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From Skeleton to Skin: The Making of the Greek Slave(s)

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Abstract:

This article retraces the steps Hiram Powers took in making *The Greek Slave*, from modeling the clay to supervising the carving of six full-scale marble replicas. It closely examines the structure and surface of a plaster model of this sculpture (1843, Smithsonian American Art Museum) and presents this object as a key to understanding the sculptor's studio practice and as a tool for assessing similarities and differences across the marble examples of this sculpture.

From Skeleton to Skin: The Making of the *Greek Slave*(s) by Karen Lemmey

Hiram Powers's inscription, "March 12th 1843," reads like an encrypted message, enticing us back across time to his studio and the moment of the making of his *Greek Slave*, a composition that became arguably the best-known sculpture of the nineteenth century. The inscription is intriguingly specific—most sculptures are not marked with the exact day of their completion.[1] It is hard to imagine Powers ever intended for anyone to read this date, for it appears on a plaster cast of *The Greek Slave* (fig. 1), an object that was an intermediary step in the long, laborious process of creating a finished sculpture (fig. 2). The inscribed date fixes this object at the midpoint of production, between malleable clay and immortal marble, and marks the pivotal moment when replication begins. As such, this plaster cast opens a window on the inner workings of Powers's studio. Much like the underdrawing of an Old Master painting, this plaster model exposes the artist's original intentions and reveals shortcuts he took along the way. Some would argue this plaster is the "original" sculpture—after all, it was cast directly from Powers's clay model, which was itself destroyed in the course of producing the plaster cast. In this way, the plaster brings us as close as possible to the artist's hand.



Fig. 1, Detail of inscription on the pointing model of Hiram Powers, *The Greek Slave*, 1843. Plaster. Smithsonian American Art Museum, Washington, DC, Museum purchase in memory of Ralph Cross Johnson. [larger image]



Fig. 2, Hiram Powers, pointing model of *The Greek Slave*, 1843. Plaster. Smithsonian American Art Museum, Washington, DC, Museum purchase in memory of Ralph Cross Johnson. [larger image]

Beginning as a clay model, *The Greek Slave* followed an arc of production that was typical of nineteenth-century marble sculpture. Powers entrusted his full-scale clay model to *formatori*, professional mold makers who built a plaster form around the finished clay, capturing contours and surface details in a negative impression. The *formatori* used the resultant mold to create a plaster positive, a cast that in turn became the template for replication of the sculpture in marble by specialized professional stone carvers working in Powers's studio under his vigilant supervision. Between 1844 and 1866, Powers issued six full-scale marble replicas of *The Greek Slave*, each one distinguished by some degree of variation. The uniquely inscribed plaster cast of *The Greek Slave* served as the template for the first five of these marble replicas (Powers relied on another plaster model to produce the sixth marble, discussed below), and as the progenitor of the five replicas, this plaster model serves as a common denominator through which we may chart the differences across the marble sculptures.

The clay model and plaster mold of *The Greek Slave* were lost long ago, but the inscribed plaster cast has survived, even though it was made for a very specific purpose. Not intended for exhibition or sale, this object was a workhorse never expected to travel outside of the artist's studio. Its surface is marred with countless bronze pins and other registration marks that severely disfigure Powers's idealized female body while affirming the object's function as a tool for replication.[2] After the completion of the fifth full-scale marble replica of *The Greek Slave* in 1851, this cast likely sat dormant in his last studio, Villa Powers, located on the outskirts of Florence. It was not shown publicly until 1967, when the Smithsonian American Art Museum (SAAM) purchased it from the artist's descendants, along with approximately 150 objects, including other plaster casts, tools, and marble sculptures (fig. 3).[3]



Fig. 3, David Lees, Hiram Powers sculptures in storage at Villa Powers, Florence, ca. 1952. Photograph. Archives of American Art, Smithsonian Institution, Washington, DC. [larger image]

This essay draws on extensive research and on conservation treatments conducted on the plaster model in preparation for its display as the focus of the exhibition <u>Measured Perfection</u>: <u>Hiram Powers' Greek Slave</u>, organized by SAAM in 2015 (on view July 3, 2015, to February 19, 2017). The research, including X-radiography, surface cleaning, and examinations of this plaster, undertaken at the museum's Lunder Conservation Center, as well as the piece's 3-D digital scanning and imaging, conducted by the Smithsonian's Digitization Program Office, has resulted in a greater understanding of this important object and Powers's studio practice in general. (The button below links to the Smithsonian's X 3D Explorer viewing interface, enabling the reader to independently explore the plaster cast's materiality and surface texture.) This new physical evidence has been correlated with information recorded by Powers in his "Studio Memorandum," a small notebook preserved in the Smithsonian's Archives of American Art, in which the artist fastidiously tracked expenses, progress on his sculptures, and day-to-day occurrences between October 1841 and January 1845, thus offering the rare opportunity to reconcile an object with the archival record that documents its facture.[4]



Note: For Smithsonian X 3D Explorer system prerequisites, see: <u>http://3d.si.edu/article/</u> prerequisites. To access a 3-D model of the pointed plaster of *The Greek Slave*, click here: <u>http://</u> <u>3d.si.edu/explorer?modelid=1392</u>. To download a 3-D model of the pointed plaster of *The Greek Slave*, click here and follow the instructions: <u>http://3d.si.edu/downloads/1392</u>.

