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### Casting Rodin's Thinker

*Sand mould casting, the case of the Laren Thinker and conservation treatment innovation*

Beentjes, T.P.C.

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## Chapter 3

# Modelling and moulding an icon: Rodin's *Thinker*

### 3.1 Introduction

Whilst the technological aspects of the bronzes by contemporaries of Rodin have received recent attention, this is not the case for Rodin.<sup>541</sup> This is somewhat surprising for a sculptor of his stature, even more so, given the fact that so much of Rodin's study material such as models, moulds and correspondence has survived. Patricia Sanders, in the exhibition catalogue *Metamorphoses in nineteenth-century sculpture*, covers briefly the making of Rodin bronzes, without going into much technical detail.<sup>542</sup> Antoinette Le Normand-Romain, in her impressive catalogue of the bronzes at the Musée Rodin in Paris, devotes only one page to the process of casting.<sup>543</sup> A more general work, not specific to Rodin bronzes, such as Michael Edward Shapiro's *Bronze Casting and American Sculpture 1850-1900*, describes casting in sand moulds to some extent.<sup>544</sup> However, Shapiro's book is still not sufficient to give the reader a full understanding of this technique and thereby explaining certain technical features visible on bronzes. Birks gives excellent images of sand mould casting, unfortunately he only covers the modern variant using chemically bonded sand.<sup>545</sup> Jean Pierre Rama, in his *Le bronze d'art et ses techniques*, provides the reader with detailed visual information on various casting methods, including casting in natural sand moulds.<sup>546</sup> The problem with Rama's publication is, that it details foundry methods as practised in the 1980s, and not during the last quarter of the nineteenth century and no moulding or casting of Rodin bronzes is illustrated or discussed.

To establish whether the foundry practices of the 1980s are comparable with practices a century earlier, one has to study more primary source material, such as nineteenth manuals and surviving foundry models and bronze casts. In this chapter, the entire technical process prior to the actual foundry work is researched. This begins with the making of the original model (the *Thinker* is taken as an example), followed by the clay model and the mould and model making in plaster. The moulding and casting in sand moulds to produce a bronze cast, will be described in the following chapter.<sup>547</sup>

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<sup>541</sup> Boulton 2007a, 73-97; Boulton 2006, 66-72 and Pingeot, et al. in Czestochowski & Pingeot, 2002.

<sup>542</sup> Wasserman 1975, 145-179

<sup>543</sup> Le Normand-Romain 2007, 63.

<sup>544</sup> Shapiro 1985, 16-23.

<sup>545</sup> Birks, Tony. *The Alchemy of Sculpture*. Pangolin Editions (1998): 70-87.

<sup>546</sup> Rama 1988.

<sup>547</sup> Other aspects of the *Thinker* such as its conception, the creative process of the artist, the sculpture's reception and its critique have been covered already extensively in several monographs on the *Thinker* or the *Gates of Hell* by other authors; Elsen 1960; Elsen 1985; Tilanus 2011 and de Caso 1973.

## 3.2 Rodin's atelier practice

### 3.2.1 Artist's clay model

A finished bronze sculpture is the end product of a complex making process. Usually this process starts when the artist materialises his artistic ideas by modelling in a soft, easy to manipulate, medium such as clay, wax or Plastiline.<sup>548</sup> A subtractive technique such as direct carving in stone or plaster is another way of creating a sculpture. For Rodin, although an accomplished stone carver, this was not his usual way of creating a model for his bronzes. Rodin, and most contemporaries, preferred clay, as the material to transform their artistic ideas into a three-dimensional sculpture.<sup>549</sup> Soft, wet, clay has the right properties, allowing the artist quick and free modelling.



Fig. 3.1. Pierre Bonnard, Rodin working on the bust of Falguière, Aristotype. Rodin Museum, Paris. (from Bondil 1996, 82)

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<sup>548</sup> Plastiline or Plasticine™ (US & UK) is a generic term for a type of non-drying and non-hardening modelling mediums. There are many different types but the main ingredients are usually fillers such as clay or talc held together by wax and oily components such as lanolin or petroleum jelly. Commercial non-drying modelling mediums became generally available around 1880. Eggert, Gerhart. *Plastiline: Another Unsuspected Danger in Display Causing Black Spots on Bronzes*. VDR Beiträge (2006): 112-116. For more on Rodin's use of these materials: Langlois, J., et al. "Analysis and conservation of modern modeling materials found in Auguste Rodin's sculptures." *Studies in Conservation*, 62(5) (2017): 247-265.

<sup>549</sup> "For the first time I saw 'artists' clay; I thought I had gone to Heaven." Rodin in conversation with Henri Charles Etienne du Jardin-Beaumetz in 1913. See Elsen 1965, 145 & Boulton 2007a, 74.

Rodin's usual way of working was to make an initial sketch model or *esquisse* in clay, often by observing living models in his studio (fig. 3.1).<sup>550</sup> His friend, Paul Gsell, remarked on this:

His method of work is singular. In his atelier several nude models walk about or rest... he observes them without ceasing...and when this one or that makes a movement that pleases him, he instantly asks the pose be kept. Quick, he seizes the clay, and a little figure is under way.<sup>551</sup>

Rodin worked very quickly. His hands were very large with strong short fingers. He kneaded the clay with vigour, rolling it in balls or cylinders, using the palm of the hand and the nails in turn, playing the clay like a piano, ...twisting in a single go a leg, an arm or with a gentle stroke the swelling of a lip...<sup>552</sup>

Bartlett mentions that Rodin was not a fan of the fashion at the time, to build up a clay model from small clay 'bullets', although he seemed to have worked in this technique in his early days when he worked as an ornament-maker.<sup>553</sup> Rodin remarked: "I took some clay. For two hours I prepared my pellets of clay.... put my pieces in action; immediately they took on their masses. In five hours, I had finished."<sup>554</sup>

This manipulation of the clay with his bare hands, was followed by smoothing with spatula's: "He [Rodin]..., took a spatula and with a masterly touch smoothed the tender skin of the shoulder that looked to be alive and breathing now."<sup>555</sup>

The fact that Rodin's modelling was so life-like, prompted critics to accuse the sculptor of casting from life when he exhibited his *Age of Bronze* in 1877. This greatly offended Rodin, for it negated his creative work as an artist.<sup>556</sup>

Small sculptures could be produced without internal support but with larger sculptures, the soft clay was not strong enough to support itself, creating the risk of deformation or even collapse of the clay model, if not properly supported from the inside with an internal armature. This armature was usually fabricated from lacquered wooden or iron rods, bound, brazed or welded together and required the artist to have a fairly good idea of the rough shape of the final sculpture.<sup>557</sup> If during the modelling process, the artist decided to alter the posture

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<sup>550</sup> A small preliminary version of a sculpture executed in clay or wax or other soft media which differ substantially in size and modelling from the final sculpture. Bassett, J. and Fogelman, P., *Looking at European Sculpture: a guide to technical terms*, The J. Paul Getty Museum (1997): 83-84.

<sup>551</sup> Gsell 1983, 10. (translation by Fedden)

<sup>552</sup> Gsell 1918, 406-408. Translation from Elsen 1983, 21.

<sup>553</sup> Bartlett in Elsen 1965, 91.

<sup>554</sup> "Je pris de la terre. Pendant deux heures, je préparai mes boulettes, puis j'allai déjeuner; je revins, mis mes boules en action: elles prirent immédiatement leurs masses. En cinq heures, j'avais terminé."; Dujardin-Beaumetz, F. (1913) *Entretiens avec Rodin*. Editions du musée Rodin (1992): 82.

<sup>555</sup> "Il [Rodin]..., saisit une spatule et lissa d'un trait magistral à l'épaule la peau douce de la femme, qui semblait respirer."; Zweig, Stefan. *Le monde d'hier: souvenirs d'un européen*. J-P. Belmond (1982): 178.

<sup>556</sup> Le Normand-Romain 2007, 127-128.

