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book review of

Finding Lost Wax: The Disappearance and Recovery of an Ancient Casting Technique and the Experiments of Medardo Rosso edited by Sharon Hecker

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Sharon Hecker, ed.,
Finding Lost Wax: The Disappearance and Recovery of an Ancient Casting Technique and the Experiments of Medardo Rosso.
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When is technical art history a boon, and when has it lost the forest for the trees? This is a question I found myself asking more than once in reading Brill's latest entry in their series on "Studies in Art & Materiality." *Finding Lost Wax* is this latest compendium of technical art history, a group of essays edited by Sharon Hecker that is split in two parts. The first half of the book tells the story of how lost wax was brought back to France and other countries such as the United States and Japan in the 1890s and after. For the most part, this discussion is illuminating both far and wide. The second half is a closer examination of Medardo Rosso's key contributions to and revolutionary use of lost wax casting. Sharon Hecker, the editor of the volume, who also contributed an introduction and three essays (one of which was co-authored) out of the fifteen included in the book, specializes in Rosso's sculpture. She comes to the project with decades of experience working on both his sculpture and other modern Italian contributions to the genre. Much of what is written in the second half of the book came out of a study day of several casts of Rosso's *Bambino ebreo* (ca. 1892–94) at Peter Freeman Inc. in New York, held before the opening of an exhibition of these sculptures in 2016. In addition to Hecker, the contributors range from experts in the technical study of bronzes and bronze foundries, museum conservators, members of the scientific research departments at The Metropolitan Museum of Art and the Cultural Heritage Agency of the Netherlands, and a professor of chemistry, to artists, art historians, curators, and a museum director. The net has been cast wide, and the results are varied, particularly in the second half of the book.

In her introduction, Hecker notes that in the early nineties, when she (and I, too) began work on Medardo Rosso, it was believed that his works were hand-modeled and not cast in molds and that he used beeswax for his wax-over-plaster sculptures. Neither has proven true. When Rosso was redefined as an artist-founder of multiple casts rather than a hand-modeler, it changed the whole narrative about his work, his conceptual approach to sculpture, and his working methods, she contends. Hecker states that lost wax was long forgotten in France

where Rosso came to work in the 1890s; but this narrative seems to forget the strong forays into the technique already made by Auguste Rodin and others when Rosso came on the scene.^[1] Hecker notes that Rosso's arrival coincided with an influx of Italian immigrants in Paris who, with knowledge of lost wax, launched France into the forefront of the bronze-casting industry. But it was Rosso, according to Hecker, who used lost wax "in new, unorthodox ways to establish his modernity" (2). Lost wax had fallen out of use in the nineteenth century in Europe after its long history dating from the eighteenth century back to over six thousand years ago. In France, sand casting by piece mold took center stage, and expertise in lost wax disappeared, in Hecker's narrative, until the Italians arrived not only in France, but in Great Britain, the United States, Germany, and Japan, all in the same period. Essays in the first half of the book make welcome forays in examining the use of the lost-wax technique beyond Europe, looking more globally from the United States to Japan.