Clay

By the time Powers began modeling *The Greek Slave* in June 1842, he had been living in Florence for nearly five years and become a successful portrait sculptor, but he was eager to expand his practice to include ideal compositions and civic commissions. With this in mind, he had moved his studio across the Arno in 1839 to spacious quarters in a fifteenth-century building once occupied by the Annalena Convent, affording him room to work on multiple large-scale compositions.[5]

Sculpting ideal figures was financially risky. Unlike portraiture, it often required that the artist work on spec, investing time completing a clay model without knowing if the design would ever sell. Sculptors often tried to engage a patron's interest in a particular composition before its

completion, since securing a sale early in the production process would provide the means to pay the *formatori* and stone carvers and to purchase the expensive block of marble.[6] Like most sculptors, Powers hedged his bets and maximized studio production by working simultaneously on multiple ideal compositions, staging the work so as to begin a new clay model while carvers rendered other designs in stone. Indeed, Powers began "putting up the clay" for *The Greek Slave* just as *Eve*, his first full-scale ideal composition, was being cut in marble.

He had been contemplating his new composition for years. In a letter dated January 7, 1841, Powers informed his patron John Preston:

I have been thinking about something to do while the statue of *Eve* is being roughed out in marble and have hit on two subjects—the one represents a Greek slave and the other a fisher boy. I do not intend to begin both at the same time but choose between them. The former is of a young girl, and nude with her hands bound and in such a position as to conceal a portion of the figure thereby rendering the exposure of nakedness less exceptionable to our American fastidiousness. The feet also will be bound to a fixture and the face turned to one side, and downwards with an expression of modesty & Christian resignation. That she is a Christian will be inferred by a cross, suspended by a chain around her neck. . . . I said a young girl but the form will express puberty.[7]

Powers eventually modified his design to represent the body of a fully grown woman rather than that of a pubescent girl. Yet he remained sensitive to "American fastidiousness," as he was adept at intuiting what would most appeal to or repulse his American patrons.

For unknown reasons, he favored "American clay," as he called it, harvested from the banks of the Potomac River in Washington, where he had worked from 1834 to 1837, and he went through great trouble to import this material to his studio in Florence.[8] Powers used an internal metal armature to support the heavy water-based clay, which had to be kept moist through the modeling stage. Entries in the "Studio Memorandum" suggest that he used iron for most of the armature and tin for the arms, since the lighter and more pliable metal allowed him to modify the position of these limbs as the composition progressed.[9] To help dry out the clay, Powers inserted five pounds of charcoal into the interior of the model to absorb moisture.

By October 1842, four months after he began modeling, Powers claimed that the clay model of *The Greek Slave* was half complete. By January 1843, he declared he had completed most of the figure except for the hands and feet, the parts of the body regarded by many artists as the most challenging to depict. Despite steady progress on the clay model, Powers used several titles for this composition and interchangeably called it *Greek Slave*, *Greek Captive*, and *Captive Girl*. Fellow American sculptor Henry Kirke Brown, who visited Powers's studio in November 1842, conflated these variations, calling the sculpture "the Captive Slave."[10] The words "captive" and "slave" are not interchangeable and held particular connotations in American art, as evidenced by *The White Captive* (1857–58; The Metropolitan Museum of Art, New York), a sculpture of a white woman captured by Indians during a raid on a colonial village, made by Erastus Dow Palmer in response to Powers's *Greek Slave*.[11] Powers may have settled on the title *The Greek Slave* to more closely associate his sculpture with the American slave trade, a connection that eventually became central to the display and reception of this sculpture. By the time Powers finished modeling the clay, he consistently referred to his new sculpture as *The Greek Slave*.

Plaster Mold and Cast

Upon finishing the full-scale model of *The Greek Slave* in March 1843, Powers carefully inscribed the curiously specific date onto the damp clay.[12] A few days later, the *formatori* built the mold around the clay model and subsequently pulled this plaster cast, which faithfully captured Powers's inscription. Never one to squander valuable time, Powers seized the opportunity to begin modeling new compositions in clay, including *Fisher Boy* and others, while supervising the mold making, plaster casting, and subsequent marble carving of *The Greek Slave*. The production of the mold spelled the obsolescence of the clay original and signaled the transformative moment when the artist receded from hands-on production, making Powers's inscription all the more poignant. At this point, the sculpture ceased to be a single object made solely by Powers's hands and became a design matrix handled by many highly specialized craftsmen who collectively produced finished multiples. Powers omitted his name from the inscription, but the precise date functions as a signature of sorts, definitively marking the end of this phase of production and acknowledging the long hours of labor he had invested thus far in his new composition. Unlike any of the inscriptions that professional carvers chiseled onto finished marbles, the script on the clay was done by Powers's hand alone.

It took the *formatori* nine days to make both the mold and cast of *The Greek Slave*.[13] Although Powers did not document the mold making in detail, his notes from the previous year describe the procedure for Eve, his first large sculpture to undergo the process. For example, at one point he cautioned himself to "in the future remember to make the first coat of plaster thick about the sharp corners as otherwise they are liable to break in taking off"; elsewhere he noted things such as "divisions ought to be made between thin parts of the mould [sic] and the mass to avoid breakage in withdrawing from the clay," and "convex parts of the first inner coats are liable to be forced off from the mould by the expansion of the plaster."[14] Such observations elucidate how the mold for The Greek Slave may have been made. Francesco Carradori's illustrated guide for sculptors, published in Italy in 1802, also offers a period perspective on the process, explained in part here. [15] It seems the *formatori* created "piece molds" (*forma a tasselli*) of Powers's life-size figures. Piece molds consist of many sections that fit together around the contours of the figure to accommodate undercuts and negative spaces (fig. 4). They are costly and complicated to build, but could be used multiple times, unlike the more common "waste molds," which could be used only once. The Powers collection at SAAM also includes a second full-scale plaster model of The Greek Slave, which lacks an inscription and was used to produce the sixth marble version (discussed below). Both full-scale plaster models, as well as several truncated plaster torsos of The Greek Slave in the museum's collection, were probably cast from that same piece mold made in 1843 from the original clay model (fig. 5).[16]