<sup>557</sup> Blowtorches with enough capacity to braze iron armature were developed in 1882 by Nyberg in Sweden. Although electric arc welding was invented in the 1880s, its general use in smaller workshops was not until around 1900. <http://weldinghistory.org/whfolder/folder/wh1800.html>>[accessed 22 June 2018]

or composition drastically, he or she had to adapt the armature as well, requiring it to be partially stripped of the clay and trimming the armature. The armature itself is usually fixed to a wooden board, acting as a base, facilitating transportation or placing on a tripod. The first layer of clay applied to the armature needs to be quite hard, because if too soft, it would not hold its shape or stick properly to the armature.<sup>558</sup> It was paramount for the clay to maintain its malleability and therefore artists were very concerned for the clay not to dry out. When a sculptor was away from his workshop, he made sure the clay models were kept wet. Very often there was a reciprocal agreement between artists to look after each other's clay models whilst away, for example when travelling.<sup>559</sup> In the case of Rodin, this was entrusted to Rose Beuret, his future wife. During travelling, Rodin instructed her to keep the clay at the right degree of softness: "when you damp my figure, do not wet it too much so that the legs won't get too soft."<sup>560</sup>

If the clay was getting too soft it might lose its shape or detach from the iron armature inside.<sup>561</sup> For today's modellers in clay, it is no longer a problem to maintain the wetness of their clay, because of the availability of plastic sheet or bags, which can seal the clay model from the air for long periods of time and thus prevent the clay from drying out. In Rodin's time, this was done by covering the clay model with wet cloth or rags and to renew these almost daily. This often left an imprint of the textile texture on the surface of the clay and is sometimes even still visible on the surface of the bronze cast (fig. 3.2).

Rodin often left these imprints, together with mould lines and other traces of the production process such as moulding lines, deliberately untouched and therefore clearly visible on the final product, the bronze.<sup>562</sup> To prevent damage to a delicately modelled surface, the American sculptor Malvina Hoffman, recommends using galvanised wire or wooden sticks to keep a distance between the clay and the wet cloth.<sup>563</sup>

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<sup>558</sup> Hoffman 1939, 126.

<sup>559</sup> Boulton 2007a, 74.

<sup>560</sup> "Quand tu mouilleras ma figure, ne la mouille pas trop pour que les jambes ne soient trop molles."; Cladel, J. *Rodin: Sa vie glorieuse, sa vie inconnue*. Bernard Grasset (1936): 100.

<sup>561</sup> Hoffman remarks in this respect: "If the cloths are soaked in a pail of water, wring them out before applying them to the clay. Otherwise the excessive moisture will dissolve and injure the surface modelling.": Hoffman 1939, 126.

<sup>562</sup> Matisse, like Rodin, was also fascinated by the production process of making a bronze and left also traces of mould lines visible. In some cases the absence of mould lines even raises suspicions about the authenticity of a piece. Boulton 2007a, 79.

<sup>563</sup> "construct a light wooden frame and cover the top and four sides with oilcloth, woolly inside. This covering can be prayed with water and, when thoroughly soaked, placed over the clay figure instead of cloth.": Hoffman 1939, 126. Malvina Cornell Hoffman (1885-1966), an American sculptor and writer, studied periodically with Rodin from 1910 till 1914.



Fig. 3.2. Imprint of cloth still visible on the surface of the finished bronze. Detail of the base of the Laren *Thinker*.

Frost was another danger to the clay model. In conversation with Henri Charles Etienne du Jardin-Beaumetz in 1913, Rodin recalls almost losing a clay model to frost early in his career when he could not afford to heat his workshop at night: “The winter that year was especially rude, and I couldn’t have a fire that night. “The Man with the Broken Nose” froze. The back of his head split off and fell. I was able to save only the face...”<sup>564</sup>

### 3.2.2 The *Thinker* in clay

Following the clay sketch, the *esquisse* (fig. 3.3), Rodin would make the full-size clay model. This clay model of the size of the original *Thinker* would definitely require an armature. Rodin would eventually produce his *Thinker* in three sizes,<sup>565</sup>

- the original size *Thinker*, as used for the *Gates of Hell*, the so-called ‘*taille originale*’, the size is approximately c. 71.5 cm high<sup>566</sup>
- a reduced size of c. 37.5 cm high
- a monumental outdoor version of c. 190 cm high. This so-called ‘*grand modèle*’ is a mechanically enlarged size, carried out by Henri Lebosse between 1901 and 1903

The various foundry plasters preserved at the Rodin Museum at Meudon have all slightly different heights.<sup>567</sup> These differences can be attributed to the angle at which the base has been finished. This difference in the angle of the base can also be observed between the bronzes

<sup>564</sup> “L’Hiver, cette année-là, fut particulièrement rude, et je ne pouvais faire de feu la nuit. L’homme au nez cases gela. Le derrière de sa tête se fendit et tomba. Je ne pus conserver que le masque...”; Dujardin-Beaumetz 1992, 116

<sup>565</sup> These are the sizes of the final bronze sculptures as mentioned in the literature. However, one has to very careful with comparing given dimensions in catalogues. There is no agreed method of measuring sculpture and different people measuring the same object can produce varied results.

<sup>566</sup> Le Normand-Romain mentions a 68,5 cm height as a deviating size for the Pulitzer *Thinker* but this proved to be an error when the bronze turned recently up at auction (Sotheby’s NY 07 May 2013 lot no. 45) and was found to be of the standard height of 71.5 cm: Le Normand-Romain 2007, 586.

<sup>567</sup> inv.no. S. 2520 H. 71.5 cm; / inv.no. S. 2840 H. 72.2 cm; / inv.no. S. 3189 H. 72.5 cm.

and is clearly noticeable on the 3-D image planar cross section in sub-chapter 6.7.4 *A case study with Rodin's Thinkers*. Since the heights of the foundry plasters preserved at the Musée Rodin are around 72.5 cm, the height of the original clay model of the *Thinker* would have been similar, because of the minimal amount of shrinkage of plaster during moulding.



Fig. 3.3. A. Rodin, sketch model or *esquisse* of the *Thinker*, 1880, Terra cotta, H. 24, 5 cm. Rodin Museum, Paris, inv.no. S.1168 (from Tilanus 2011, 38)

A series of early photographs survives of the clay model of the *Thinker* (figs. 3.4-3.6). The dates assigned to these images are somewhat confusing. Elsen dates these images to 1880-81, whereas Blanchetière gives a more plausible date of July 1882 to the albumen print of the clay model on a pedestal (fig. 3.4).<sup>568</sup> The clay model in the latter image appears to be less well finished, lumps of clay discernible in places compared to the clay models in the other images. This could mean that this image was taken in an earlier stage of modelling. Based on the similarities and details, such as the iron rod protruding from the side, one can safely assume these two images depict the same clay model. It is interesting to note that when comparing all early photographs of the clay model, none of the images seems to display the *Thinker* with the special cap, as found on the first bronze cast of 1884, now preserved in Melbourne.<sup>569</sup>

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<sup>568</sup> Elsen 1985 fig. 19-22 & Tilanus, P. et al. 2011, 44.

<sup>569</sup> Elsen gives an explanation for this one-off occurrence of the cap: Elsen, 2003; 177. The other differing feature in the modelling of the National Gallery of Victoria *Thinker*, is the back edge of the base but unfortunately none of the early images of the clay model shows the back of the sculpture.



Fig. 3.4. Victor Pannelier, *Le Penseur*, July 1882, albumin print. An early photograph of the clay model of the *Thinker*. Rodin Museum, Paris (inv.no. Ph 00228).

