

PICASSO'S SCULPTURE *HEAD OF A WOMAN (FERNANDE)* 1909: A COLLABORATIVE TECHNICAL STUDY

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The two plaster sculptures that are the main subject of this essay were first exhibited together in October 2003 at the National Gallery, Washington DC. (fig 1) In her seminal essay “Process and Technique in Picasso’s *Head of a Woman (Fernande)*” in the catalogue of the exhibition¹, Dr Valerie Fletcher, chief curator at the Hirshhorn Museum, qualified her insights into the sculptures with, “bear in mind that no scientific analyses have been done on any of the works discussed—perhaps my efforts will engender such examinations in the near future”. We describe how we accepted her challenge and, drawing on her initial research, investigated the two plaster casts and their relationship to the bronzes with the same title. It is not known exactly how many bronzes were cast from Picasso’s original model—we think twenty, maybe more. None of the bronze casts are numbered and precise records of their manufacture appear not to have survived.² We do not yet know exactly which foundries were used nor which bronzes were cast in which foundries. The history of the plasters and their relationship to each other and the numerous bronzes has been uncertain and confusing, however we aim to clarify their histories through close examination of the sculptures themselves and comparison with some key bronzes. At the end of the summer of 1909, Picasso returned with Fernande Olivier from Horta de Ebro in Spain to Paris. There, in early autumn, he modelled what

today is known as *Head of a Woman (Fernande)*, or simply *Fernande*. According to his own inscription on the back of a photograph,³ Picasso modelled the sculpture in the studio of his friend, the sculptor Manolo (Manuel Hugué). But it was sometime later, at an unknown date, (Fletcher suggests “in or soon after September 1910”), that the art dealer Ambroise Vollard purchased the model from Picasso, together with the rights of reproduction.

Even in the absence of detailed documentation, it is possible to outline the probable steps by which the original model was transformed into the first bronze. The clay⁴ model was probably destroyed (washed out from a plaster “waste” mold) during the process of making the master or primary plaster. The moulding and casting of the model in plaster would at this time have been done by skilled artisans who went to a sculptor’s studio if a sculpture was not sent directly to a foundry.⁵ Picasso was almost certainly present when the primary plaster sculpture was released from its waste mould as he told Cooper and Richardson⁶ he made alterations to the front of the neck with a knife. We believe this alteration, made by slicing into the plaster with a sharp blade, can only be done as smoothly as it appears here in both casts when the fresh plaster is still damp and has not had time to fully harden. At this stage plaster has the consistency of hard cheese; later, when it has become hard and dry, instead of carving smoothly it fractures like a brittle rock.⁷ Why Picasso chose to carve this one small area and leave the rest softly modelled remains a puzzle. Was it a change of mind or in response to an imperfection in the casting?⁸

Of the two known plasters, the Tate Loan family plaster was purchased in 1968 from Ernst Beyeler who had bought it the same year from Jacques Ulmann. Since 1994 it has been on loan to Tate (UK) from a private collector. The Nasher plaster, now at the Nasher Sculpture Centre in Dallas, comes from Marina Picasso's portion of the Picasso estate, sold to Ray and Nancy Nasher through Jan Krugier's gallery in 1987. This plaster has a round base—a socle.⁹ The existence of two plasters was hardly known before 1986. Since then both plasters have been linked back to the estate of Ambroise Vollard and the collector Jacques Ulmann. Both have been described as "Original" although the Nasher with its socle was identified in the 2003 exhibition catalogue by Jeffery Weiss as a "working' model" contemporary in date with the Tate Loan "master". Both plasters have shellac-like coatings that are typically applied to seal the porous surface of raw plaster. The Tate Loan plaster is much darker in appearance than the Nasher plaster however it is clear from a photograph supplied by Jan Krugier to Ray Nasher¹⁰ that a thick coating of shellac was removed from the Nasher plaster before it arrived in Dallas. The differences in appearance and form of the two plasters aroused our suspicions that the Nasher might be a more recent cast. The Nasher plaster lacked the patina of use and age apparent on the Tate Loan however it is not yet possible to determine the age of plaster by material analysis so dating must rely on documentary evidence and close examination of differences between the plasters and the bronzes, which were cast using the plasters as models. In par-

ticular, we address the question of "when did the Nasher plaster become part of Picasso's estate?"