Fig. 4, Studio of Hiram Powers, *Piece Mold of a Child's Hand*, n.d. Plaster. Smithsonian American Art Museum, Washington, DC, Museum purchase in memory of Ralph Cross Johnson. [larger image]



Fig. 5, Hiram Powers, torso of *The Greek Slave*, 1843–73. Plaster. Smithsonian American Art Museum, Washington, DC, Museum purchase in memory of Ralph Cross Johnson. [larger image]

The piece mold system also afforded Powers the opportunity to revisit isolated sections of the composition. This is especially significant if we consider the possibility that Powers may have incorporated body casts into his models. As did many sculptors, Powers kept a selection of life casts of hands and feet molded from bodies of various ages, many of which are in the Powers collection at SAAM. Of particular interest is a life cast of a woman's left hand and forearm that holds the exact gesture and position and is the same size as the corresponding section on *The Greek Slave* (fig. 6). This body cast is pierced with a small hole, indicating that it may have hung on the wall in Powers's studio. Deviation analysis comparing 3-D digital scans of this body cast and the plaster model of *The Greek Slave* revealed minimal discrepancies in the forms and volumes of the two objects, some of which may be due to repairs made to the plaster model (fig. 7). Powers may have incorporated a plaster body cast directly into the clay version of his life-size figure of the *Slave*, or he may have attached it to the plaster model. Since the plaster model is coated, it is difficult to find any trace of the skin texture and pores that are generally visible on a body cast, but both objects capture folds in the flesh, fingernails, and other eerily lifelike features.

To make the piece mold, the *formatori* cut off the clay arms and head and molded these separately. The remaining torso and lower areas of the body were divided into sections demarked by metal or wood shims. Deep undercuts and negative spaces within the composition were built up to meet the contours of the adjacent areas though the addition of plaster fills, called "keys," that fit into a larger plaster encasement called the "mother mold." The formatori worked quickly from the bottom to the top of the composition, building stacked sections of the mold around the clay. The innermost layer of the mold-the part in direct contact with the clay model—was made by first brushing a thin coat of plaster over the surface of the clay model. This milky layer of plaster seeped into every crevice and registered textures and fine details. Once this layer of plaster had set, it was covered with thicker, coarser coats of plaster reinforced with horsehair or other fibers. The largest sections of the mother mold were often reinforced with iron bars.[17] The edges of each section of the mold were fitted with a tongue and groove system that locked the whole ensemble together like a three-dimensional puzzle. Once the plaster had dried thoroughly, the molds were then opened along the partition lines and the clay removed and discarded. The mold was cleaned and treated with a separating agent, such as lard, graphite, oil, or soap.[18] For this brief but critical time between completion of the plaster mold and casting of the new plaster positive, The Greek Slave existed only as a negative impression—an intangible, hollow void encapsulated within the plaster mold.

Next, to make the cast, *formatori* first brushed another thin, milky layer of plaster over the interior surface of each section of the open mold. The numerous sections of the mold were then reassembled and locked together, forming an internal cavity that was partially or fully filled with liquid plaster, often reinforced with horsehair or other natural fibers, to create either a hollow or solid cast. Once the plaster dried, the *formatori* opened the mold and released the sections of the cast. Casts of the arms, head, and anything else that had been detached from the clay model and molded separately were reattached to the figure with metal wires or tabs. Seam lines on each section of the cast, showing where the model had been partitioned or filled with a key, were filed away, revealing a perfect plaster replica of the original clay (fig. 8).[19]



Fig. 8, Hiram Powers, torso of *The Greek Slave* with casting seams, 1843–73. Plaster. Smithsonian American Art Museum, Washington, DC, Museum purchase in memory of Ralph Cross Johnson. [larger image]

This method of making a mold inevitably destroyed Powers's original clay model of *The Greek Slave*, yet the advantages to having the plaster mold and cast justified sacrificing the clay model. A plaster cast was stronger and more durable than the clay original and could better withstand the wear and tear of the replication process. The cast was simple to repair and, as long as the mold endured, replaceable.

Since sculptors rarely could afford to have a composition cut in marble without having first secured its sale to a patron, plaster proved to be a cheap, convenient, and reliable medium in which to preserve a design indefinitely. Some compositions languished for years as studio plasters, awaiting a patron to commission the translation into marble. Plaster casts also served other purposes in the studio and beyond, including being refined and presented as finished works at exhibitions or even sold to collectors of lesser means, a practice that was especially common in the United States, where statuary marble was expensive and difficult to obtain. Even in Florence, where he had no difficulty sourcing marble, Powers occasionally presented finished plaster casts of his works as gifts to friends, family, and special patrons.[20]