When comparing the different images of the clay model, it is worth pointing out the way Rodin was experimenting with the angle of the base of the *Thinker* (figs. 3.5 & 3.6). The wooden board on which the clay model is placed, is identical, but the small planks providing the sloped angle are different. It is interesting to speculate whether this was done to change the viewing angle or for practical reasons: when handling a bronze cast of the *Thinker* one can often observe a problem with the stability of the statue. The forward lean of the figure means that the statue is rather top heavy and often a counter-weight is provided in the form of a lead cast plaque fixed against the inside of the back of the base.<sup>570</sup> This top heaviness might also have been the case with the clay model and could explain the angle at which the clay model is placed. This instability probably also explains the iron wire wrapped around the iron bar, sticking out of the base of the clay model, and leading to the back of the wooden base board, upon which the clay model is positioned (fig. 3.7). This wire was likely put in place after Rodin experienced problems with the clay model's stability and must have fixed the clay model more secure to the pedestal, thus preventing it from tipping over. This could perhaps explain the somewhat flattened shape of the nose. Maybe the unsupported clay model started tipping over and was prevented from completely falling by quickly grabbing the head and

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<sup>570</sup> See sub-chapter 4.5 *Lead counterweight* in this thesis for more on this.



thereby squashing the nose? Perhaps Rodin was inspired by this new accidentally rugged appearance of the face of the figure and decided to keep this feature.<sup>571</sup>



Figs. 3.5 & 3.6. Victor Pannelier, *Le Penseur*, 1882, albumin prints. Early photographs of the clay model of the *Thinker* in Rodin's studio. Left inv.no Ph 01020 & right inv.no. Ph 2037, Rodin Museum, Paris.

Another interesting feature visible on the early photographs (figs. 3.5 & 3.6), is the iron armature visible between the feet of the clay model (fig. 3.7). Exposed parts of an armature usually indicate significant changes to the originally-intended form of a sculpture, this is because an armature is usually constructed to fit in safely within the perceived boundaries of the intended sculpture.



Fig. 3.7. detail of Ph 01020 showing the protruding part of the armature.

<sup>571</sup> For a current view on the theme of 'accidents' in Rodin's work: Le Normand-Romain, Antoinette et al. *RODIN L'accident, l'aléatoire*, Exh. Cat. Geneva: Musée d'art et d'histoire, 2014.

### 3.2.3 The *Thinker* in terra-cotta

Until recently it was thought the original clay model of the *Thinker*, illustrated in Pannelier's images (figs. 3.5 & 3.6), was lost when moulded in plaster. This might not be the case. In 2011 a group of terracotta fragments was discovered in the reserve collection of the Rodin Museum at Meudon and are described here for the first time (fig. 3.8).<sup>572</sup>



Fig. 3.8. Tray with terra-cotta fragments of the *Thinker* in the depot at Rodin Museum, Meudon.

These fragments were recognised by the museum's conservator François Blanchetière as parts of the figure of the *Thinker* and when provisionally assembled, these fragments formed the torso of the figure of the *Thinker* (fig. 3.9).



Fig. 3.9. Preliminary reconstruction of the terra-cotta *Thinker* in 2011. (image Rodin Museum Paris)



Fig. 3.10. The left foot (S.3922) of the terra-cotta *Thinker*.

<sup>572</sup> This group of terracotta fragments was found when moving objects in the Meudon basement store to create space for sculptures temporarily moved from the main museum, Hotel Biron, during its recent refurbishment from January till March 2012. Communication with Francois Blanchetière, 23-11-2011.

Inspired by this find, a search for similar terracotta fragments in the collection was carried out and subsequently matching parts were found such as the left foot (S.3922) (fig. 3.10).



Fig. 3.11. The head (S.3854) of the terra-cotta *Thinker*. The terra-cotta head (on the right) is placed for comparison next to the head of foundry plaster (S.2840).

and, more significantly, the head of the figure (fig. 3.11).<sup>573</sup> Although the foot and the head had been catalogued in the past as separate objects in the collection, it now suddenly became clear that all these parts are very likely to form the very first model of the *Thinker*, modelled directly by Rodin himself. Unfortunately, not all fragments are preserved, for example parts of the legs and torso, are still missing, however enough fragments remain to make a reconstruction possible. When the fragments were provisionally put together, they did not always fit together perfectly and it became clear why the terracotta sculpture is now in so many separate pieces. It appears the clay model was either not suitable for the baking process or was subjected to uneven heat and as a result of this cracked during the firing process.<sup>574</sup> When comparing the terracotta *Thinker* with the foundry plasters preserved in the museum's collection, two things became immediately apparent: the terracotta *Thinker* is smaller and it is markedly more detailed. This difference in size between the plaster and terracotta can be attributed to shrinkage during the firing of the clay. The sculpture's detail, not blurred by subsequent moulding, is remarkable and gives the observant viewer a different appreciation of this well-known sculpture. The details on the surface of the terracotta still preserve the tooling in clay and are a demonstration of Rodin's modelling skills.

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<sup>573</sup> MR inv.no. S.3854

<sup>574</sup> Boulton mentions that clay for modelling, *l'argile grass à modeler or terre crue*, is not intended to be fired because it has a high organic content and is thus subjected to a greater amount of shrinkage than baking clays which have a higher inert filler content such as sand or grog: Boulton 2007a, 91.

### 3.3 The *Thinker* in plaster

#### 3.3.1 Moulding

Rodin frequently had plaster casts made of his clay models. These clay models could be in the finishing stage but sometimes plaster moulds were taken from works in progress.<sup>575</sup>

Especially when working on portraits, Rodin frequently had moulds taken as a record of a current state of a portrait. This could then be used to make a “squeeze” (Fr. *Estampage*) by pressing soft clay into the negative form in the plaster. This new clay positive impression could now be used again by Rodin to work further on the portrait. By making a record of the clay model at certain stages in the modelling, Rodin was free to experiment and make radical changes to the clay model. In case Rodin wanted to go back to an earlier stage, he could simply use the plaster mould made earlier, which served in a sense as a backup.<sup>576</sup>

The usual motivation for Rodin to take a mould of the clay model, was to produce a plaster copy.<sup>577</sup> A reason for this could be that the clay was getting difficult to work because it started to dry out in places. Common practice was to change the clay model into plaster when the modelling had finished and the model needed to be converted into a more durable material such as plaster. This first plaster model, sometimes referred to as the original or studio plaster, would serve as a permanent record of the model, which, if kept in wet soft clay, would be vulnerable to accidental damage or distortion because of drying. Sometimes this model, converted from the medium clay into plaster, gave Rodin new ideas how to continue with the model. Since it is difficult to make alterations and additions to the plaster, Rodin would reproduce the sculpture again in clay or he would make additions to the plaster model in clay or Plastiline (fig. 3.12).<sup>578</sup>

By the time he Rodin was successful enough to employ collaborators, the moulding of his sculpture models was carried out by professional moulders (*mouleurs*). This was highly specialised work and several names of moulders, who worked for Rodin are known to us. Of these, Paul Cruet and father and son Guioché are probably most well-known.<sup>579</sup>

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<sup>575</sup> Rodin rarely considered a work finished and often kept a clay model for long periods workable by keeping the clay moist.

<sup>576</sup> Hoffman 1936, 43.

<sup>577</sup> The word copy is used here as an exact replica. Strictly speaking a copy is an interpretation of the original, with an overall resemblance, whereas a cast is an exact image of the original. Godin, Frederik. *Antiquity in plaster*, Diss. University of Amsterdam (2009): 7 note 9.

<sup>578</sup> “Sometimes I do not find my idea until the work is cast in plaster, then I reproduce it in clay, and make it as I want it.” Bartlett in Elsen 1965, 94 & 26-27.

<sup>579</sup> Dieudonné Guioché (father) and Eugène Guioché (son), and an assistant called Barbier: Grunfeld, 1987; 557 and later Paul Cruet: Elsen, 2003; 25. Elsen also mentions Eugène Guioché Jr (spelled here as Giochet) and four other Guioché brothers: Gaston, Dieudonne, Auguste, and Ernest: Elsen 1981, 7. “Rodin’s moulders (plaster mould makers) were father and son Gioché and their assistant – Barbiée. Gioché (the son) was a very good moulder. He was using new methods for plaster moulding. Perhaps not many sculptors had such good moulders as Rodin, because not many artists could afford such large expenses.”: Nicoladze, J. *God u Rodena*. Zarja Vostoka (1946): 53. I am grateful to Svetlana Burshneva for this translation from Georgian. Nicoladze was a Georgian sculptor who worked in Rodin’s atelier in Meudon for a year. In his biography *God u Rodena* he recalls his time with Rodin.

