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ALTERED STATES: HENRI MATISSE’S SCULPTURE *AURORA*

Ann Boulton

Abstract

As part of a larger technical study of the sculpture of Henri Matisse, in preparation for the exhibition *Matisse Painter as Sculptor* (jointly organized by the Dallas Museum of Art, The Nasher Sculpture Center and The Baltimore Museum of Art), six versions of the *Reclining Nude I (Aurora)* were examined. Comparisons were made through measurements, base tracing, photographs and 3-D computer models from laser scans of all six casts. This paper will discuss variations amongst different casting techniques, different media and between early and late casts. Two bronzes deemed unauthorized casts by the authors of the catalog raisonné will be included in the discussion. Matisse’s overall bronze production in France in the years 1906-1954 will be considered as background information.

Introduction

This paper is taken from a larger technical study of the bronze sculpture of Henri Matisse. The study, which included examinations of more than 120 bronze casts was initiated in preparation for the exhibition, *Matisse Painter as Sculptor*, jointly organized by the Dallas Museum of Art, The Nasher Sculpture Center and The Baltimore Museum of Art (BMA).

Much of the technical study was supported by a Samuel H. Kress Paired Fellowship at the Center for Advanced Study in the Visual Arts at the National Gallery of Art in Washington, D.C. Oliver Shell, Associate Curator of European Painting and Sculpture at The Baltimore Museum of Art was a partner in the study that is published in the exhibition catalog (Boulton 2007).

This paper will focus on one sculpture, *Reclining Nude I (Aurora)*, first modeled in clay by the artist in 1907. Six casts of that sculpture will be discussed here that show some curious variations; four of the six are of questionable authenticity.

Background

Henri Matisse (1869-1954) modeled his first sculpture, a jaguar (Fig. 1), in 1899 at age 30 and cast his first bronze in 1906. He continued making sculpture until nearly the end of his life-his last work, *Katia*, modeled in 1950-51 at age 81(Fig.2). Unlike Degas, another painter who made sculpture, Matisse exhibited and sold his sculpture early and often.
Figure 1. Photograph of Matisse with plaster model of *Jaguar Devouring a Hare*, copy after Barye 1899-1901. Photograph by Alvin Langdon Coburn, George Eastman House, Rochester, N.Y. Gift of the photographer.

Figure 2. Photograph of Matisse working on Standing Nude (Katia), Dmitri Kessel for *Life Magazine*, © Getty Images.
More than 80 different sculptures are known today, almost all of which were cast as limited editions in bronze during his lifetime. After his death in 1954, his family continued to produce bronzes until all editions were complete, the most common number in each edition being 10. All in all an estimated 744 bronzes have been produced (Duthuit 1997).

Prior to 1925 all Matisse’s bronzes were sand cast at one of two foundries, Bingen and Costenoble (later Costenoble) that unfailingly applied a foundry mark (Fig. 3); and Florentin Godard. All Godard casts examined lacked foundry marks. The foundry identification comes from records at the Matisse Archives, Paris, as reported in the catalogue raisonné (Duthuit 1997), with further clarification by Lebon (Lebon 2003). (A third foundry, Cullen, probably made two sand-cast medallions; these were not part of the study). After 1925 all further bronzes made during the life of the artist were cast in lost wax by the Valsuani foundry that ultimately produced more than 400 casts. All casts examined had foundry marks (Fig. 4) except two very small works. After Matisse’s death Valsuani continued to produce casts for his heirs. Susse, Rudier and Thinot foundries also made casts posthumously. The family destroyed almost all original plasters when the bronze editions were finally complete in the 1990s (de Guébriant 1994).

Figure 3. Henri Matisse, The Serf, cast 1908, detail, foundry mark of Bingen and Costenoble. The Baltimore Museum of Art, The Cone Collection, formed by Dr. Claribel Cone and Miss Etta Cone of Baltimore, Maryland.