This question arose in the 1980s after scholars became aware that there was more than one plaster.¹¹ It was assumed that the plaster heads were contemporary in date, that both had belonged to Vollard and later Jacques Ulmann, and both might have been used for casting Vollard and Berggruen edition bronzes.

Heinz Berggruen learned that Jacques Ulmann, a Parisian collector, had several models or plaster casts of early Picasso sculptures, including *Fernande*, acquired from the Vollard estate. Berggruen asked Picasso in 1960 for permission to reproduce additional bronzes from the plasters using Claude Valsuani's foundry. According to these agreements, Berggruen would cast nine bronzes: three for Picasso and six for himself.¹² In an interview with us in 2004, Herr Berggruen not only confirmed that this was the agreement, but also that he personally gave Picasso the three bronzes, which are seen in a La Californie studio photograph by Edward Quinn dated 8 September 1960. (*fig. 2*)

Berggruen also claimed that he never handled the plaster as that was given by Ulmann directly to the Valsuani foundry. And that he had never seen a plaster with a socle. Berggruen said that until we spoke of it in our interview he did not know that there was a plaster with a socle.

Valerie Fletcher, in her 2003 article thought that at some stage both plasters were used to make many moulds for bronze casting based on the many fine cut lines that can be seen in both plasters. These she correctly identified them as "incisions made when a plaster is prepared for a sand mould or released

from multiple gelatine moulds”. Fletcher examined the Nasher plaster separately from the Tate Loan at the time her essay went to press. She didn’t realize that these incised cuts are in exactly the same location in both plasters, because the Nasher plaster is a very late copy of the Tate Loan, and not vice versa. Apart from the socle, which is cast as one with the head, it is an astonishingly exact copy.¹³

As evidence we see that all the details, including hundreds of tiny air bubbles present in the surface of the Tate Loan plaster, are faithfully reproduced in the Nasher plaster. However the Nasher plaster has more air bubbles which are not present in the Tate Loan. These are most easily recognized in the “O” of Picasso’s signature where a much large air bubble, not present in the Tate Loan, is found in the Nasher and reproduced exactly in the Berggruen bronzes. (*fig. 3*) The penultimate stage in the casting of a bronze, prior to patination, is to “chase” the surface with files and chisels to remove and disguise any traces of bronze feed pipes (runners and risers) or casting defects. To do this the craftsperson needs a reference model on the bench to ensure an exact match to the sculptor’s original model. If that original model is not available—perhaps it has become too valuable or is too fragile to be left around in the workshop—then a copy, a secondary plaster or “working plaster”, is made. Having a socle means that the working plaster can be handled and turned at the bench without risk of damage to any fine surface detail. We assume that Ulmann left his plaster (later the Tate Loan plaster) with the Valsuani foundry long enough for it to make the secondary plaster for casting the Berggruen edi-

tion and as a reference for the chaser.

We speculated that the secondary or working plaster might have remained with the foundry unclaimed until after Picasso’s death and was later retrieved for incorporation in his estate. On the eve of our presentation to the “Picasso Sculptures” colloquium in April 2016 this scenario was indeed agreed by Christine Piot who told co-author Leonardi that she had personally collected the plaster with a socle from Mr Valsuani’s widow in the late 1970s. (*Madame Piot confirmed her account speaking from the audience at the colloquium*). We can therefore assert with confidence, that the Nasher plaster with its round socle was cast by the foundry from a mould taken off the Tate Loan plaster and that a mould, or moulds, subsequently taken from the Nasher plaster, were used to cast the nine bronzes of the Berggruen edition. This happened no earlier than 1960.