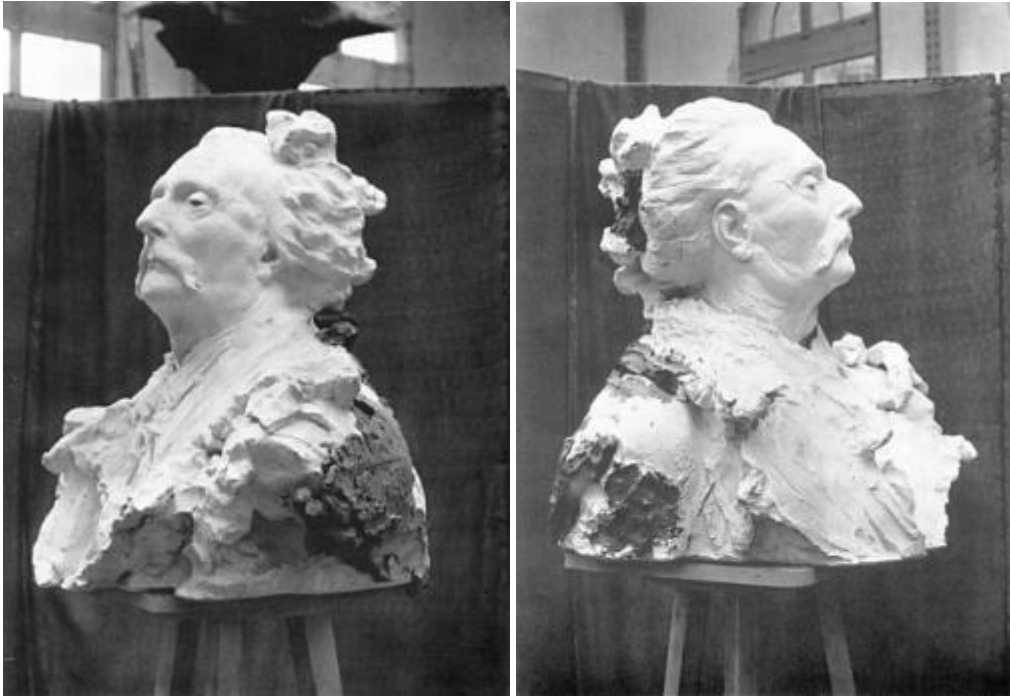


Fig. 3.12. A. Rodin, *The bust of Barbey d'Aurevilly*, 1909, plaster re-edited with clay. (image World's Graphic Press from [http://www.rodin-web.org/report\\_rom/2\\_4\\_2.htm](http://www.rodin-web.org/report_rom/2_4_2.htm).> [accessed 22-06-2018])

Before starting the mould-making procedure, it was essential for the moulders to know whether the clay model could be sacrificed in the process or had to stay intact. Up to the introduction of modern flexible mould materials such as silicone and poly-urethane rubbers, around the middle of the twentieth century, there were basically three methods of moulding a clay model, which will be covered in the following paragraph.

### 3.3.2 Plaster waste-moulding

In the process of waste-moulding, a simple two-part plaster mould was made. Because of its simplicity, this type of mould could normally not be removed from the clay model without damaging the overhanging parts of the model. Therefore, the model was sacrificed when the mould was opened and the clay (model) removed by scooping most of it out and washing away the remnants with water. The plaster mould, with the negative impression of the clay model, could now be used to make a plaster positive cast. When this simple, two-part, plaster mould was subsequently used to make a cast, it could not be removed without damaging the plaster positive cast. The only way to remove the outer plaster mould from the plaster cast (with undercut details) inside, was to destroy the outer mould by carefully chipping away with chisels, hence the name waste-mould (*moule à creux perdu en plâtre*).

To prevent damaging the model during removal of the outer mould, the moulders often coloured the first layer of plaster applied to the clay model. Exposing this coloured layer

would be a signal to the moulder to be especially careful, as he was getting close to the cast when chipping away the waste mould.<sup>580</sup>

### 3.3.3 Plaster piece-moulding

In cases whereby the clay model had to stay intact, a different type of mould had to be fabricated. This mould consisted of numerous parts depending on the extent of undercuts in the clay model. This so-called piece-mould, was made by dividing up the surface of the clay model using thin metal sheet, so-called shims. The shims acted as walls of chambers which were subsequently filled with plaster and in this way many separate mould parts were created. Another method to create separations between the plaster mould parts was by means of a greased thread. This was placed on the clay model in the spot where the mould needed to be separated. When the applied plaster outer mould layer started to harden and reached the consistency of firm butter, the thread was pulled away from the surface of the clay model through the still soft plaster layer, thus cutting the plaster into sections. The collection of mould pieces forming the piece-mould was held together by an outer mantle mould with the inner mould pieces often connected to the outer mould by strings (fig. 3.13).

### 3.3.4 Gelatine moulding

In order to avoid the lengthy process of making a piece mould for a clay model with undercuts, the third option was to use gelatine as a mould material. Because of the flexibility of gelatine, the parts of the mould that would fill an undercut, are flexible enough to be stripped from the model without damage to the mould or model.<sup>581</sup> The ability to take an impression from an object with undercuts made gelatine popular as mould material in the lost wax casting process.<sup>582</sup> Gelatine is liquid when heated and this enables it to be poured in a space between the model and an outer mould (figs. 3.15 & 3.16).<sup>583</sup>

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<sup>580</sup> Hoffman gives a detailed description of this process: Hoffman 1939, 259-262.

<sup>581</sup> When dealing with very large or deep undercuts gelatine might not be flexible or strong enough and damage to the mould or model can occur, especially when the gelatine mould has been used several times already.

<sup>582</sup> For historical use of gelatine as a mould material; see sub-chapter 2.7 *The lost wax casting of bronze sculpture in the nineteenth century* in this thesis.

<sup>583</sup> For a detailed step by step description of gelatine piece moulding: Hoffman 1939, 274-276.

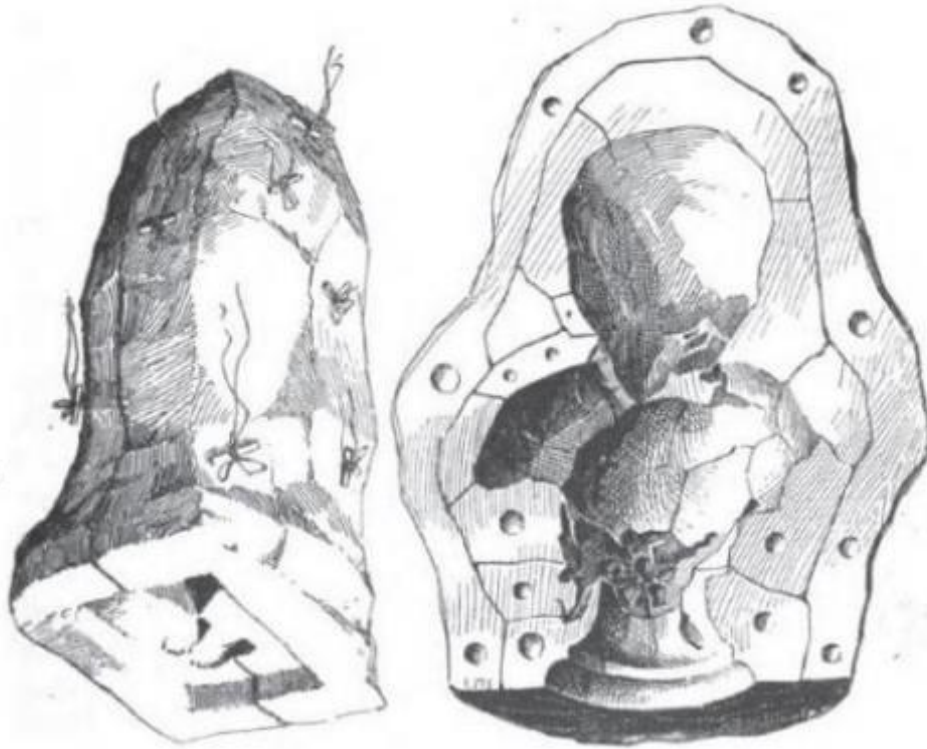


Fig. 3.14. Drawing of a plaster piece-mould within its outer mantle mould. (from Partridge 1895 fig 1, 81)



Fig. 3.15. Malvina Hoffman, 1930s, glass negative. A gelatine mould contained within an outer plaster shell with the plaster cast or model. Los Angeles, Getty Research Institute (850042), box 124.