In the first chapter, Francesca G. Bewer contributes a serviceable discussion of the steps involved in direct and indirect casting, in lost-wax and sand casting. In chapter 2, Elisabeth Lebon goes into some depth on gelatin molding in her appendix (60–62) and provides strong histories of both sculptor-founders and the attempt to recover lost wax in France. Lebon's contribution with case studies represents the first time her research has been published in English. We are thankful for that chance. One of the best contributions in the volume, Lebon covers the French landscape from Jules Dalou, to Constantin Meunier (who was Belgian, but worked in France), to Alexandre Charpentier, Jean Damp, and Jean Carriès. She enumerates the benefits of lost-wax as freshness, individual identity per cast, authenticity, and originality (26), and describes how Rosso differed from other sculptor-founders. She compares French sculptor-founders to Italians, such as Vincenzo Gemito. She calls *animaliers* such as Emmanuel Fremiet and Jean-Baptiste Carpeaux *fabricants* (fabricators) as opposed to founders and notes the differences: *fabricants* oversaw their production but only executed their sculptures' finishing—such as mounting, chasing, and patinating—in their own studio, contracting out the casting work to sand-casting specialists (28). Lebon follows lost wax among the big kahunas like Hébrard, who used his social network for success, as well as its less fortunate proponents, such as Eugène Blot, Camille Claudel's devoted dealer who was left in financial ruin (32n33). Lebon's contribution also follows the notable Milanese Claude Valsuani at Hébrard and other Italian founders who moved to France for opportunity. Rosso, too, moved to Paris for work and found it, to a great degree, by having his own portable furnace. While most sculptor-founders in France abandoned casting, Rosso held theatrical casting events. Lebon also remarks upon sculptor Charles Lebourg's misfortune in arriving at a mixed technique that allowed for multiple identical casts only in the 1890s when interest was less in mass production and more on individuation (41–43). Others covered here include Ringel d'Illzach, his use of carnauba wax, and his application for a patent; Paul Bartlett; Jean Carriès; Rodin; Jean Limet; Jean Damp and his Italian training through his friend Vincenzo Gemito; and even Henry Cros and his development of *pâte de verre*.

Ann Boulton's essay, which follows, tells the story of two immigrant Italian founders and their new work once transplanted to foundries in Manhattan at the Henry-Bonnard Bronze Company (where Frederic Remington went to cast his first sculpture *Bronco Buster* in 1895) and Roman Bronze Works (where both Remington and Augustus Saint-Gaudens shifted from Bonnard). She discusses the differences between the French and Italian methods of lost-wax casting and sand casting and notes that Malvina Hoffman chose sand casting over

lost wax, as it was cheaper. Over and over in this volume, in fact, the exigencies of personal and business finances pop up as crucial drivers in the history of sculpture from this period. Competition for clients as well as the emerging preference for lost wax over sand casting defined the rivalry between Bonnard and Roman Bronze Works, for example.

In chapter 4, Veronika Wiegartz covers the gradual spread of lost wax in Germany with the Gladenbeck firm's embrace of the technique in Berlin. Introducing a gelatin compound later to be used widely in foundries to obtain negative molds, the Gladenbeck firm made casting editions of small sculptures much easier in terms of time and money, though lost wax was of no help with monumental works. She recounts how the Noack foundry in Berlin, founded in 1897, was urged toward lost wax by younger, more modern artists such as Georg Kolbe. Wiegartz's chapter is most incisive when examining the reasons for the development of lost wax.

Rebecca Wade, in chapter 5, discusses Italian founders' domination of lost wax in Britain, focusing on Enrico Cantoni's shift from casting in plaster to bronze, using lost wax and producing bronzes for Frederic Leighton and Alfred Stevens. She notes that "the production of plaster casts was important to the process of casting in bronze, and the two trades operated in dialogue and close geographical proximity" (115). Wade observes that the sculptor Alfred Gilbert became crucial to the push toward lost wax in Britain from what he had seen in Italy. Dalou's student Edouard Lanteri also became influential in this regard with his publication of a three-volume *Modelling: A Guide for Teachers and Students* (1902–11).

Japan, too, makes an appearance in two chapters of the first half, with Massimiliano Marafon Pecoraro's study of Vincenzo Ragusa's studio in Tokyo (after Japan's 1854 opening to the West). Ragusa brought Italian lost-wax methods to Japan. Yasuko Tsuchikane's chapter tells of the technique's rediscovery in Japan in the early 1960s, when it was seen as a mark of modernity. This chapter is best when providing a close examination of why lost wax developed in Japan—in short, the motivations for its development there. Japanese sculpture experienced two waves of Italian impact on casting techniques: a first in the late nineteenth century, and a second in the early post-World War II era. Of Ragusa's contribution in Japan, she writes that it "can be seen as just one small part of the Japanese government's sweeping efforts to promote modernization, which it equated with Westernization, across the country" (147). Knowledge of casting monumental sculptures was scarce in Japan at the time. "Western-derived casting methods were considered synonymous with, and symbols of, the type of modern civilization that the Japanese government craved in its representation of a burgeoning nation that had recently joined the world community of modern states" (153). The very existence of a genre of object called *chokoku* (the Western-imported framework of sculpture as a concept applicable to fine art objects and artistic practices) betrays the developing awareness or intent to distinguish between fine art and craft. Tsuchikane notes Japan "is one of many non-Western nations where historically, in their premodern, pre-westernized, indigenous cultural backgrounds, there was no differentiation between 'fine art' objects such as sculpture, and non-fine art objects such as decorative works" (142–43). Therefore, the development of lost wax in Japan must be examined in a broader framework that includes decorative art. One example Tsuchikane takes up is Kōtarō Takamura's *Hand* (1918, Asakura Museum of Sculpture), which was made as a tribute to Rodin, whose work had influenced Takamura. A cult to Rodin soon formed in Japan. Takamura's *Hand* used neither