Pointing

Although the plaster model of *The Greek Slave* was likely seen by Powers's patrons and may have been the basis for some of them to commission replicas in marble, this object primarily served as an invaluable studio tool. It was used in conjunction with a pointing machine, a mechanical device for systematically transferring exact measurements from a plaster cast to a marble block. The pointing machine consists of a set of three slender metal rods that are attached together through fully articulated joints. The pointing machine is fixed onto a stationary wooden crossbar that is specially sized to stand as high as the plaster model. The crossbar is mounted to the plaster model at three fixed points: two on the wooden workbench, known as the banker, on which the plaster stands, and one at the top of the figure. Protruding from the right temple of the plaster cast of *The Greek Slave* is a metal loop that supported the top of the crossbar of the pointing machine (fig. 9). Having set the crossbar on the plaster model, the master carver took a reading of a point on the model by aligning the tip of the pointed rod with one of the dozens of "X" marks or pins on the plaster surface (fig. 10). The whole apparatus crossbar and pointing machine-was then moved and locked onto the base and top of the marble block being carved, and the measurements were transferred to corresponding locations on the stone. The pointing machine was moved between the plaster model and the marble block hundreds of times, guiding the carver to remove the right amount of marble from the block. (For a demonstration of this process on a bust of The Greek Slave, see the SAAM video.)



Fig. 9, Detail of the metal loop embedded in the head of the plaster model of *The Greek Slave*, 1843. Photograph by Susan Edwards, Lunder Conservation Center, Smithsonian American Art Museum, Washington, DC. [larger image]



Fig. 10, Detail of graphite "X" marks and metal pins on the figure's proper left elbow, model of *The Greek Slave*, 1843. Plaster. Photograph by Susan Edwards, Lunder Conservation Center, Smithsonian American Art Museum, Washington, DC. [larger image]

Powers was celebrated for inventing new tools, some of which he patented.[21] But it seems that he may have obtained his studio pointing machine from England. In his "Studio Memorandum," he commented in February 1842 on an example of the device fabricated by a mangle maker in London and indicated that "the cost was five pounds," implying that Powers purchased the instrument.[22]

X-radiographs of the plaster pointing model of *The Greek Slave* reveal an internal structure that underscores the object's purpose as a tool for replication (fig. 11). Most striking in the imagery is the object's robust metal armature made of four long rods, a skeleton of sorts that allowed the plaster to bear the weight of the crossbar and the pointing machine. The comparative density of the rods, evident in the imaging, suggests they are mainly iron. The crossbar for the pointing machine would have hooked onto the metal loop that protrudes from the figure's right temple, and X-rays of this area reveal a horizontal band indicating the presence of a non-plaster mass, perhaps a block of wood, that appears to sit at the top of the upper armature rod. The X- radiographs also show the depth to which the metal point marks were driven into the plaster, prompting us to speculate if the pattern of points, which would have been determined by the master carver, could ever be used as a connoisseurship tool to determine which marble replicas may bear traces of the same point marks, thus indicating that a particular replica was made from a particular plaster pointing model. The X-ray images also reveal some of the seam lines, most visibly at the figure's waist, showing where sections that were necessarily cast hollow were sutured together with metal tabs. It is unclear how the interior cavity of the model was subsequently filled with plaster, which holds the iron rods in place. One possibility is that the *formatori* cast the lower sections of the figure around the iron armature and then attached hollow sections of the upper portions of the body to the protruding iron rods before finally filling in the cavity with plaster.[23]



Fig. 11, Composite of sectional X-radiographs of the plaster model of *The Greek Slave*, 1843. Composite by Samantha Grassi, 2015. X-radiographs by Susan Edwards and L. H. (Hugh) Shockey Jr., Lunder Conservation Center, Smithsonian American Art Museum, Washington, DC. [larger image]

Marble

The carving of the first marble replica of *The Greek Slave* began soon after the completion of this plaster pointing model. Powers received a trove of stone in January 1843 from his preferred quarry in Seravezza. Although he had sourced this stone for *Eve*, he noted that the "marble [is] very beautiful—enough [for] the Slave."[24] On April 18, a stonecutter sawed off a block for *The Greek Slave* and, in May, Leopoldo (Poldo) Fabbri, Powers's chief carver, commenced "blocking out" the overall form of the composition on the stone.[25] Powers favored Seravezza marble for its purity. Nevertheless, this first block of stone revealed a flaw as carving progressed, forcing Powers to abandon it for another block, possibly one that was cut from the same large stock. The sculptor noted on November 19 that "Poldo began blocking out another Slave about a week ago."[26] A month later the partially carved marble at last passed to Remigio Peschi, Powers's chief carver, who was largely responsible for completing the bulk of the remaining work.[27]

It was likely Peschi who used the pointing machine to transfer the finer details from the plaster model. The machine significantly sped up replication while ensuring accuracy in the translation, but the device had its limitations. It was most useful in measuring high and low contour points on the model, an immeasurable help to the carver while he shaped the overall form of the figure in marble (fig. 12). But the "skin" of the finished sculpture, with its various

textures and details, was necessarily rendered by hand. It is logical, therefore, that the surface of the plaster model of The Greek Slave lacks definition, especially around the draped column where we find fringes and brocaded fabric, as well as important symbols, such as the locket and cross. In the same way that Powers may have used a body cast to indicate the form and gesture of the figure's left hand, he may have taken other shortcuts and pressed a chain link into the clay to mark the line of the delicate cable from which the locket and cross dangle (fig. 13). Powers lost no time sculpting these passages in any great detail in clay, since Peschi and the other carvers could not use the pointing machine to replicate these intricate surface details. These sections of the sculpture, so carefully rendered in the marble, are less about form than texture, and the carvers were better served by referencing actual examples of brocaded fabrics, crosses, and lockets to guide their work. Similarly, to guide the carvers in rendering the chains in marble, Powers simply attached real metal chains to cuffs on the wrists of the plaster figure, as evidenced by the indentations these left on the figure's wrists and abrasions across the upper thighs (fig. 14). The absence of these finer details from the plaster model, and by extension the clay original, indicate the extent to which Powers continued to develop and refine his composition as he moved from one medium to another. In fact, it seems he did not finalize the arrangement of the chains until April 1844, by which time the first marble replica was well under way. At this late date, Powers drew a miniscule sketch in his "Studio Memorandum," noting with a degree of uncertainty, "Chains might be made thus" (fig. 15).[28]