Head of Fernande: the plasters and the list of known bronzes, according to their present location

- a) London, Tate Loan plaster, TATE (on loan), 1910
- b) Dallas, Nasher plaster, cast probably with the Berggruen/Valsuani edition of 1960

1. Paris: Musée Picasso (Artist’s proof)
2. Prague: National Gallery (Kramar)
3. Chicago: Art Institute of Chicago (Stieglitz)
4. New York: Leonard Lauder
5. Palm Beach: The Norton Museum of Art
6. New York: MoMA
7. Stockholm: Moderna Museet

8. New York: MET
9. Zürich: Zürich Kunsthaus
10. Toronto: Art Gallery of Ontario
11. Buffalo: Albright-Knox Art Gallery
12. Boston: Museum of Fine Arts
13. Portland: Portland Museum of Arts
14. Washington DC: National Gallery
15. Germany: Private collection (formerly in the Hermann Lange collection, Krefeld)
16. USA: Private collection (formerly in the Reber collection)
17. USA: (at SFMOMA in 2004; localization to be updated): Christie's Nov.2000 (unsold)
18. New York: (private collection (Leon Black?): Sotheby's Nov.1989 (Ex-Chrysler)
19. USA: (Gaffé, at Phil. Mus. in 2004: Christie's Nov.2001; localization to be updated)
20. New York: cast on show in 2003 (3/4-10/5) at Gagosian Gallery (problematic)
- 21-29. 9 copies (1/9 to 9/9, Valsuani/Berggruen edition, 1960) in various museums and collections (8/9 location unknown): see V. Fletcher 2003, pag.190. Casts 1/9 (Hirshhorn) and 6/9 (Berggruen) have been scanned (3D) and compared

Pink background: examined and 3D-scanned (n°. 20 and plaster b) scanned by other labs; n°. 16 included radiographs and elemental composition).

Blue background: examined and documented in detail (fingerprints, photos, etc).

The bronze 'Fernandes', cast by Vollard between 1911 and his death in 1939, and possibly after his death, all used the Tate Loan plaster as a model.

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Diana Widmaier Picasso's research has confirmed that Vollard had Picasso's bronzes cast one or two at a time. He also seems to have used several foundries and employed both sand cast and lost wax processes. The provenance of Vollard's casts of Fernande is sometimes uncertain but we thought we might be able to correlate the accumulated damages found in the Tate Loan plaster with those found or not found in the bronzes, and thereby start to put the castings in date order. On the plaster some of these damages and repairs show more clearly under ultraviolet light. (fig. 4) The Tate Loan plaster, which over decades has repeatedly served to provide moulds for bronzes, inevitably suffered accidental damage at the various foundries used by Vollard. This damage is replicated exactly in the Nasher plaster. In one of these accidents a small chip of plaster of a couple of centimetres was lost from the back side of the base of the head. This loss can be clearly seen in the Nasher plaster where it is cast as part of the plaster itself. (This type of detail is important in discussing the bronzes because it may help to separate bronzes cast before damage to the

Tate Loan plaster from those cast after damage.)

Among the latter are the Berggruen bronzes, cast by Valsuani using the lost wax process. They are by far the most faithful “copies” of the plasters in terms of sharpness of detail and minimal shrinkage. Better than the Vollard casts, they exactly reproduce the air bubbles found only in the Nasher plaster.

Knowing that there were many unmarked bronzes and possibly some unauthorized casts and surmoulages—bronzes cast from authentic bronzes—we also wanted to know how much variation to expect within a large family of legitimate bronzes—that is bronzes cast from the same parent plaster model. We sought out better certificated casts of *Fernande* in various institutions and are immensely grateful for the cooperation of many collectors, curators and conservators who gave us access to their collections.

Until 2011 our examinations were limited to visual comparisons and tracings of the bases of the bronzes and Tate Loan plaster. To progress the study and improve the quality and quantity of our comparisons we adopted laser scanning technology. A 3D laser scan provides an exceptional technique to study and compare the different casts of the head of *Fernande* and the original Tate Loan plaster. We could create virtual images of the plaster and a bronze and then compare each with the other as measured cross sections (*fig. 5*). For essential technical assistance, we depended on the 3D Optical Metrology Laboratory in Trento—part of the research institute *Fondazione Bruno Kessler*.¹⁴ It is important to stress that laser scans, which can provide precise dimensional and volumetric data, are

of no practical use to make illegitimate copies. They do not have enough fine detail to deceive anyone.