lost-wax nor sand casting techniques but the Japanese *mane* method, adapted from decorative art and domestic non-fine-art procedures. Only after the early 1960s did Japanese sculptors embrace lost-wax.

Hecker states in her introduction that Rosso was the first to use lost-wax and overturn its rules in creative ways, as opposed to foundries' shared goal of producing multiple identical objects, creating a culture in which founders such as Ferdinand Barbedienne became mini-celebrities who provided a status to the object sometimes more than the artist could (5). She sees Rosso as having capitalized both on French demand and on what he knew of lost wax from Italy; both certainly were true. She notes that sometimes he preserved normally transitional waxes as final works by not turning them into bronzes, and he would leave visible artifacts of the process on his works, rendering each cast a unique object (5–6). But, again, Rosso was not alone and not working in a vacuum in leaving artifacts of the process visible. Rodin, at least, was certainly one to embrace the residues, happy mistakes, revealed casting seams and remnants of smaller sculptures' former individual bases in both the lost-wax and sand-casting processes of casting his work. The interactions of these two titans of sculpture in Paris at the end of the nineteenth century were important and probably life-changing for each.

The second half of the book starts with a disclaimer regarding the choice to present works not in the catalogue raisonné, stating that decision should not be taken as authentication of these works. Similarly, in the "Notes on Plates" at the rear, the use of the date 1892–94 throughout for the *Bambino ebreo* series of casts is explained as the date Rosso gave the work. In this note, Hecker rightly refutes the idea of casting dates some auction houses, museum websites, and publications have given to some of Rosso's sculptures, stating: "As yet, there is no historical or material evidence to support these dates, which seem to be given in arbitrary fashion or based on date of sale. There is not necessarily a correlation between date of sale and date of casting" (325). Indeed, after reading the manifold intricacies of the reports that follow, no chronological order does seem possible to give to these casts.

Part two then presents the results of art-historical and scientific study of the materials, processes, and techniques used in a series of Rosso's casts of *Bambino ebreo*, wherein each cast differs from the next in finish and mounting, as well as in variations caused by interventions by the artist or by the objects' physical histories of damage, restoration, or aging. Penelope Curtis's preface discusses Rosso's achievements briefly within the broader context of modern sculpture. She observes that Rosso was unusual in his time in that he did not work on public or portrait commission; but Rosso, in fact, did work on commission, at the least, with the Mond family in Great Britain in 1906 to create his inimitable *Ecce Puer*, a portrait of their son Alfred William. Among other artists to whom she compares Rosso is the German sculptor Adolf von Hildebrand, known for espousing sculpture's one optimal viewpoint.^[2] Curtis compares Rosso's process of casting waxes to photography, specifically the cropping and annotating of the photographic image. She also notes that the fact that sculpture became more private and was seen on a more interior scale and alongside painting, particularly after World War I, helped Rodin's and Rosso's posthumous careers (173). Curtis claims the importance of the current study as in its returning the salience of plurality in our understanding of Rosso, stating "Whereas the casting of editions has conventionally been about stabilizing a product for commercialization, with Rosso, casting was all about

destabilization, finding another opportunity for restaging the work” (176). This sentence alone makes Curtis’s short preface of great value.