Figure 4. Henri Matisse, Reclining Nude I (Aurora), cast 1930, detail, foundry mark of Valsuani. The Baltimore Museum of Art, The Cone Collection, formed by Dr. Claribel Cone and Miss Etta Cone of Baltimore, Maryland.
Because Matisse cast his bronzes as needed for a show or sale, editions were produced incrementally over decades; therefore it is common to find that early casts within an edition are sand casts while later casts of the same sculpture in the same edition are lost-wax casts. This makes it possible to compare the same sculpture as a sand cast and a lost wax cast (Figs. 5, 6).


Methodology

The study included examinations of casts in normal light of the exteriors of all casts and the interiors when possible. Sometimes low magnification was used if needed. Many of Matisse’s sculptures are open on the bottom and interiors are sometimes easily viewed. Interesting surface features, especially mold lines were documented with photography. A form (see Appendix 1) was used for each work, noting features such as the casting technique, core pins, armatures, casting flaws, surface articulation, foundry marks, patination colors, surface finishing cold work, sprue stubs, etc. Magnets were used to check for iron armatures inside closed forms, tape measures and calipers were used to do basic measurements as much as possible. As the study progressed laptops loaded with photographs of sculptures previously examined were used for comparison.

When possible base tracings (Fig. 7) were made to help compare the size of similar casts. Since bronze shrinks when it cools size measurements and base tracings can help clarify relationships among similar casts. Bronzes cast directly from the foundry plaster model would all be about 1%-2% smaller than the plaster model (Beale 1975). Bronzes smaller than these casts would likely be surmoulages, a word that means a cast made from a cast. Base tracings were an especially useful tool for Matisse’s sculpture because the majority of his works have the base modeled as an integral part of the work. Even for sand-cast sculptures that are sometimes cast in more than one piece and joined after casting, the base, if present, is cast integrally with a portion of the subject. Base tracings helped to flag sculptures for more detailed size measurements via laser scanning in order to make 3-D computer models for comparison [1]. Eleven works in several collections were laser scanned including the six Aurora casts that are the subject of this paper.

Figure 7. Henri Matisse, Head with Necklace, cast 1930, with base tracing. The Baltimore Museum of Art, The Cone Collection, formed by Dr. Claribel Cone and Miss Etta Cone of Baltimore, Maryland.
Radiography, and x-ray fluorescence analysis were also part of the project. Radiography was performed on some works in the collections of the BMA, the Metropolitan Museum and the Hirshhorn. X-ray fluorescence analysis of the metal alloy was performed on all works in the BMA collection and on one from the Hirshhorn Museum. Results of these investigations did not inform our *Aurora* study and so will not be considered further here.

**Aurora**

Six casts of *Reclining Nude I (Aurora)*, were examined as part of the study. These included bronze casts at the Baltimore Museum of Art (Fig. 8), the Museum of Modern Art (MOMA) (Fig. 9), Albright-Knox Art Gallery (Fig. 10), Raymond and Patsy Nasher Collection (Fig.11), and in a private collection. A sixth cast made of terracotta was examined at the Hirshhorn Museum (Fig.12). A summary of observations comparing the six sculptures is included here (Fig. 13). Additional information was collected on several other casts that were not available for examination.

![Figure 8. Henri Matisse, *Reclining Nude I (Aurora)*, cast 1930, The Baltimore Museum of Art, The Cone Collection, formed by Dr. Claribel Cone and Miss Etta Cone of Baltimore, Maryland.](image)

![Figure 9. Henri Matisse, *Reclining Nude I (Aurora)*, unauthorized sand cast, date unknown, Museum of Modern Art, New York.](image)
Figure 10. Henri Matisse, *Reclining Nude I (Aurora)*, sand cast 1912, Albright-Knox Art Gallery, Buffalo, N.Y. Room of Contemporary Art Fund.

Figure 11. Henri Matisse, *Reclining Nude I (Aurora)*, lost wax cast 1951, Raymond and Patsy Nasher Collection, Dallas.