Up till now we have been able to compare the Tate Loan plaster with the bronzes of the Metropolitan Museum and MoMA in New York, with the National Gallery and Hirshhorn Museum in Washington, and with several others. Laser scanning enabled us to identify many subtle differences between the Tate Loan plaster and the bronzes. The results of the laser analysis will be discussed in detail, in a dedicated paper elsewhere. But we can say in summary that the volumetric shrinkage in the bronze-casting process spans from 4% to 11% (which corresponds to a linear shrinkage—such as the height—in the range of 1.5% to 4%). This kind of shrinkage is in line with that reported in the literature—but perhaps wider than expected—especially for the earlier Vollard bronzes. Prior to scanning, a simple visual inspection of the Tate Loan plaster with an ultraviolet light source had already located traces of various accidental damage and losses of material that the plaster suffered probably during its use in foundries in casting at least twenty bronzes and the Nasher plaster between 1910 and 1960.

A detailed comparison of these bronzes and the Tate Loan plaster may help to establish a production sequence corresponding to the order in which damage appeared in the plaster. We assumed that the early bronzes were cast from a plaster in perfect condition; later casts would show traces of the damage accumulated on the plaster.

In this paper we briefly focus on an area of the Tate Loan plaster where a significant loss occurred. It is a

deep recess, a missing chip, at the base edge of the plaster on its back left side. This recess was originally a thin, vulnerable ledge of plaster that gradually receded as more plaster broke off during handling to reach its current size. The loss has been disguised by subsequent shellac-like varnishes that in normal light blend with the rest of the plaster (*fig. 4*).

Let us now examine some of the bronzes. We know that the bronzes in Paris (Musée Picasso, first owned by Picasso), in Chicago (Stieglitz) and in Prague (Kramar) were cast very early (1910–11). Looking carefully at the bases of these early bronzes one can see that there is a thin ledge in the area where the plaster now has a large recess.

We know from the studies of Diana Widmaier Picasso that the bronzes in Palm Beach (Norton) and in the Lauder Collection were probably cast in 1927. What about the “recess” in their bases? Their recesses are definitely larger than in the early bronze casts. By 1927 it seems the plaster has been slightly damaged. A similar recess appears in many of the bronzes, documented up to the 1940s, that we have inspected so far. The deepest recess appears cast in the Nasher plaster and of course, the Berggruen/Valsuani bronzes.

An interesting conclusion can be reached here: any bronze, that exhibits a thin ledge or negligible recess must have been cast earlier than 1927, from an as yet undamaged plaster. At least one other bronze among those known today has a negligible recess at the base: the one formerly owned by James St. Laurence O’Toole (see the list). This is an indication that this bronze was cast earlier than 1927. We know that a bronze was in

the hands of the collector Gottlieb Reber at least as early as 1924, as it appears in photographs of the Zürich apartment of Reber as pointed out by his grandson, Christoph Pudelko. He kindly inspected the bronze formerly in the O’Toole collection and concluded, from some particular details of the interior of the cast he vividly remembered and had discussed with his grandfather (two unperforated internal lugs for fixing), that the O’Toole bronze is most likely the one owned by his grandfather. He also found documents showing a long business relationship between Reber and O’Toole. With this observation we believe we have confirmed the identity of a “lost” Fernande that was purchased from Vollard by Gottlieb Reber before 1924.¹⁵

In conclusion we have described the results of looking closely at the various forms of a sculpture: from clay, to plasters, to bronze. We have shown that the relationship is rather more than that of identical copies and that the details and subtle differences between each of Picasso’s Fernande sculptures are crucial to their historical context and order of creation.

Valerie Fletcher inspired our own project by suggesting that much remains to be revealed by scientific analyses, but if there is one lesson we take from our investigations it is that while science and technology will undoubtedly assist modern research, much remains to be discovered simply by looking at sculptures very, very closely.