Fig. 3.16. Underside of a closed outer shell of a gelatine mould. The gelatine is no longer present. Plaster, undated, Rodin Museum, Meudon.

### 3.4 Plaster models

From the above methods there are two implications for the study of plaster models. Firstly, a new model in plaster is produced, the so-called original plaster or master copy, which is the unique copy of the now lost clay model. Alternatively, the clay model and a plaster piece-mould stay intact. With the latter, the moulder can start making plaster positive models. In the case of the waste-mould, the moulder has only an original plaster model and so the next step would normally be to make a piece-mould of this original model in plaster. In this way the original plaster could be safely stored and would not run the risk of damage during the subsequent steps of the casting process. Equal care was taken with the first plaster piece moulds.<sup>584</sup> With this new plaster piece-mould, the moulder could begin making more plasters of the sculpture.

When one describes Rodin plasters it is essential to differentiate between the different types of plasters, as produced in Rodin's workshop by his moulders. A variety of terms have been used to categorise the range of plasters. Confusingly, different names have been used for the same type of plaster, therefore the following categorisation is suggested:

**Studio plasters (*plâtre d'atelier*):** plasters produced during the artistic process of modelling. They were often made to document a clay model at a specific stage or to create a plaster record of a sculpture for later use in, for example, assemblages. Sometimes the modelling continued on these study plasters by carving into the plaster or by adding clay or Plastiline. These plasters were rarely the finished art work and did not leave Rodin's studio. As such they were rarely used during Rodin's life for exhibitions or for foundry work.

<sup>584</sup> Rodin remarks in this respect: "Aie soin, ma petite, des moules; tu les envelopperas à chacun, des journeaux, mouchoirs ou autres,...": Cladel 1936, 102.



**Original plaster (*plâtre original*):** the master copy produced when the modelling of a clay model was finished. The sculpture was now deemed ready by Rodin for reproduction in bronze or marble or to be exhibited in plaster as a work of art on its own. Sometimes referred to as first generation plaster, the original plaster is usually the source for the master piece-mould. The latter was used to produce the exhibition and foundry plasters (see below). Because the original plaster was the first and most detailed copy of the sculpture it was paramount that this plaster model was kept in perfect condition and it normally did not leave the artist's workshop.<sup>585</sup> Unfortunately, no original plaster of the original size *Thinker* is preserved in the collection of the Rodin Museum, Paris.

**Foundry plasters (*plâtre de fonte de sable*):** plasters made specifically to be used in the process of casting the sculpture in bronze, using sand moulds. These plasters were likely to be made or adapted by the foundries contracted by Rodin. Foundry plasters are akin to a tool for the moulders and were used to mould the sand piece-mould. Parts of these plasters were often made detachable to facilitate the sand moulding process. Other distinct features of foundry plasters are their sturdy build which results in a heavy weight. Also, the presence of cutting lines, pencil markings and a shellac finish on the surface, is typical for a foundry plaster.<sup>586</sup>

**Pointing plasters (*plâtre de mise-aux-points*):** plasters made specifically to be used for the pointing process. The plaster is used in the pointing process to make a stone copy.<sup>587</sup> This copy in stone can be of similar size, yet also a reduction or enlargement. Strategically placed nails in the surface can often be observed and when no nails were used, the surface of a pointing plaster frequently has numerous small shallow holes in the surface. As their counterparts for the production of bronzes, the pointing plasters were often made specifically for pointing. This is because, when subjected to the process of pointing, the plasters quite often incurred small damages to their surface. It is therefore unlikely that, during Rodin's lifetime, exhibition or original plasters were used for pointing.<sup>588</sup>

**Exhibition plasters (*plâtre d'exposition*):** plasters intended for display at exhibitions or as gifts to friends or museums. Sometimes referred to as presentation plasters, exhibition plasters were meant to be seen as works of art and were not made as a tool for the manufacture of bronzes or stone carvings. The reason these plasters are not suitable for sand mould casting or

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<sup>585</sup> The Rodin Museum, Paris, preserves in its collection an intriguing bronze cast of *Balzac, Nude Study C*, large version inv.no. s.1074 and cast in 1926 by the Alexis Rudier foundry, which has the cast inscription "ORIGINAL" on the base. This bronze was probably cast using the original plaster. Interestingly the museum later made a foundry plaster, using this bronze, for the Georges Rudier foundry: Perrault, G. *L'œuvre originale et la sculpture d'édition: 3. Du XIX au XX Siècle: 3.1. La mode du bronze d'art*. 2011 [online] Available at: <<http://www.gillesperrault.com/blog/oeuvre-originale-et-la-sculpture-dedition/>> [accessed 3 June 2018]

<sup>586</sup> For more on foundry plasters: sub-chapter 4.2.1 *The pattern* in this thesis.

<sup>587</sup> Musée Rodin 2012, 40-42.

<sup>588</sup> In very rare occasions, foundry plasters were converted to pointing plasters. The small size *Eve* from a private collection and exhibited at the J.P. Getty Museum in Los Angeles in 2013, is a former foundry plaster converted to a pointing plaster by fixing the detachable arm and inserting pointing nails. It is not clear if this was done during Rodin's life time.

pointing is their fragility.<sup>589</sup> Plasters made for display purposes only, are thin walled and very light and therefore also fragile. Plaster is a brittle material but by reinforcement with fibres such as hemp, jute or horsehair, the moulders, especially father and son Guioché, were capable to create extremely light plaster models.<sup>590</sup>

Nicoladze remarks on this:

To cast the mould of “Thinker” they needed a whole week [...] Gioché (the son) was working very slowly; his method was as follows: after making separate parts of a sculpture he was drying them very thoroughly. Before casting into a mould, he lubricated the mould with green soap. Gioché has never cast the whole sculpture like other moulders. He always prepared the model in parts. [...] Then he was applying a thin layer of tow [jute?] on the top, spraying with liquid plaster and hitting with a brush. [...] Statues “Balzac” and “Thinker” were cast in parts during 15 days.<sup>591</sup>

Examples of plaster casts by the Guiochés are for example, the model of the *Monument to Victor Hugo* (1902-1905) in the Ny Carlsberg Glyptothek in Copenhagen (fig. 3.17), and the plaster *Thinker* in Béziers from 1900 (fig. 3.19).<sup>592</sup>



Fig. 3.17. A. Rodin, *Monument to Victor Hugo*, 1902-1905, plaster. The right image shows a close-up of damage, illustrating the use of animal fibres to reinforce the plaster. Ny Carlsberg Glyptothek, Copenhagen (inv.no. min 1337a).

Sand mould casting was the most common casting method used to produce Rodin bronzes and a thin-walled exhibition plaster would not survive the rough handling during the sand

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<sup>589</sup> Although this cannot prevent the owner of an exhibition plaster from using the plaster to produce a bronze cast using the lost wax method. This is because with the lost wax casting method a flexible mould can be used to make the wax thus reducing the risk of damage to the exhibition plaster during moulding. When the plaster, exhibited in Brussels in 1899, was used as a pattern by the Petermann foundry in the same town, it became so damaged that it was discarded after moulding. (Petermann file, Rodin Museum, Paris)

<sup>590</sup> Nicoladze, reports that an exhibition plaster of the monumental size *Thinker* (height ca 190 cm) made by the Guioché's was so light it could be lifted by one man: Grunfeld 1987, 557.

<sup>591</sup> Nicoladze 1946, 53-54.