Hecker’s contributions in chapters 8 and 9 are a critical history and a new conceptual approach to examining serial sculpture “by seeing Rosso’s seriality as an integral component of the artist’s unstable act of seeing and perceiving his subjects” (6). She begins with a wonderful quote from the journalist Santillane from *Gil Blas* in 1895, describing a visit to Rosso’s studio: “Halfway up the Montmartre hill, . . . he lives there among his wobbly partitions in front of the huge ovens that he himself built. . . . Rosso does not sculpt the material; he polishes it, flays it, fades it, patinates it, and, as if by magic, animates it” (177). She asserts that out of that magic, “Rosso’s role as a sculptor-founder, unusual for his time, was key both to his artistic identity and to his very personal engagement in the production of his serial sculptures” (177–78). The Italian sculptor may, indeed, have portrayed himself as an artist-laborer (181), but his casting parties helped to establish him as the “charismatic, mysterious sculptor-founder” who deliberately flaunted traces of the foundry process on his finished, and thereby unique, works (182). Once again, so, too, with Rodin, though Rodin held no casting parties, for his role was far more hands-off. Hecker’s emphasis on uniqueness, perhaps surprisingly, moves her away from traditional ideas about the aura of the original. She writes, “There is an anxious tendency to seek originality or aura by trying to identify the ‘first sketch’ in clay, the ‘original clay model,’ the notionally ‘original’ plaster, or the ‘first cast’ in a series” (186). The first or original is hard to know with Medardo Rosso: clay models have been lost in the process, and surviving plaster models are not necessarily the first or only model from which casts issued. We remain unclear, too, about whether he made his own plasters: Rosso never dated or numbered casts in an edition and only sometimes signed them, kept bad records, and no receipts. To add to the confusion, she notes, in addition to his own casts, he had foundries in Milan and Turin cast for him but never allowed them to stamp their names on his casts (186).

Unlike the authors of Rosso’s catalogue raisonné, Paola Mola and Fabio Vittucci, who sought a first-to-last narrative in their 2009 study, Hecker does not think the scholarship has arrived at a place where we can determine such things. One example of the problems with such streamlining came out of the Harvard study of Rosso’s sculptures in preparation for the exhibition at the Sackler in 2003. That study showed that some of Rosso’s “primary” plasters served to reproduce waxes, which were used to make bronzes, but some of his primary plasters could also have been reproduced to make second-generation plasters as well (238). So, instead of Mola and Vittucci’s approach, Hecker wants to move the discussion to variability and multiplicity (187). In his extended period in Paris, Hecker asserts that Rosso created fewer than fifty original subjects in clay, but throughout his career he cast by the indirect casting method using “intermodels” and their molds (179). While serial reproduction methods were used by all bronze sculptors of the period, she emphasizes that *cire perdue* bronzes were out of use in fin-de-siècle Paris, and therefore became rare and desirable (180). As collectors for these objects expanded to the middle class, each displayed their own special desires for their particular cast. So unique sculptures produced directly from the artist’s mind to his hand and forged in his own oven had a rare appeal. Finally, the economic factor raises its head again in this chapter. Hecker notes that in casting his works himself and selling wax over plaster as finished work, Rosso often concealed that he could not afford bronze. He may have also used scrap metal such as casseroles and flea-market objects for their low price, melting them down for use. Meanwhile, there are Rosso folklore-type stories of his having

flung his gold ring into the mix for gold effects, and photographs of him in his studio that purposely seem to promote his sculptor-founder image. Hecker notes, “Perhaps his discomfort with the impersonal quality of the multiple inspired him to make the waxes appear hand-modeled so much so that for years scholars considered them to be unique objects” (198).