Fig. 12, Hiram Powers, *Ginevra* (first version, unfinished), modeled 1838. Marble. Smithsonian American Art Museum, Washington, DC, Museum purchase in memory of Ralph Cross Johnson. This unfinished work with point marks on the face reveals the step in the process when the carvers set aside the pointing machine and finish the work by hand. [larger image]



Fig. 13, Detail of the locket and cross on the plaster model of *The Greek Slave*, 1843. Photograph by Susan Edwards, Lunder Conservation Center, Smithsonian American Art Museum, Washington, DC. [larger image]



Fig. 14, Detail of the abrasions on the thighs caused by a removable metal chain on the model of *The Greek Slave*, 1843. Plaster. Photograph by Susan Edwards, Lunder Conservation Center, Smithsonian American Art Museum, Washington, DC. [larger image]

Leaving passages of the model for *The Greek Slave* unfinished accelerated production, but this degree of isolated *non finito* may have also proved useful in selling the composition to potential patrons. Throughout the making of *The Greek Slave*, Powers maintained a delicate balance between secrecy and publicity, at times veiling the unfinished sculpture in his studio to shield it from the eyes of curious visitors, while simultaneously describing it in great detail in letters to potential clients. By the time the sculpture was being translated into marble, *The Greek Slave* had earned a reputation, perhaps in part because it had been enshrouded in mystery for several years. This tactic not only raised expectations about his new sculpture, it also set the ideal circumstances for visiting patrons to participate in the completion of the work. In the first two weeks of December 1843, Lord William Ward, Captain John Grant, and Prince Anatole Demidoff separately visited Powers's studio and admired the partially realized first replica of *The Greek Slave*. [29] Each one would go on to commission a full-scale replica of the sculpture in marble. Significantly, each patron pleaded with Powers to make his own replica unique with respect to the others.

John Grant was the first to place an order and purchased the very example he and the others had seen (1844, first version, Raby Castle, Staindrop).[30] Understandably, as the owner of the first *Greek Slave*, Grant voiced great concern about Powers's intentions to sell more replicas. In November 1844, responding to Powers's news that Lord Ward had recently ordered the second replica (1846, Corcoran Collection, National Gallery of Art, Washington, DC), Grant expressed irritation and regret that he had not required Powers to restrict the edition: "So, Lord W[ard] has ordered a duplicate.... I confess I should have been better pleased if he had ordered some other subject and allowed the Slave to stand alone."[31] Grant went so far as telling Powers that "alteration should be made in any copy in order to distinguish the original" and boldly stated, "It will afford me infinite pleasure if you can manage to omit the chains, or if not omit them altogether, to substitute some kind of cord." The patron even required the artist to add a specific inscription to his own example of *The Greek Slave*: "I now wish you to inscribe on it (but not in a conspicuous place): Executed to the order of Jno. Grant, Esq."[32]

For his part, William Ward, the 1st Earl of Dudley, asked Powers to alter the drapery on his specially ordered *Greek Slave* so that it appeared more "careless."[33] Powers complied with Ward's request by executing the second replica of *The Greek Slave* to have only one twist of drapery around the vertical strut. As is well documented in the literature, Ward relinquished the second replica but later engaged Powers for the fourth replica, once again requesting the artist modify the composition in some way. Powers appeased Ward by eliminating the Phrygian cap and making other adjustments to the vertical support in this fourth replica, which has been lost for decades. Prince Demidoff ensured the uniqueness of his replica—completed in 1850, and the fifth to be cut in marble—by ordering from Powers an elaborate bell-shaped marble pedestal (Yale University Art Gallery, New Haven). Finally, in 1866, at the close of the Civil War, Powers created the sixth replica of *The Greek Slave* (Brooklyn Museum, New York), the only example in which he replaced the double row of gracefully draped chains with a distinctive straight-bar shackle that underscored an aspect of the American slave industry.[34] For this distinctive example of *The Greek Slave*, he created a new pointed model, embedding real iron shackles into the plaster (fig. 16).



Fig. 16, Hiram Powers, second pointing model of *The Greek Slave*, after 1843, likely 1865. Plaster with metal pins and metal shackles. Smithsonian American Art Museum, Washington, DC, Museum Purchase in Memory of Ralph Cross Johnson. [larger image]

Powers was savvy about integrating marketing and production to accommodate this range of variation without compromising the integrity of his composition or the efficiency of his studio. The pointed plaster was a prototype, and the execution of each finished marble realized the design in a new way. The figure of *The Greek Slave* remains strikingly consistent in all six marble replicas; each one faithfully reflects the body as it is rendered on the pointed plaster model. It is equally significant that the greatest variations across the marble replicas are found in the section of the composition that appears most unfinished on the plaster model, namely the vertical strut, accessories, and draped chains. In this way, Powers economized the replication process, capitalizing on the pointing machine to speed up the copying of the body while relegating variations to areas on the sculpture where the pointing machine would have been useless. Each patron was granted the satisfaction of believing he had been an agent for change by commissioning a "unique" marble, although, in fact, Powers never conceded more than minor deviations from the plaster model that served as the master matrix. Although Powers intensely negotiated sales with patrons who demanded distinctive replicas, the modifications probably cost the artist nothing to execute.[35]