<sup>592</sup> Ny Carlsberg Glyptothek, Copenhagen (inv.no. min 1337a) ; Musée des Beaux-Arts Hôtel Fabrégat, Béziers, (inv.no. 00:7.1.)

moulding process whereby a sectioned mould is formed by hammering, with force, sand against the plaster model.

Exhibition plasters were usually made as one piece whereas foundry plasters were often made with detachable parts, such as arms and legs, to facilitate the sand moulding process. The surface of the plaster was often coated with a varnish to prevent the sand sticking to the surface of the model during moulding. Exhibition plasters sometimes carry Rodin's signature and Rodin expressed his concern that these exhibition plasters would be used to cast bronzes. Rothenstein mentioned in this respect:

He [Rodin] feared that some day the friends to whom he gave them might get them recast, and dispose of them as bronzes. Rodin insisted that they were not suitable for casting. [...] It happened that recently a [Rodin] bronze made from a [exhibition] plaster cast was offered to the Tate Gallery, and I was able to detect its spurious quality. I am told many bronzes of this kind are now offered in Paris as originals, as if cast for, and approved by, Rodin himself. But no artist can be protected, after his death, from exploitation or forgery.<sup>593</sup>

These words proved to be rather prophetic. Rodin bronzes have a long history of unauthorised casting, already during his life-time but more profoundly after his death.<sup>594</sup>

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<sup>593</sup> Rothenstein, W. *Men and Memories: Recollections of William Rothenstein*. Faber and Faber. (1931-32): 323-324.

<sup>594</sup> For more on the faking of Rodin bronzes; Le Normand-Romain 2007, 33 and sub-chapter 4.3.3 *Raised foundry* stamp in this thesis. For example, the Singer Museum Laren has in its collection a bronze bust of Mme Fenaille-Colrati (inv.no. 56-416) which was cast by a local foundry, Binder in Haarlem, using a plaster bought by Anna and William Singer in the 1930s. This plaster was later, in 1940, donated by the couple to the Stedelijk Museum in Amsterdam (inv.no. BA 69).



Fig. 3.18. *Le Penseur: Le Poète* (from *L'Art français* No. 115; 1889)

The exhibition plaster of the *Thinker* illustrated in the figure above (fig. 3.18) from *L'Art français*, was used for the joint exhibition on Rodin and Monet held at Galerie Georges Petit in Paris in 1889.<sup>595</sup> Perhaps this plaster was also used for the exhibitions in Copenhagen (1888) and Paris (1900) but it cannot be the same as the Béziers *Thinker* because the former had very pronounced mould lines which cannot be observed on the Béziers *Thinker*.

### 3.4.1 The foundry plasters for Rodin's *Thinkers* in the Rodin Museum, Meudon

Rodin's foundry plasters are distinctly different from his exhibition plasters. Whereas the exhibition plasters are delicate and refined, their cousins, foundry plasters, were the real workhorses amongst the plasters. Their build is much heavier and sturdier, enabling them to withstand the rough handling during moulding which subjected them to much wear and limited their working life. These foundry plasters must be regarded more as tools, often discarded when worn out and past their usefulness. Only recently are foundry plasters being recognised as having an importance in their own right.<sup>596</sup> Rodin's exhibition plasters have also become the subject of serious study only fairly recently, starting with Elsen's essay in the

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<sup>595</sup> Höcherl, H. *Rodins Gipse: Ursprünge moderner Plastik*, Peter Lang (2003): fig. 109. The exhibition plaster of the *Thinker* was catalogue no. 27.

<sup>596</sup> Tilanus 2011. Cat. no. 6-8, 12.

*Rodin Rediscovered* exhibition catalogue.<sup>597</sup> Subsequently the Rodin Museum in Paris has been exhibiting more of Rodin's work in plaster,<sup>598</sup> however no comprehensive catalogue of Rodin's plasters has been published to date.<sup>599</sup> Höcherl in her dissertation, was the first to give an in-depth analysis of the interesting and innovative role plaster models played in the work of Rodin.<sup>600</sup> Foundry plasters are however, only very briefly covered in Höcherl's publication and the Rodin literature in general.<sup>601</sup>

Not much is known on the practice of making Rodin's foundry plasters. These plasters were part of the process of casting in sand moulds, and the way the sand moulders used these plasters is akin to using a tool and were therefore adapted to the specific needs and requirements of moulders.<sup>602</sup> It is very likely the sand moulders were closely involved in making foundry plasters and that these were therefore sometimes made or adapted in the foundry. Some foundry plasters have detachable parts, although that does not necessarily imply that the resulting bronze was cast in pieces as well. The foundry plasters of the original size *Thinker* in Rodin Museum at Meudon had originally all detachable parts but the bronze versions, cast using these patterns, are all cast in one piece. Dividing a foundry model in parts would have enabled the moulder to mould complicated sculptures such as the *Thinker* with more ease, especially with regard to the fabrication of the core.<sup>603</sup>

Of the original size *Thinker* three foundry plasters are known, all preserved at the Rodin Museum at Meudon.<sup>604</sup> Of these, only one (S.3189) has not all its detachable parts glued permanently to the main figure (fig. 3.21).

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<sup>597</sup> *When the Sculptures Were White: Rodin's Work in Plaster* in Elsen 1981, 127-150.

<sup>598</sup> Le Normand-Romain 1999 & 2001b and Rodin Museum 2012 & 2014.

<sup>599</sup> This is quite understandable, considering the fact that the Rodin Museum in Paris preserves in their collection an estimated six thousand plasters. These plasters, mainly held in Meudon, are studies, models and moulds.

<sup>600</sup> Höcherl 2003

<sup>601</sup> *Ibid* 44.

<sup>602</sup> The sand moulders, who worked in a foundry should not to be confused with the plaster moulders who worked in Rodin's atelier in Meudon.

<sup>603</sup> For more details on the use of a multi-part foundry plaster, see sub-chapters; 4.2.1 *The pattern* & 4.2.4 *The core* in this thesis.

<sup>604</sup> Museum inv.no. S.2520 patinated green, S.2840 and S.3189.



Fig. 3.19. Foundry plaster S.2520 (from Tilanus 2011, 87)

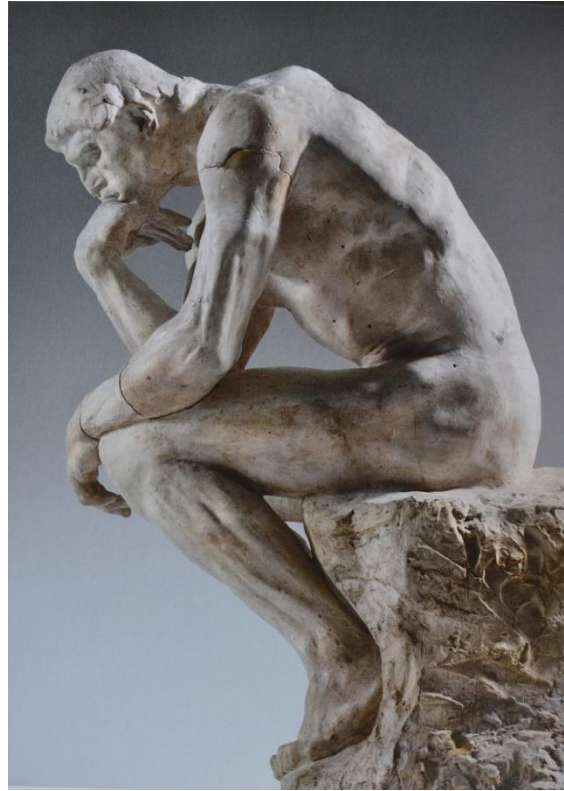


Fig. 3.20. Foundry plaster S.2840 (from Tilanus 2011, 87)



Fig. 3.2. Foundry plaster S.3189 (from Tilanus 2011, 87)

Sometimes foundry models were adapted for presentation. A prime example is the green patinated foundry plaster of the original size *Thinker* in Meudon (fig. 3.19). The detachable parts are now permanently fixed, glued in place and a surface coating has been applied, to

give the appearance of a green patinated bronze. This is probably done by applying a green lacquer on top of what appears to be a metallic layer, most likely bronze powder.<sup>605</sup>

Because of the low status given to these foundry plasters in the past, documentation enabling a precise dating of these plasters is virtually non-existent. It is known that foundry plaster S.2520 formed part of Rodin's bequest to the French state in 1916 and foundry plaster S.2840 (fig. 3.20) can be dated between 1931 and 1939. This was established for this study by comparing the foundry plaster (S.2840) with bronze *Thinkers* of known dates. Foundry plaster S.2840 has specific 'damage' to the left big toe, which is not found on the other foundry plasters (fig. 3.22). This mark consists of a groove and was probably created during the making of this plaster. This specific 'damage' was not noticed by the person who prepared the plaster and therefore not repaired.