From this point forward, the technical aspects of the study take over. Austin Nevin, head of conservation at the Courtauld, and Hecker proceed from the study day at Peter Freeman’s to examinations of casts. As some casts had been too fragile to travel to the New York study day, Nevin and Hecker had seen them first in Europe. In New York, on display were one of two known plasters, two bronze casts, and seven wax casts of *Bambino ebreo*. The lifetime casts with established provenances were treated as the benchmark casts. The casts varied considerably in color and condition; because of highly textured surfaces and tackiness of wax, dirt accumulates to a greater degree on more exposed surfaces, altering the appearance of the waxes. Some materials age differently than others, causing color change, and there are different origins of wax sources, oils, and varnishes to be accounted for as well. Nevin and Hecker explain the use of white-light scanning to record slight differences among casts not evident to the naked eye (discussed further on as well). Among the detailed discussion of each of these casts and the differences and similarities among them is one discovery. What is called the Ex-Brunauer wax because it was originally owned by Erna Brunauer (married name MacArthur), who brought it with her when she left Vienna for the US in 1905, and which now resides with her son in Los Angeles, was previously thought to be a posthumous cast, but Hecker found her name in a letter written by Rosso, suggesting that it was a lifetime cast and that Rosso either sold or gifted it to Brunauer (246). After much explication of visual analysis, the chapter closes with the uninspired “lab-report” conclusion that each cast is different (!).

That lab-report-cum-essay feel continues with Nevin and Francesca Caterina Izzo’s following chapter on their analysis of micro-samples. They studied six wax casts of *Bambino ebreo* with Pyrolysis-Gas Chromatography-Mass Spectrometry. Unfortunately, they explain that because of the small number of casts analyzed and the “intrinsic limitations of the analytical technique, it is not possible for [them] to fully characterize the composition of Rosso’s wax casts in this essay” (259). So, their method may only serve as a model for future investigations. However, interestingly, they discovered that Rosso’s wax actually contains very little beeswax, contrary to what had been thought earlier by Derek Pullen and others. The wax casts vary greatly in composition: mixtures of animal and mineral waxes with traces of gelatin from molds, with additives such as stearin and drying oils, and resin and turpentine varnishes. Resins could be found both on surfaces as varnish and added within the wax substance itself for casting, which was a traditional nineteenth-century practice (260). No synthetic products were detected in any of the casts at all. Finally, they note that poor adhesion between wax and plaster in certain examples may have led Rosso to change his wax formulations for casting. What is missing in such a report is a moment to step back and consider the significance of Rosso’s choice to use wax composed of mixed media. How does this change our vision of the artist? Doesn’t such information contribute to an only increasing sense of Rosso as the mad scientist-cum-alchemist-cum-artist brewing his concoctions for his higher art?

The Metropolitan Museum of Art's Federico Carò and the Cultural Heritage Agency of the Netherlands's Luc Megens share the results of their surface analysis of the bronzes using portable X-ray fluorescence spectrometry to define the exact composition of the alloys in chapter 12. They studied four metal casts of *Bambino ebreo* of varying surface colors and textures. Their results showed a high level of lead used and a high variability of metal composition both within the group and within each single piece: all four metal casts were from a quaternary alloy of copper, zinc, lead, and tin. They note that high-lead quaternary alloys are not very common among late nineteenth-century and early twentieth-century metal casts. The variability within casts reveals an inconsistent alloying method and confirms the possible use of scrap metals. The authors method to convey this information is thoroughly scientific in approach; no discussion of Rosso's possible visits to flea markets to find pots and pans ready for melting here, for example. This just-the-facts-ma'am approach is wearing on the lay reader.

My colleague Ronald Street, who had been instrumental in examining casts with 3D digital scans, unfortunately passed away before being able to share his findings. Max Rahrig was enlisted to write them up in chapter 13, where the many ways in which the surfaces of each cast differ is expounded upon with the help of the technical results of the scans. These deviation studies (metrology studies) captured the geometry of each cast with a Breuckmann smartSCAN structured light scanner (SLS). Rahrig does better than contributors in some of the previous chapters in grabbing hold of the significance of his scientific project. I will skip over, here, the ins and outs of this highly technical study to leave my weary reader with their conclusion: "Every single *Bambino ebreo* is characterized by Rosso's artistic freedom and his desire to create his own unique works of art. In his creative process, and in keeping with the spirit of his time, Rosso makes use of the technical possibilities and innovations of progressive industrialization. However, his works of art, even as serial products, retain their authenticity and uniqueness . . ." (300–1).