Conclusion

The wealth of information evident in this pointing model of *The Greek Slave* potently challenges the nineteenth-century quip that a sculpture is born in clay, dies in plaster, and is resurrected in marble.[36] For the sculptor, the plaster cast was a holding place for an idea, an object pregnant with possibility. The inclusion of a date on this plaster cast suggests the object's importance to Powers. In a precautionary note emphasizing the significance of his plaster casts, he warned that "should any 'mishap' render it necessary for others to attend to my affairs, . . . all of the models should be preserved together as they are for they may be valuable at some future day."[37] More than a century later, this is, at last, apparent.

Digital Humanities Project Narrative

There is no substitute for looking at an artwork in person, especially sculpture in the round, which is intended to be viewed from multiple vantage points. But developments in digital technologies are rapidly augmenting our ability to see and interpret physical data.

My focused study of the full-scale pointing models of Hiram Powers's *Greek Slave* began after a day of "close looking" at objects with Martina Droth, deputy director of research and curator of sculpture at the Yale Center for British Art, New Haven, in the Smithsonian American Art Museum's (SAAM) deep storage. We spent hours together examining molds, plasters, and body casts from Powers's studio, speculating about the sculptor's methods and the relationship among certain objects. Why were there two full-scale pointing models of the *The Greek Slave*? When were they made? How closely does the body cast of a hand and forearm match the corresponding section of *The Greek Slave*? I may not have asked these important questions had it not been for this brainstorming session with a fellow sculpture scholar in front of the objects.

Answers to these and other questions were best pursued in the laboratory using various digital technologies. Digital X-radiography conducted at SAAM's Lunder Conservation Center revealed armatures and seam lines of the plasters being examined, while 3-D scans and modelling generated by the Smithsonian's Digitization Program Office allowed us to quantify deviations in size and shape between select objects. These studies critically shaped the SAAM exhibition *Measured Perfection: Hiram Powers'* Greek Slave. But exhibitions are ephemeral, and so it is most satisfying to see this "born-digital" documentation and research find a permanent platform in this online publication of *Nineteenth-Century Art Worldwide*. This special issue places my essays, "From Skeleton to Skin: The Making of the *Greek Slave*(s)" and "Discovering the Lost *Greek Slave* in a Daguerreotype," in the rich context of related papers and digitized archives, most notably the trove of Hiram Powers's papers, allowing readers to oscillate to other articles and images. This fluidity is particularly useful when considering differences across the various marble replicas of *The Greek Slave*. Zoom features accompanying certain images in this publication allow readers to study Powers's sculptures from all sides and to bring into close

focus, for example, the artist's inscription, abrasions left by the chains, graphite pointing marks, and other surface details that are not plainly visible or accessible in typical museum settings. Working in this way brings our highly collaborative research to a global readership and makes our methods of inquiry more transparent. We hope this collection of articles will encourage other institutions to 3-D scan the various full-scale marble examples of *The Greek Slave* and further the discourse that begins here.

Karen Lemmey is the curator of sculpture at the Smithsonian American Art Museum (SAAM), where she coordinated the exhibitions *Martin Puryear: Multiple Dimensions* (2016) and *Isamu Noguchi, Archaic/Modern* (2016) and organized *Measured Perfection: Hiram Powers'* Greek Slave (2015), and *Direct Carving* (2015). Her interests include public art, the history of materials and methods, artist colonies in 19th-century Italy, and the depiction of race in sculpture. Before joining SAAM in 2012, Lemmey was a researcher at the Metropolitan Museum of Art, New York, a monuments coordinator for the City of New York's Department of Parks and Recreation, an Andrew W. Mellon Foundation Fellow at the New-York Historical Society, and an Andrew W. Mellon Curatorial Fellow at the National Gallery of Art in Washington, DC. Lemmey earned a doctorate in art history from the Graduate Center of the City University of New York (2005). Throughout high school, she studied traditional methods of sculpting clay, making molds, and casting bronze with Greg Wyatt, sculptor-in-residence at the Cathedral Church of St. John the Divine in New York City.

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Notes

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[1] A similar inscription, "January 18th 1844," also appears on Powers's plaster model of *Fisher Boy* (Smithsonian American Art Museum).

[2] It is generally uncommon for museums to display plaster casts, especially pointing models, although there are isolated instances, for example the Metropolitan Museum of Art's presentation of the pointing model for Antonio Canova's *Cupid and Psyche* (1794).

[3] At the time of acquisition, the museum was known as the National Collection of Fine Arts (1937–1980); subsequently, it was called the National Museum of American Art (1980–2000). This massive acquisition also led to the publication of Richard P. Wunder's two-volume biography and catalogue raisonné on Powers, a work that is fraught with factual errors and contradictions but that still stands as the most extensive study on the artist. See Richard P. Wunder, *Hiram Powers: Vermont Sculptor, 1805–1873, 2 vols.* (Newark: University of Delaware Press, 1991).

[4] Hiram Powers, "Studio Memorandum, 1841–1845," Hiram Powers Papers, box 10, folder 26, Archives of American Art, Smithsonian Institution (henceforth AAA), <u>http://www.aaa.si.edu/</u>collections/container/viewer/-Studio-Memorandum-Etc--284723.