Acknowledgements

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Activity from 2003 to 2010

We thank: Ida Baobul (Metropolitan Museum), Christoph Pudelko (Pudelko Galerie Bonn) Lena Wikstrom (Moderna Museet, Stockholm), Joachim Pissarro, Claire Henry, C.C. Marsh, John Elderfield (MoMA New York), Christian Klemm (Kunsthalle, Zürich), Emily Braun (Hunter College), Leonard Lauder and Lynda C. Klich (New York), Kelli Marin (Norton Museum of Art, Palm Beach), JulieAnne Poncet and Ann Eichelberg (Portland Museum of Art, Maine), Anne Skaliks (Dusseldorf, KunstSammlung N-W), Heinz Berggruen, Dieter Scholz, (Berggruen Museum), Jennifer Riley, Pamela Hatchfield (MFA Boston), Diana W. Picasso (DWP Editions, Paris), Hélène Klein (Musée Picasso, Paris), Jeffrey Weiss, Anne Halpern, Lindsay Macdonald, (NGA Washington), Valerie Fletcher (Hirshhorn), D. Chan (Albright-Knox, Buffalo), Kim Hae-Jin (SFMOMA), Jan Krugier (JK Gallery), Steve Nash, Jed Morse, Carra Henry (Nasher Sculpture Center, Dallas)

Activity from 2010 to the present (laser scan activity)

Kerstin Doble, Phil Monk, Elisabeth McDonald (Tate), Adam Budak, Lenka Pastyrikova (National Gallery, Prague) Barbara Sommermeyer (Hamburg), Jackie Heuman (SculpCons Ltd, London) Kendra Roth, Lisa Messinger (Metropolitan Museum), Lynda Zyckerman, (MoMA, New York), Hana Striecher (Berggruen Museum), Harry Cooper, Shelly Sturman, Katy May (NGA Washington), Valerie Fletcher, Gwynne Ryan, Susan Lake (Hirshhorn)

Equipment, Laser scan, photogrammetry and data elab-

oration: Erica Nocerino, Fabio Menna, Alessandro Rizzi, Belen Jimenez Fernandez-Palacios (Fondazione Bruno Kessler 3DOM lab Trento, Director Fabio Remondino)



FIG 1
Nasher and Tate Loan plasters
© Succession Picasso



FIG 2 EDWARD QUINN
Detail of La Californie studio, 8th September 1960
Edward Quinn photo archives
© edwardquinn.com



FIG 3
Signatures in Tate Loan and Nasher plasters, and a Berggruen bronze

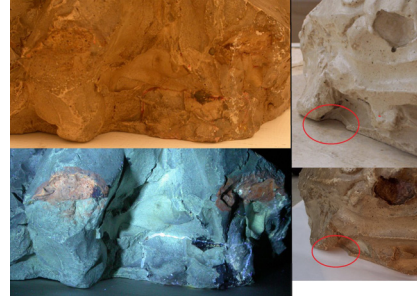


FIG. 4
Left: damages on Tate Loan plaster in normal and UV light ; right: location of missing plaster chip, Nasher and Tate loan

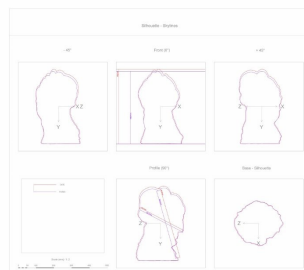
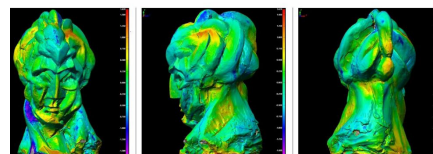


FIG. 5
Above: outlines of Tate Loan plaster and Musée Picasso bronze ; Below: Tate Loan plaster and Musée Picasso bronze combined scans