<table>
<thead>
<tr>
<th></th>
<th>DATE</th>
<th>CAST</th>
<th>SIZE</th>
<th>FOUNDRY</th>
<th>MOLD LINES</th>
<th>JOINS</th>
<th>PROVENANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albright Knox</td>
<td>1912</td>
<td>Sand</td>
<td>A</td>
<td>F.Costenoble</td>
<td>Yes</td>
<td>Mechanical</td>
<td>Porous?</td>
</tr>
<tr>
<td>BMA</td>
<td>1930</td>
<td>Lost wax</td>
<td>A</td>
<td>Valsuani</td>
<td>Yes</td>
<td>None</td>
<td>Excellent</td>
</tr>
<tr>
<td>Hirshhorn</td>
<td>Before 1919?</td>
<td>Terracotta</td>
<td>B</td>
<td>N/A</td>
<td>No</td>
<td>None visible</td>
<td>Porous</td>
</tr>
<tr>
<td>Nasher</td>
<td>1951</td>
<td>Lost wax</td>
<td>B</td>
<td>Valsuani</td>
<td>No</td>
<td>None</td>
<td>Very good</td>
</tr>
<tr>
<td>MoMA</td>
<td>1930’s?</td>
<td>Sand</td>
<td>A</td>
<td>Unknown</td>
<td>No</td>
<td>Brazed</td>
<td>Porous?</td>
</tr>
<tr>
<td>Private collection</td>
<td>1930’s?</td>
<td>Sand</td>
<td>A</td>
<td>Unknown</td>
<td>No</td>
<td>Brazed</td>
<td>Good</td>
</tr>
<tr>
<td>Plaster model</td>
<td>c.1907</td>
<td>Plaster</td>
<td>N/A</td>
<td>Presumably larger than A</td>
<td>Yes</td>
<td>N/A</td>
<td>Destroyed when edition was completed</td>
</tr>
</tbody>
</table>

Size B is 4% smaller than size A

Figure 13. Summary of data comparing the six sculptures.
Of these six the Baltimore cast has the best provenance. It was bought in 1931 from the artist by Etta Cone, a Baltimore collector, and came to the BMA in 1950. It was cast in 1930 in lost wax in one piece by the Valsuani Foundry. It can be considered the standard for comparison. The earliest cast in this group, that at the Albright Knox, is a sand cast made in 1912 according to the catalogue raisonné (Duthuit 1997), and marked F. Costenoble. While the provenance for this work is not entirely known, it compares very favorably with other more secure works made by this foundry and with the BMA cast. Typical for work from this foundry, it is a very high quality cast with nice finishing done after casting including very carefully fitted joins (it is cast in three pieces) that are mechanically fastened. This was considered to be the standard for comparing sand casts.

Unauthorized sand casts

Two casts, that at the Museum of Modern Art and one from the private collection, have long been considered unauthorized casts by the author of the catalog raisonné (Duthuit 1997). MOMA staff has been in agreement with this assessment of their cast for many years. Our examination of these two casts revealed that both were sand casts without foundry marks and shared a number of other similarities; they were cast in three pieces, joins were brazed, cold work done to finish the casts was clumsy and underneath the bases a white paint-like substance had been partially applied to the metal surface (Fig. 14). This last feature is believed to have been an attempt to mimic lost wax casts made at the Valsuani foundry that always retain white investment remnants under the base.

Figure 14. Henri Matisse, Reclining Nude I (Aurora), unauthorized sand cast-date unknown, detail of sand cast showing bottom with white paint applied to mimic investment material. Museum of Modern Art, New York.
Similarities were such that it seemed reasonable to conclude that both unauthorized casts had been made at the same foundry about the same time. Of great interest was the fact that mold lines had been removed on both casts as part of the final finishing operation, normal foundry practice, but not Matisse’s (Boulton 2007) (Fig.15). This is in marked contrast to both the BMA (Fig. 16) and Albright Knox casts that retain prominent mold lines. Matisse’s intentional preservation of certain mold lines will be discussed in a later section.

Figure 15. Henri Matisse, *Reclining Nude I (Aurora)*, unauthorized sand cast-date unknown, detail showing lack of mold line on arm. Museum of Modern Art, New York.