[5] Wunder, *Hiram Powers*, 1:118.

[6] Powers initially proposed a price of \$3,000 for *The Greek Slave* and \$4,500 for *Eve*. "Studio Memorandum," October 28, 1841, frame 6.

[7] Powers to Colonel John Preston, January 7 and September 28, 1841, Florence, Hiram Powers Papers, AAA, bound copies of letters, 1838–1847, box 10, folder 21, frames 60 and 78, <u>http://www.aaa.si.edu/collections/container/viewer/bound-copies-letters-written-hiram-powers-339965</u>.

[8] "Studio Memorandum," May 22 and June 25, 1842, frames 18 and 21. For mention of shipment of Potomac clay for *Eve Tempted*, see Wunder, *Hiram Powers*, 2:142.

[9] "Clay models—lead or tin is better to support the arms than iron—as they can be bended [*sic*] without difficulty," in "Studio Memorandum," May 1, 1842, frame 17.

[10] Henry Kirke Brown to Rhoda Brown (mother), December 8, 1842, Florence, Henry Kirke Bush-Brown Papers, 331, Manuscript Collection, Library of Congress.

[11] Lauretta Dimmick, "The White Captive," in *American Sculpture in The Metropolitan Museum of Art*, ed. Thayer Tolles (New York: Metropolitan Museum of Art, 1999), 1:70.

[12] Wunder (*Hiram Powers*, 2:158) mistakenly refers to the plaster as a clay model and also concludes incorrectly that the inscription was "incised into the wet plaster."

[13] "Studio Memorandum," March 13 and March 25, 1843, frames 35–36.

[14] "Studio Memorandum," April 21, April 18, and May 1, 1842, frames 16–17.

[15] Francesco Carradori, *Istruzione elementare per gli studiosi della scultura* (Florence: 1802), table 6, https://library.nga.gov/help/165716_plates_sec.pdf.

[16] Donald Reynolds has asserted that the second pointing model was cast from a mold made from the first cast and that either model could have been used to create the six marble replicas. See "Review of *Hiram Powers: Vermont Sculptor*, 1805–1873," Art Bulletin 74, no. 4 (1992): 689, <u>http://www.jstor.org/stable/3045921?seq=3#page_scan_tab</u> [login required]. It seems unlikely that Powers would have risked his primary pointing model to make this second cast, especially if the original piece mold was still intact.

[17] On March 17, 1843, Powers noted that he paid the *formatori* for iron that was presumably used to construct the mold of *The Greek Slave*. See "Studio Memorandum," frame 36.

[18] Powers mentions the use of lard as a separating agent for making a plaster mold of a plaster cast in a letter from the summer of 1868. See Powers to Dr. William B. Moffatt, July 28, 1868, Florence, Hiram Powers Papers, AAA, box 6, folder 57, frame 28, <u>http://www.aaa.si.edu/</u>collections/container/viewer/Moffatt-Dr-W-B--284510.

[19] Wunder (*Hiram Powers*, 2:158) notes that the plaster cast of *The Greek Slave* was varnished during the summer of 1843, but no evidence of varnish was found when the plaster was cleaned in 2015 at the Lunder Conservation Center.

[20] The most obvious and widespread example of this is *Loulie's Hand*, a small composition consisting of the hand of Powers's infant daughter, Louisa, emerging from the center of a sunflower. Wunder (*Hiram Powers*, 2:187) identifies several plaster casts of this work that Powers gave as gifts.

[21] For example, Powers secured U.S. patents for a <u>file</u> and <u>metal punch</u>. He also obtained a British patent for a <u>vice</u>. I am grateful to Larry Tarazano of the United States Patent and Trademark Office for bringing this to my attention.

[22] "Studio Memorandum," February 26, 1842, frame 9. Among other artists who used the pointing machine were American sculptor Henry Kirke Brown, who brought a version of the device to Florence, where he lived between 1843 and 1844. Brown's wife, Lydia, claimed that Powers made a copy of her husband's pointing machine. It seems possible that Powers combined elements of several examples of the machine. See Lydia Brown to Mr. Hooker, March 29, 1843, Florence, and Lydia Brown to Elizabeth C. Udall, July 17, 1843, Florence, Henry Kirke Bush-Brown Papers, Library of Congress, 361 and 374.

[23] X-radiography on the plaster cast of *The Greek Slave* was conducted at the museum's Lunder Conservation Center by objects conservator L. H. (Hugh) Shockey Jr. and conservation technician Susan Edwards.

[24] "Studio Memorandum," January 10, 1843, frame 33.

[25] "Captive—began blocking out," in "Studio Memorandum," May 9, 1843, frame 21.

[26] "Studio Memorandum," November 19, 1843, frame 29.

[27] "Remigio began on the marble of the Slave on the 15th," in "Studio Memorandum," December 16, 1843, frame 56. Wunder (*Hiram Powers*, 1:110) notes that Remigio Peschi "remained in Powers's employ until the studio operation ceased in 1877." Powers may have also hired Bistorini and Franzoni (first names unknown), who specialized in carving hair and drapery, respectively, to complete details of *The Greek Slave*.

