser scans which map the contours of objects with millions of points scanned from their surfaces. Overlapping scans on the computer, Sturman and Barbour conclude that dimensional relationships between the National Gallery *Little Dancer* plaster and *Little Dancer* bronzes are consistent with those between the original waxes and other serialized *Little Dancer* bronzes cast from the Simon master bronzes. The conclusion? It's possible that an undiscovered bronze master cast of the *Little Dancer* exists somewhere. Since expert opinions differ, the history of the bronzes is once again an open question.

The exhibition of the *Little Dancer* in 1881 is probably the only undisputed date in the chronology of Degas's extant lifetime sculptures, but the National Gallery's technical analysis of Degas's armatures and materials offers several new clues to the development and dating of his work, especially the 15 sculptures of horses. The beginning and end dates for this series are unknown, although equestrian images drop out of Degas's two-dimensional work by the mid-1890s. Degas was acquainted with Eadweard Muybridge's sensational stop-frame photographs of horses in motion, and Sturman and Barbour make a convincing case that at least one of his horses directly emulates a Muybridge photograph.

Radiographs of *Horse Balking (Horse Clearing an Obstacle)* reveal a sliding armature in the horse's chest, which allowed the artist to adjust the height of the legs and upper body in conformity with the photos of "Daisy" *Jumping a Hurdle*, published in Muybridge's 1887 volume *Animal Locomotion*. Locating the technical construction of this sculpture in the late 1880s provides a pivot point for examining the internal logic of the entire series. Horses in relatively static poses tend to have more labored armatures, and thus are dated

in the 1870s; horses dated in the 1880s and 1890s energetically move forward or leap or twist, and usually have minimal, strategically engineered, internal support.

The argument here seems circular at times (early because labored; labored, therefore early), but the overall pattern, as Suzanne Lindsay notes, seems "promising in the absence of other evidence." The same logic does not seem to apply consistently to Degas's figures of dancers and bathers, however, in part because so many of the waxes have been heavily restored.

Lindsay contributes to the catalogue perceptive and succinct overviews of the art-historical debates inspired by sculptures such as *Little Dancer Aged Fourteen* and ballet dancers performing arabesques characteristic of the period. She is sympathetic to the view that the detailed construction and revisions of many sculptures affirm their status as works made in and for themselves.

But was Degas a sculptor? The late Kirk Varnedoe, former chief curator of painting and sculpture at the Museum of Modern Art, observed, "You can't discuss this sculpture as, for example, Rodin's sculpture can be discussed, in an historical sequence. Degas obviously wasn't interested in inserting himself in a sculptural tradition as he knew it. The help he got from other sculptors seems to have been of a more or less pragmatic nature. This is not to say he was divorced from his artistic era: he had certain ideas about subject matter and form and representing motion that were pertinent to his time and not, say, to the 1830s. Even though he worked on these sculptures mostly privately, these currents transmit into the way he handled volume and gesture and surface and materials. Yet they seem to come to us as sculptural statements without a heavy burden of history. Degas's work falls through some crevices in period sculpture, and I think it will be a puzzle for a long time."

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