Figure 16. Henri Matisse, *Reclining Nude I (Aurora)*, lost-wax cast 1931, detail showing mold line on arm. The Baltimore Museum of Art, The Cone Collection, formed by Dr. Claribel Cone and Miss Etta Cone of Baltimore, Maryland.
Finally and most curiously, base tracings and subsequent laser scanning (Fig. 17) revealed these to be the same size as the BMA and Albright Knox casts; the assumption had been that these would be surmoulages, casts made from another bronze cast. The fact that they are the same size as the BMA cast indicates that they had been made from a larger plaster model. This would seem to cast doubt on the legend that these two casts, along with a third in a European museum collection for which examination was not possible but for which a base tracing was obtained, were illicitly cast in Germany in the 1930’s from a bronze sent there for exhibition. The brazing of the joins is an indication that they were made post-World War I, as torches do not seem to have been in common use in art bronze foundries until after the war (Boulton 2007). Even today in France, the most traditional art bronze foundries use mechanical means to fasten joins in sand-cast works (Rama 1988).

Figure 17. Overlapped laser-scanned computer models of three casts of Henri Matisse, *Reclining Nude I (Aurora)*, one from The Baltimore Museum of Art, the Museum of Modern Art and the Albright-Knox Art Gallery. The BMA’s cast (green in both pairs) is the same size as the Museum of Modern Art’s (blue) and the Albright-Knox’s cast (yellow).
Two smaller casts, bronze and terracotta

The last two casts of the six being considered here are more difficult to characterize. Both are considered by the catalogue raisonné to be authorized casts. The Nasher bronze, listed as having been cast at the Valsuani foundry in 1951 in the catalogue raisonné, has a very good provenance, having come through the Pierre Matisse Gallery (Matisse’s son, Pierre, became an important art dealer in New York City and handled his father’s later work). There is little doubt that this sculpture was cast at the Valsuani foundry; it compares favorably in almost every way to dozens of other works by that foundry that were examined in the course of the study including the BMA Aurora. It is a lost-wax cast made in one piece. The foundry mark is good, the interior of the base retains typical white investment material and has the usual sprue and riser stubs. Especially notable is the patina, rich, dense, deep, nearly black like that on other Valsuani works examined. This appears to be their signature patina, noir Valsuani (Valsuani black; Lebon 2003) for which they were justly famous.

It therefore came as a great surprise to discover that this cast is not the same size as the BMA Aurora, but is 4% smaller as demonstrated by overlapping computer models of both works (Fig. 18). A 4% difference would indicate a cast thrice removed from the original plaster, a cast of a cast of a cast. Other differences include a lack of mold lines (Fig. 19), and other important surface details perhaps removed by overzealous surface finishing, or lost through excessive shrinkage of the bronze, and the addition of lumpy areas on the base, perhaps sloppy repairs.

Figure 18. Overlapped laser-scanned computer models of two casts of Henri Matisse, Reclining Nude I (Aurora), one from The Baltimore Museum of Art, the other from the Raymond and Patsy Nasher Collection, Dallas. These superimposed computer models are colored to
distinguish the Nasher’s cast (red) from the BMA’s cast (green). The Nasher cast is about 4% smaller, the size difference is most obvious here in the feet and indicates that these two bronze casts were not made from the same model.

Could Matisse have chosen a different model for this cast? A precedent exists for that in another work, *Head of a Child (Pierre Matisse)*. Two securely-provenanced casts of this work, one cast in 1912 (Weatherspoon Art Museum) and the other in 1922 (BMA), and bought by collectors Etta Cone and her sister Claribel, show about a 1.5% size difference. It seems that the original plaster must have been destroyed in the war, so that Matisse chose a bronze cast to use as a model to complete the edition later. Could this have happened to the *Aurora* plaster in World War II? Photographs of the no-longer-extant original plaster (with mold lines much in evidence as on the BMA cast) taken in Matisse’s studio between 1949-51 (Fig. 20) would seem to invalidate that theory. In addition, photographs in the catalogue raisonné (Duthuit 1997) of another bronze *Aurora* made at Valsuani the same year, 1951, 0/10, and still owned by the Matisse family, shows the prominent mold lines and other surface details present on the BMA cast, but missing from the Nasher cast. It seems unlikely that the Nasher bronze was known by the artist.
The last cast to be considered here and most puzzling is the Hirshhorn terracotta cast of Aurora. Considered authentic by the author of the catalogue raisonné (Duthuit 1997), it is described there as one of two extant terracottas from an original series of five, three of which were destroyed by Matisse in 1919. According to a letter written by Marguerite Duthuit (Matisse’s daughter) to her brother Pierre, the dealer, “(Matisse) destroyed the edition because it shrank too much.” (Duthuit, M. 1959). Both of the surviving terracottas have provenance imperfections [2].