Because a well-executed sand moulding and casting is capable of reproducing this sort of detail, a bronze cast from this plaster pattern will also display this groove and this will then act as an identifying marker for foundry plaster S.2840. Upon close inspection of the various casts of the medium size *Thinkers*, up till now only two bronze cast display this groove, the one from the Singer Museum in Laren and a bronze that appeared at auction in 2007.<sup>606</sup> The bronze in the Ordrupgård collection, just outside Copenhagen and dated to 1931, does not have this groove nor does the bronze in the Musée Cantonal des Beaux-Arts in Lausanne dated to 1939.<sup>607</sup> One can now narrow the period foundry plaster S.2840 was used, to the years 1931-39.<sup>608</sup> It is now also possible to date the Laren *Thinker* more precisely. The earliest documentation on the Laren sculpture dates from 1937 but the possibility still remained that the bronze dated from an earlier date, perhaps even from Rodin life-time. However, since the foundry plaster (S.2840) which was used to cast the Laren *Thinker*, is now dated between 1931 and 1939, we can date the Laren bronze somewhere between 1931 and 1937.

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<sup>605</sup> Patinating plaster to give the appearance of bronze is something Rodin's contemporary Barye also did. A good example is the plaster of *Charles VI effrayé dans la forêt de Mans*, 1850-1875, (Louvre inv.no. RF 1577) which is first gilded and then bronzed. (Rapport d'étude C2RMF 12197 2007) The bronzing of plasters is an earlier practice of which one can already find examples for at least as early as the mid-eighteenth century; Fulton, Moira. "John Cheere; the Eminent Statuary, His Workshop and Practice 1737-1787." *Sculpture Journal* (2003): 21-39; 36. Debonliez gives several bronzing recipes for plaster sculpture in his manual; G. Debonliez and F. Fink. *Nouveau manuel complet du bronzage des Métaux et du plâtre*. Roret, 1870): 48-56.

<sup>606</sup> Property from the estate of Laurance S. Rockefeller, Sotheby's New York, 7 November 2007, lot 7.

<sup>607</sup> Ordrupgård Museum, Charlottenlund, Denmark, cast by the A.Rudier foundry. (inv.no 305 WH); Musée Cantonal des Beaux-Arts, Lausanne, Switzerland; cast by the A. Rudier foundry. (inv.no. 000080)

<sup>608</sup> Future comparison with other casts which are securely dated between 1931-39, can possibly even further narrow the time period S.2840 was used as a pattern.



Fig. 3.22. Four proper left big toes of medium size *Thinkers*. From left to right: Ordrupgård Copenhagen 1931, foundry plaster S.2840 Rodin Museum in Paris, Laren before 1937 and Lausanne 1939. On the plaster and Laren *Thinker* is a groove discernible, which is not visible on earlier and later casts including other foundry plasters. Therefore, the period this foundry plaster was in use can be roughly placed between 1931 and 1939. (image Lausanne *Thinker* by F. Blanchetière)

Detailed comparison between different casts of the same model is a promising area of research, especially when more accurate methods are employed such as 3D deviation studies. The resolution of current 3D scans of this size sculpture is, however, not detailed enough to compare surface detail and these scans can currently only be used to draw conclusions about size and outline of the various casts such as the deviation study between various *Thinkers* in sub-chapter 6.7 of this thesis and various other papers.<sup>609</sup> It is hoped that the next generation 3D scanners with increased resolution will also allow deviation studies of surface details.

On the history of the other foundry plaster (S.3189), in the collection of the Rodin Paris, is very little information, making it difficult to attach a secure date to the plaster. According to the museum, this plaster was probably used by the Georges Rudier foundry, which was casting original size *Thinkers* for the Rodin Museum between c.1955 and c.1969. This is based on the diminished details of this plaster compared to earlier plasters.

<sup>609</sup> For Rodin sculptures: De Roos 2004

For Matisse sculptures: Boulton 2007a, 73-97.

For Leonardo da Vinci sculptures: "The Budapest Horse: A Leonardo da Vinci Puzzle at the National Gallery of Art." Washington (2009), [online] Available at: <  
[http://www.artmagazin.hu/artmagazin\\_hirek/megmeretve\\_avagy\\_lehet-e\\_a\\_lovas\\_leonardo\\_alkotasa\\_-\\_a\\_szepmuveszeti\\_muzeum\\_kisbronz\\_a\\_washingtonban.1006.html](http://www.artmagazin.hu/artmagazin_hirek/megmeretve_avagy_lehet-e_a_lovas_leonardo_alkotasa_-_a_szepmuveszeti_muzeum_kisbronz_a_washingtonban.1006.html) > [accessed 22 june 2018]

For Degas sculptures: Daphne S. Barbour and Shelley G. Sturman. "Degas The Sculptor And His Technique," *Edgar Degas Sculpture*, Suzanne Glover Lindsay, Daphne S. Barbour and Shelley G. Sturman (eds.) National Gallery of Art (2010): 35.

For Houdon sculptures: Meighan, Melissa. "Houdon's Studio Practice: Creating Multiple Versions of a Portrait Bust." *Encountering Genius: Houdon's Portraits of Benjamin Franklin*. Hinton, Jack, Melissa Meighan, and P. Andrew Lins(eds.). Philadelphia Museum of Art (2011): 65-88.



### 3.4.2 The Béziers exhibition plaster of the *Thinker*

For the original size *Thinker*, only one exhibition plaster has survived, which was sold by Rodin to the Musée des Beaux Art in Béziers in 1900 (fig. 3.23).<sup>610</sup> Conceivably, this could have been the plaster exhibited in Copenhagen in 1888 (cat.no. 491), Paris and Geneva in 1896 (cat.no. 116) or Brussels in 1899 (cat.no. 39).<sup>611</sup> It is however more likely that the Béziers plaster was made specifically by the Guiochées for the museum.



Fig. 3.23. The Béziers exhibition plaster. Musée des Beaux-Arts Hôtel Fabrégat, Béziers, (inv. no. 00:7.1.)

Several interesting features can be observed, when examining the Béziers plaster. Firstly, the plaster is very detailed compared to a bronze cast. This can be explained by the fact that this is a cast in plaster, a material capable of reproducing fine surface features in great detail. The plaster is also in relatively good condition and is not worn by repeated handling and moulding.<sup>612</sup> Rodin's sculptures have been cast over a long period and new models and moulds of a sculpture have not always been made using the original plaster or original mould. This explains why one often observes loss of detail in subsequent casts.

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<sup>610</sup> Musée des Beaux-Arts Hôtel Fabrégat inv.no. 00:7.1. This plaster, together with plasters of *The Man with the Broken Nose* and *The bust of Falguiere*, was sold by Rodin for the sum of a thousand francs to the museum through Armand Cabrol, a wine merchant from Boujan-sur-Libron near Béziers. Letter dated December 1900 from Cabrol to Rodin in the Rodin Museum archive in Paris.

<sup>611</sup> Perhaps the reason the Brussels plaster did not survive the moulding process was that the more fragile exhibition plaster from the exhibition was used in the Petermann foundry.

<sup>612</sup> The left little finger is missing and there is some damage to the edge of the base.