Lluïsa Sàrries Zgonc shares how her recent (2016) restoration of the Ex-Brunauer wax cast in a private collection benefited from discussions at the study day in chapter 14. In her study of the work, it became clear that the wax cast had been exposed to incorrect temperatures and suffered deformations. It received sun damage from sitting by a window in an earlier owner's home. She even found hairs from the family cat embedded in the wax! An earlier attempt at restoration had used a different type of wax on the damaged nose area that later discolored, and the tilt of the object on its base was off. She reports on her thankful rectification of all of these problems; still, the chapter, reporting only on her restoration, does not add much to the larger picture.

Contemporary sculptor-founder Andrew Lacey, finally, highlights the choices faced by artist-founders and their sources, such as the struggle with materials and techniques, the role of chance, accidents, and, importantly, economic factors. He notes that working in this manner provides spontaneity; when things go awry, the results can be serendipitous. The artist-founder is freer to experiment than the artist tied to a foundry interested only in creating exacting replicas. He gives as an example of this serendipitous effect Rosso's appreciation for the halo of excess wax that develops around a mold's outer edge; others would cut this flange away but Rosso embraced it for its aesthetic effect. He notes that Rodin circumvented the

expense of bronze casting by exhibiting plasters, while Rosso did so by creating his own studio-foundry. In creating final works in wax, Lacey notes that the Italian artist reached a wider audience of those who could afford waxes but not bronzes. He concludes, “In my estimation, what made Rosso’s work so revolutionary in his time, and still makes it unique, is his genius fusing of a gentle and intuitive aesthetic with the mechanics of an otherworldly alchemical process” (324).

In her introduction, Hecker noted that the goal of this study was to learn more about Rosso’s experiments in relation to the history of the *cire perdue* (lost wax) technique: “We wished to see Rosso—one of the most innovative sculptors of the modern era—in the context of the material technique that his countrymen helped revive and that he reinterpreted” (8). She sees the book as “a model for interdisciplinary work in the field, given its basis in a combination of technical and art-historical studies and its collaborative methods” (8). She notes that the methods used in the book are applicable both to other sculptures by Medardo Rosso and to other serially produced sculptures. One would certainly hope that this mode of inquiry could apply beyond Rosso, and I am certain that it will. However, we need to see more attention to the significance of findings and less getting lost in the technical weeds. To do so will require those with scientific and conservation backgrounds who contribute to interdisciplinary projects either to shift from the lab-report modus to broader inquiries that incorporate their specific technical findings or, otherwise, to truly collaborate with their peers among art historians and curators to find the thread through the project.^[3] Overall, though, the book is a solid addition to the growing literature of technical art history’s marriage to traditional art history, with interesting insights into Rosso’s working practice.

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Notes

[1] For but two sources on Rodin’s earlier use of lost wax, see Sylvain Cordier, “Rodin’s Founders: A Brief Review” and Daphne Barbour and Lisha Deming Glinesman, “Rodin’s Bronze Sculpture: Capturing His Vision, Perpetuating His Legacy,” in *Metamorphoses: In Rodin’s Studio*, ed. Nathalie Bondil and Sophie Biass-Fabiani, exh. cat. (Montreal: Montreal Museum of Fine Arts, 2015), 188, 300n9, as well as “Observations on Rodin and His Founders,” in *Rodin Rediscovered*, ed. Albert E. Elsen, exh. cat. (Washington, DC: National Gallery of Art, 1981), 286.

[2] For more on this comparison, see Jane R. Becker, “‘Only One Art’: The Interaction of Painting and Sculpture in the Work of Medardo Rosso, Auguste Rodin, and Eugène Carrière, 1884–1906” (PhD diss., New York University, 1997), 198–200, 212n16–21, and Kirk Varnedoe, “The Ideology of Time: Degas and Photography,” *Art in America* (June 1980): 101.

[3] Some models of this kind of work can be found in much of the writing of Ann Hoenigswald, retired paintings conservator of the National Gallery of Art, and my colleague Charlotte Hale at the Metropolitan Museum of Art.