Base tracings and 3-D computer models show that the cast is identical in size to the Nasher bronze (Fig. 21). Terracotta would be expected to shrink substantially on drying and subsequent firing (as much as 10%) but the fact that this is the same size as a bronze cast seems remarkably coincidental. Further similarities are evident in the lack of surface details; all mold lines and important surface articulation such as the large lump on the side under the raised arm are missing (Fig. 22). Both have fingers articulated on the lower hand unlike the mitten-shaped hand present on the BMA and Albright-Knox bronzes.
Figure 21. Overlapped laser-scanned computer models of two casts of Henri Matisse, *Reclining Nude I (Aurora)*, a terracotta from the Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, D.C. (green), and a bronze from the Raymond and Patsy Nasher Collection, Dallas (yellow). These superimposed colored computer models show both casts to be the same size.

Figure 22. Henri Matisse, *Reclining Nude I (Aurora)*, terracotta cast before 1919, detail showing lack of mold line on arm and missing bump on side under arm. Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, D. C. Gift of Joseph Hirshhorn, 1966.
Matisse’s mold making is discussed in great detail in the larger technical study (Boulton 2007). Relevant to the discussion here is the fact that the artist’s love of line, so evident in his painting, drawing and cut outs, is equally prominent in many of his most important sculptures including *Aurora*. The transformation of a clay sculpture first to plaster, then often to wax, and finally to bronze offered as many as five separate opportunities to create mold lines on the surface of the finished work. Lines made at the foundry were carefully removed; only certain lines created by the artist himself or his mold maker were retained. These few lines, the result of the artist’s carefully considered and discriminating vision, were selectively retained to emphasize important contours or create surface decoration. They are not accidental artifacts of production and are integral to the overall composition of the sculpture.

A logical explanation for the similarity in size of the terracotta and the Nasher bronze would seem to be that the terracotta is actually a plaster cast made to look like terracotta [3] and was made in a mold taken from the Nasher bronze or another of similar size. Because plaster does not shrink it will form a cast the same size as whatever was used as a model, in this theory, a bronze. The reverse could not be true (that the bronze might have been made using the terracotta as a model) because bronze would shrink on cooling and be smaller in the end than the terracotta. Further evidence that the Hirshhorn work might not be clay is that although the sculpture is apparently hollow as one would expect of a cast, the bottom is sealed up and there are no visible holes for air to have escaped during the firing of the clay. This should have resulted in destruction of the clay during firing but would not present a problem for plaster. However, a surface scraping of the terracotta was subjected to analysis by FTIR by Susan Lake at the Hirshhorn and showed that the material is, in fact, terracotta. More invasive sampling is advisable.

A further complication is recent information obtained about the other extant terracotta cast of this work that is in the collection of the Royal Art Museum in Copenhagen. This work was not examined in the study, but detailed photographs and a base tracing were obtained. Photographs make clear that the mold lines and other important surface articulation similar to the BMA cast are present on this work (Fig. 23) unlike the Hirshhorn work, but the base tracing shows that it is the same size as the Hirshhorn cast. How can this be explained?