When comparing early casts with later casts one can also often discover new surface features such as damages or holes, dimples or wart-like details as a result of the moulding and casting in plaster.<sup>613</sup> This loss of surface detail, as a result of wear through handling and the moulding and casting process, should not be confused with the loss of surface detail caused intentionally by the practice of dipping a plaster model in liquid plaster. Dipping the plaster model in liquid plaster enabled Rodin to smoothen the surface and soften the details depending on the number of times the plaster model was dipped and the viscosity of the plaster. A quick dip in very liquid plaster would deposit only a very thin coating of plaster on the surface and could be a way to give the sculpture an evenly white, freshly cast appearance without losing too much surface detail. Multiple dipping and using fluid liquid plaster could smoothen the surface and might have enabled Rodin to visualise the appearance of the plaster model when carved in marble.<sup>614</sup> By submerging the plaster only partially, artistic effects could also be achieved, for example a veiled affect (fig. 3.24).<sup>615</sup>

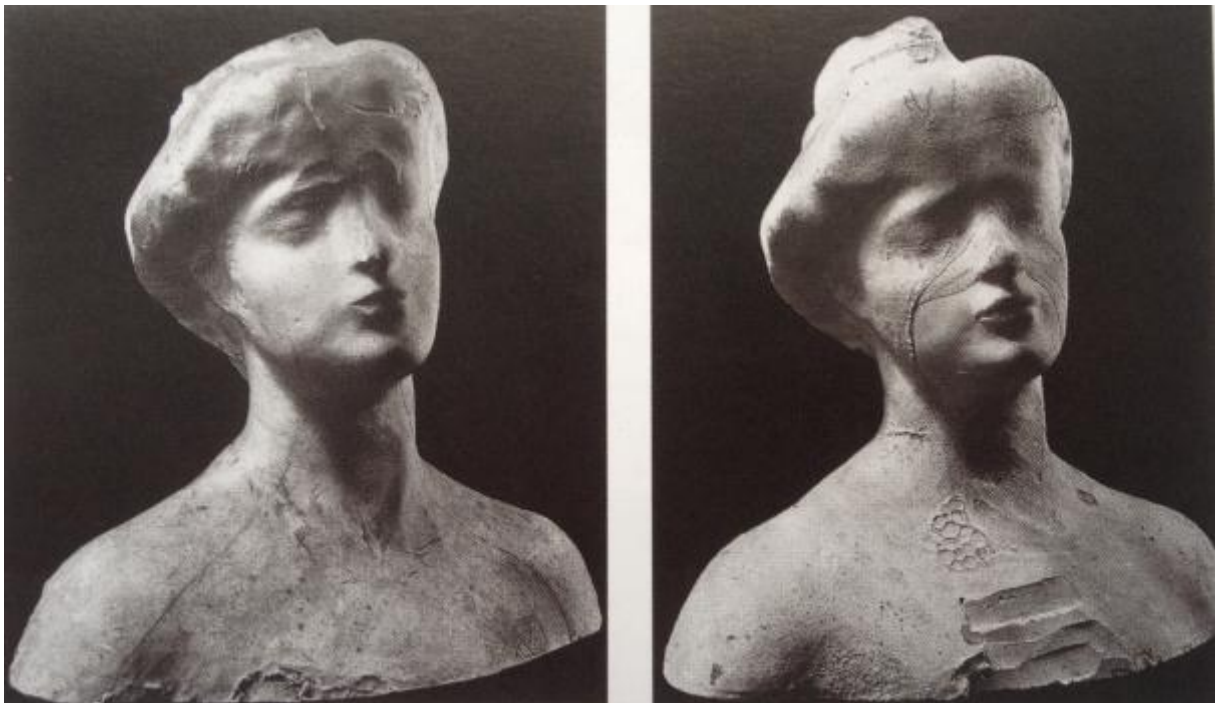


Fig. 3.24. A. Rodin, *Bust of Helene von Nostitz*, 1902?, plaster, 22 x 22 x 12 cm, Rodin Museum, Paris S.688 (left), S.689 (right) (from Elsen 2003, 28)

Another interesting feature of the exhibition plaster in Béziers is the fact that it carries Rodin's signature. This signature, which is placed on the side of the base behind the right foot, is part of the plaster cast and appears not to be applied later (fig. 3.25).<sup>616</sup> Signatures are

<sup>613</sup> For more information on this; sub-chapter 3.4.1 *The Foundry plasters for Rodin's Thinkers in the Rodin Museum, Meudon* in this thesis.

<sup>614</sup> Elsen 1981, 137-140 and Elsen 2003, 28.

<sup>615</sup> The *bust of Helen von Nostitz*, 1902(?), plaster, Rodin Museum, Paris, S.689 in Elsen 1981, 137-140 and Elsen 2003, 28.

<sup>616</sup> The intaglio signature, A Rodin, is composed of fluently incised letters typical of an inscription in a soft material such as clay or wax. In addition to this, one can observe tiny remnants of small mistakes from moulding and casting as positive material in the grooves of some of the letters, notably the R.

rarely found on foundry plasters. None of the foundry plasters of the *Thinker*, preserved at the Rodin Museum at Meudon, carries Rodin's signature.



Fig. 3.25. Signature on the Béziers exhibition plaster.

Areas where the exhibition plaster from Béziers is damaged, such as around the lower edge of the base, give an insight in how the plaster was made. The outer layer of plaster, with all the surface detail, is backed by an inner layer of plaster reinforced with natural fibres most likely straw (fig. 3.26). The process by which this plaster has been made is identical to the working methods of father and son Guioché as described earlier and in my opinion, it is very likely that the Béziers plaster was made by the Guiochés; son Eugène Guioché is known to have worked for Rodin from 1897 to 1915.<sup>617</sup>



Fig. 3.26. Detail of the Béziers exhibition plaster showing the build-up of the plaster in layers reinforced with natural fibres.

A further observation that can be made from the Béziers plaster is that the mould lines have not been removed and are still discernible. This implies that the plaster cast is 'as cast'; after the casting of the plaster the surface has not been smoothed by finishing.

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<sup>617</sup> Le Normand-Romain 2001, 33.

### 3.5 Conclusion

The creation of a new bronze sculpture is a complex and lengthy process, today, but certainly also in Rodin's time. Rodin's usual way of working was to make an initial sketch model or *esquisse* in clay followed by a clay model in final full-size. The transformation of this full-size clay model into the final bronze was a complicated process involving various steps. This is because a clay model on its own, cannot be used directly in the moulding and casting process, with sand mould casting nor with lost wax casting. The artist's soft wet clay model needed first to be converted into a more durable medium, this to ensure long term preservation of this model and to enable reproduction. This was usually done by making a plaster mould, which was subsequently used to make a plaster model. Plaster models especially made to be used in sand mould casting, called patterns, were extra sturdy to withstand the moulding process whereas plasters, whose sole purpose was to be exhibited, were executed much lighter.

This chapter discussed the making of these clay and plaster models in Rodin's atelier and suggests a new categorisation to identify and name the various types of plasters produced. As with the bronze casting process, no author has given to date a detailed description of the technical aspects of the making of these plasters in Rodin's workshop. This is most likely due to the fact that Rodin was not involved in this and thus the making of these plasters was regarded as mere reproduction and not part of the artistic process. Indeed, the principal aim of the making of plaster models was to reproduce the clay model in plaster as accurately as possible without alteration of the artist's model. However, it is impossible, using traditional mould making techniques, to make a perfect copy without any loss of surface detail, shrinkage or minor moulding mistakes. It is the occurrence of these minor imperfections that enables to make distinctions between plaster models and ultimately their derivatives, the final bronze casts. By mapping these minor deviations between models and dated bronze casts, a first attempt is made in this chapter to make a chronological sequence of certain bronze casts of the original size *Thinker*. These plasters used in the moulding process, the so-called foundry plasters or patterns, form a fascinating and previously neglected group of plaster models. The fortunate survival of most of Rodin's plaster models of the original size *Thinker* enabled detailed study that will also be covered in the next chapter.