[28] "Studio Memorandum," April 15, 1844, frame 63. The chains proved to be the most elaborate and costly part of the sculpture to sculpt, as evidenced by Powers's letter to a potential patron in which he said, "I hope to have the statue [of *The Greek Slave*] completed in about five months from this time. It could be done sooner but for the chains which alone require about two months." See Powers to Charles Coote, March 27, 1847, Hiram Powers Papers, AAA, bound copies of letters, 1838–1847, box 10, folder 24, frames 19–20, http://www.aaa.si.edu/collections/container/viewer/ bound-copies-letters-written-hiram-powers-339966.

[29] "Studio Memorandum," December 1 and December 15, 1843, frame 55.

[30] Grant returned to Powers's studio the first week of January and completed the order on January 26, 1844. "J. Grant concluded an arrangement with him for the statue of a Slave, terms not to be made known by either party—am to have the statue finished in about eight months time," in "Studio Memorandum," frame 58.

[31] John Grant to Powers, November 27[, 1844], London, Hiram Powers Papers, AAA, box 4, folder 54, frames 32–35, <u>http://www.aaa.si.edu/collections/container/viewer/</u>grant-john-339885.

[32] Ibid.

[33] "Studio Memorandum," September 23, 1844, frame 80.

[34] The statue has generally been dated to 1869, the year it was acquired by Edwin W. Stoughton. Although Richard P. Wunder gave the date as 1866, he did not substantiate it, and, therefore, it was not generally accepted (see Wunder, *Hiram Powers*, 2:162, 166.). However, new research by Martina Droth undertaken for this special issue has confirmed that the most likely date is indeed 1866 (see "Mapping *The Greek Slave*"). This new dating is reflected throughout the contributions.

[35] Powers asked Lord Ward to pay a balance of £400, rather than £300, supposedly "on account of the enormous marble block." See Powers to Lord Ward, December 8, 1848, Hiram Powers Papers, AAA, box 9, folder 54, frame 10, <u>http://www.aaa.si.edu/collections/container/viewer/</u>Ward-Lord-284698.

[36] This phrase is variously credited to Canova and Bertel Thorvaldsen. See Donald Reynolds, "Review of *Hiram Powers: Vermont Sculptor*, 1805–1873," *Art Bulletin* 74, no. 4 (1992): 689, <u>http://www.jstor.org/stable/3045921?seq=3#page_scan_tab_</u>[login required].

[<u>37</u>] "Studio Memorandum," May 14, 1844, frame 67.

Illustrations



Fig. 1, Detail of inscription on the pointing model of Hiram Powers, *The Greek Slave*, 1843. Plaster. Smithsonian American Art Museum, Washington, DC, Museum purchase in memory of Ralph Cross Johnson. [return to text]



Fig. 2, Hiram Powers, pointing model of *The Greek Slave*, 1843. Plaster. Smithsonian American Art Museum, Washington, DC, Museum purchase in memory of Ralph Cross Johnson. [return to text]



Fig. 3, David Lees, Hiram Powers sculptures in storage at Villa Powers, Florence, ca. 1952. Photograph. Archives of American Art, Smithsonian Institution, Washington, DC. [return to text]

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Fig. 4, Studio of Hiram Powers, *Piece Mold of a Child's Hand*, n.d. Plaster. Smithsonian American Art Museum, Washington, DC, Museum purchase in memory of Ralph Cross Johnson. [return to text]



Fig. 5, Hiram Powers, torso of *The Greek Slave*, 1843–73. Plaster. Smithsonian American Art Museum, Washington, DC, Museum purchase in memory of Ralph Cross Johnson. [return to text]



Fig. 8, Hiram Powers, torso of *The Greek Slave* with casting seams, 1843–73. Plaster. Smithsonian American Art Museum, Washington, DC, Museum purchase in memory of Ralph Cross Johnson. [return to text]



Fig. 9, Detail of the metal loop embedded in the head of the plaster model of *The Greek Slave*, 1843. Photograph by Susan Edwards, Lunder Conservation Center, Smithsonian American Art Museum, Washington, DC. [return to text]



Fig. 10, Detail of graphite "X" marks and metal pins on the figure's proper left elbow, model of *The Greek Slave*, 1843. Plaster. Photograph by Susan Edwards, Lunder Conservation Center, Smithsonian American Art Museum, Washington, DC. [return to text]



Fig. 11, Composite of sectional X-radiographs of the plaster model of *The Greek Slave*, 1843. Composite by Samantha Grassi, 2015. X-radiographs by Susan Edwards and L. H. (Hugh) Shockey Jr., Lunder Conservation Center, Smithsonian American Art Museum, Washington, DC. [return to text]



Fig. 12, Hiram Powers, *Ginevra* (first version, unfinished), modeled 1838. Marble. Smithsonian American Art Museum, Washington, DC, Museum purchase in memory of Ralph Cross Johnson. This unfinished work with point marks on the face reveals the step in the process when the carvers set aside the pointing machine and finish the work by hand. [return to text]



Fig. 13, Detail of the locket and cross on the plaster model of *The Greek Slave*, 1843. Photograph by Susan Edwards, Lunder Conservation Center, Smithsonian American Art Museum, Washington, DC. [return to text]



Fig. 14, Detail of the abrasions on the thighs caused by a removable metal chain on the model of *The Greek Slave*, 1843. Plaster. Photograph by Susan Edwards, Lunder Conservation Center, Smithsonian American Art Museum, Washington, DC. [return to text]



Fig. 16, Hiram Powers, second pointing model of *The Greek Slave*, after 1843, likely 1865. Plaster with metal pins and metal shackles. Smithsonian American Art Museum, Washington, DC, Museum Purchase in Memory of Ralph Cross Johnson. [return to text]