One can imagine that perhaps Matisse authorized this edition of five terracottas prior to 1919 when art bronze casting had been precluded by the war effort for some years (Lebon 2003). At the end of the war when it seemed possible that art bronze might be cast again some day soon he chose to destroy the remaining terracottas, but perhaps two had already been sold. If indeed he destroyed the remaining three, “because they shrank too much” (Duthuit 1959) perhaps the Hirshhorn cast is indicative of their appearance. That could explain the lack of surface detail—perhaps a casualty of excessive shrinkage. This would not explain, however, how shrinkage affected the surface detail of the Hirshhorn cast, but allowed it to attain the same size as the Copenhagen terracotta cast for which the surface detail appears to be unaffected. Surface detail can also be intentionally removed from terracotta in a leather-hard state prior to firing by abrasion with sandpaper. It seems very unlikely that Matisse would have done this given his hard-won selective surface articulation, but it is not impossible. This could explain both the similarity in size of the bases of the Copenhagen and Hirshhorn work, and the difference in surface articulation.
Conclusion

The staff at the Matisse Archive in Paris diligently pursues and when possible destroys unauthorized works of art. *Aurora* has been an especially vexing problem through the years. There is a known group of unauthorized plasters as least some of which are thought to have been made from the bronze now at the Musée national d’Art moderne, Centre Georges-Pompidou (de Guébriant 2007). Another series of bronzes with the Bingen and Costenoble foundry mark cast through and cold worked after casting to read Fondeux (rather than Fondeurs) are known; one was destroyed by the Susse foundry at the behest of the Archives staff in 1979. Perhaps one of these bronzes served as a model for the Nasher bronze; this could account for the 4% shrinkage. The Hirshhorn terracotta remains an unsolved mystery.
Acknowledgments

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Endnotes

1. Five works were scanned by the firm Direct Dimensions, Owings Mills, MD and one was scanned by the Van Duzen Archives, Dallas, TX.

2. The timeline of the provenance of the Hirshhorn work as stated in the catalog raisonné seems a little confused. It is listed as (1) family of the artist, (2) Mr. And Mrs. Otto Spaeth, New York, (3) Lee A Ault, New York, (4) Theodore Schempp, New York, (5) Joseph H. Hirshhorn, New York April 8, 1959-May 17, 1966, (6) Given to the museum in 1966. According to preliminary research conducted on the Web, Lee Ault was an art dealer in NY from 1970-78, Otto Spaeth was a vice president of the Whitney Museum who collected art made between the wars and who died in 1954, and Theodore Schempp was an American art dealer working in Paris from 1937-50. Thus it would seem that Theodore Schempp must have been the go-between for the family of the artist and Spaeth that could put the sculpture in France as late as 1950. Ault must have been the go-between for Spaeth to Hirshhorn, and perhaps he was working informally prior to 1970. The Copenhagen work has a sad history. It was confiscated by the Nazis from the Folkwang Museum in Essen in 1929, sold at a Nazi sale at the Fischer Galerie in Lucerne, June 30, 1939 (#95), bought there or later owned by Theodor Woelfers, Malmo (Sweden) then Aage Fersing (an art dealer with this name was involved in a fake Rodin bronze scandal in the 1990’s). It has been at the Copenhagen museum since 1956.

3. Plaster is easily amended while wet with additions of pigment, sand, ground brick or terracotta or myriad other substances to substantially change its appearance. It is not uncommon for pink plaster objects to be misidentified as terracotta in museum collections.
Appendix 1

MATISSE SCULPTURE EXAMINATION FORM

TITLE: NUMBER/OWNER
CORRESPONDING BMA NUMBER:

MATERIAL: bronze plaster terracotta DATE OF CAST:

FOUNDER/FOUNDRY MARK
Impressed/stamped/other
SERIES NUMBER:
Inscribed in wax?
SIGNATURE:
Inscribed in wax?

OTHER MARKS/LABELS

CASTING INFORMATION: lost wax/sand interior visible? Sand or investment
Interior description

Cast in sections?

Base? How attached

Core pins?

Describe mold lines on surface: shallow/deep/location/offset

Surface quality: lumpy, dry, smooth, articulated

Bubbles/pits

PATINANTION: brown, light brown, dark brown, reddish brown, greenish brown, black,
translucent/opaque other:

FINISHING: smooth, evidence of file marks, lack of finishing, investment traces

OTHER TECHNICAL OBSERVATIONS:

COMPARISON TO BMA EXAMPLE:
PHOTOS TAKEN, OTHER DOCUMENTATION:
EXAMINED WHERE AND BY WHOM?

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