NOTES

1. Picasso: *The Cubist Portraits of Fernande Olivier*. National Gallery Washington DC (October 2003–January 2004) and Nasher Sculpture Centre, Dallas TX (February–May 2004)
2. Diana Widmaier Picasso, “Vollard and the Sculptures of Picasso”, in *Cézanne to Picasso*; Ambroise Vollard, Patron of the Avant-Garde, ed. Rebecca A. Rabinow (New York: Metropolitan Museum of Art, 2006).
3. John Richardson, *A Life of Picasso: The Prodigy, 1881-1906* (New York: Knopf, 2007), 461 n°21; Valerie J. Fletcher, “Process and Technique in *Picasso’s Head of a Woman (Fernande)*”, in *Picasso: The Cubist Portraits of Fernande Olivier* (exh. cat. Washington, DC: National Gallery Washington DC, 2003), p.168 n° 7.
4. It has been assumed that Picasso used clay but there are suggestions in the characteristics of the small pellets and long intervals between modelling and casting that he might have used a wax, oil and clay mixture commercially known as Plasteline or Plasticine. This would have mitigated the urgency of casting a clay model before it dried and cracked. And it was indeed sometime later, at an unknown date (Fletcher suggests in or soon after September 1910) that the art dealer Ambroise Vollard purchased the model from Picasso, together with the rights of reproduction. Circumstantial evidence: Fletcher says Picasso used wax for *Head of Jester*, 1905; in 1910 Vollard suggests to the arthritic Renoir he use soft wax for sculptures (Vollard correspondence). Picasso almost certainly modelled the Absinthe Glass, 1914 in wax or Plasteline (MoMA website). And in 1915 after a studio visit Aksenov mentions “a cycle of wax heads from 1909. I believe none have survived.” Vollard was to later arrange for the posthumous casting of Degas’s wax sculptures. The small strips, flattened “sausages” on the crown of Fernande’s head are more typical of wax than clay and faintly retain the fingerprints sometimes found in modelled wax.
5. The same craftsmen are unlikely to have chosen the waste mould technique for a wax or plasteline model. The less destructive piece-mould casting technique would almost certainly have left trace joint lines on the plaster but flexible gelatine moulds were employed for sculptors’ wax models as evidenced by the Hebrard/Degas maquettes. Whichever type of mould was taken off Picasso’s clay or wax model, this mould would have been used to cast a “primary” plaster from which foundries would cast all subsequent bronzes.
6. Elizabeth Cowling and John Golding, *Picasso: Sculptor/Painter* (exh. cat. London: Tate, 1996), p. 255 and p. 137.
7. Picasso seems to have carved his signature in the plaster, perhaps accentuating one already traced in the clay. The letter B in particular, has shelling around the edges of the incision, characteristic of carving hardened plaster.
8. Fletcher, “Process and Technique”. Fletcher suggests that there was a significant delay between the modelling of the sculpture and its casting in plaster, during which Picasso’s Cubist aesthetic became more angular.
9. Marina Picasso’s plaster (later Nasher plaster) was listed in the catalogue Pablo Picasso. *Werke aus der Sammlung Marina Picasso* (Munich: Haus der Kunst, 16 February–20 April 1981), but illustrated with a photograph of a bronze Fernande. We have been unable to determine if the plaster was shown or a bronze.10.Toronto: Art Gallery of Ontario
10. Nasher Sculpture Centre archives, Dallas.
11. MoMA NYC archives. Following correspondence between Judith Cousins (MoMA) and Helen Seckel-Klein (Musée Picasso) in 1986, Cousins concluded that there were more than two plasters. [Judith Cousins to Mr Wojtas, 16 July 1986: “While we know at present of the existence of 3 plasters, we do not know which one was used for the Vollard edition” (two plasters in the Picasso estate and one in the Tate Loan collection)]. This premature conclusion was based on an interpretation of a remark made by Dominique Bozo, who with Jean Lemaire oversaw the inventories of the Picasso estate. Bozo spoke of an original plaster (*plâtre original*) and a working plaster (*plâtre de travail*). At a first glance, it was not clear to Cousins whether Bozo was referring to the same object or to two different items. Cousins herself, however, in her subsequent correspondence related to the plasters, refers to only two plasters; the one in the Picasso estate (inherited by Marina and then, through Jan Krugier, to Nasher, in 1986) and in the Tate Loan collection (through Galerie Beyeler, in 1968). Similarly Diana Widmaier Picasso’s essay “Vollard and the Sculptures of Picasso” in the catalogue *Cézanne to Picasso* notes that Ulmann had two plasters (note p. 188).
12. Heinz Berggruen’s autobiography *Highways & Byways* (: Pilkington Press, 1998).
13. Pullen first examined the Nasher plaster at the owner’s home 9 September 2002 and concluded that the socle and head were probably cast as one piece. Mr Nasher encouraged him to pursue further research.
14. Fondazione Bruno Kessler 3DOM lab Trento, director Fabio Remondino.
15. Widmaier Picasso’s *Picasso, “Vollard and the Sculptures of Picasso”*, p.188 n° 37.