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CHÂTEAU DE VERSAILLES  
1623 • 2023

**| THE WATER SIDEBOARD FOUNTAIN REVIVED**





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# THE WATER SIDEBOARD FOUNTAIN RESTORED

ONE OF THE TRIANON GARDENS' EMBLEMATIC FOUNTAINS BROUGHT BACK TO LIFE

Versailles, 7 June 2023  
Press release

With major restoration works that took close to 18 months now reaching an end, the Grand Trianon gardens' monumental Water Sideboard fountain has been restored to its former glory thanks to the sponsorship of the Fondation Bru, with visitors now able to admire this stone, marble, lead and gold masterpiece's water features once more. An army of gold-standard craftsmen and artisans put their expertise to work in bringing this living embodiment of Louis XIV's Versailles back to life.

## THE WATER SIDEBOARD FOUNTAIN: A TRUE MASTERPIECE

Nestled in the Grand Trianon's gardens, the Water Sideboard Fountain is an Italian-inspired fountain monument built by Jules Hardouin-Mansart in 1702, before being altered on Louis XIV's orders.

Despite a very frontal feel, this majestic monument measures 12 metres deep from the front of the basin to the back of the stonework. From the moment it was first unveiled, a series of water features cascaded down into the basin, with each different angle creating a wash of water that would then spill down into the row of white marble bowls below. Angled jets sprayed out from the four masks used to adorn the lower section and embody the winds (*Boreas, Eurus, Auster, Zephyrus*), with the glistening water enhancing the different nuances of marble.

## MAJOR RESTORATION WORKS

Over the course of its 320-year lifetime, the Water Sideboard Fountain had gradually and significantly deteriorated since its one and only restoration back in 1892. The fountain bore a number of alterations on the marble, the lead-sculpted figures, and the functionality of the water effects.

The restoration works that are now drawing to a close therefore tackled the monument's entire structure, from the lead and marble decorative elements to repairing the fountain construction itself and sealing. The campaign called on a host of traditional artisanal skills offered up by stonemasons, marble-workers, coppersmiths and founders, gilders and expert fountain craftsmen. The operations were overseen by Jacques Moulin, Head Architect of Historical Monuments.

This major heritage campaign has returned the fountain to its original splendour, just as the Sun King himself had once desired.

## A REINTRODUCTION TO THE TRIANON GARDENS

The Water Sideboard Fountain's new lease of life marks a milestone in the Palace of Versailles teams' commitment to restoring and renovating the Trianon's gardens, a campaign that has been underway for many years now. The hydraulic system naturally plays a central role in this approach: from as far back as its early days under Louis XIV, the Trianon estate has always been known as much for its water features as its beautiful flowers.

In 2020, the Trianon's hydraulic loop was therefore reinstated, allowing all the Trianon's fountains to flow simultaneously, more frequently and in a closed-loop system. Alongside this, a number of restoration works were conducted across the Grand Trianon, Petit Trianon, and Queen's Hamlet pools and basins. The result are grounds that feel as aligned as possible with the authentic 18th-century aesthetic.

**The Fondation Bru sponsored restoration works on the Water Sideboard Fountain and rebuilding work for the Trianon gardens' hydraulic loop, as well as the marble parterres that were set up as a pop-up feature by the Grand Trianon gardeners for Summer 2023.**







## "A WORLD BURSTING WITH COLOUR, GOLD AND SHIMMERING WATER"

Each and every restoration is unique. But this one truly was one-of-a-kind. The Water Sideboard Fountain spent a long time shuffled down the priority list, as if somewhat forgotten there at the end of one of the Grand Trianon's alleys, as if subconsciously relegated to the backbench. As Latona continued to appeal to the skies, the frogs in her basin showed the signs of passing time at the corners of their mouths, as did the figures on Apollo's chariot on the other side of the endless green.

Far from visitors' admiring eyes, the Water Sideboard Fountain had been laid down to rest, lost amidst the leaves like a sleeping beauty. The marble was dull and stripped of its lustre. The sculptures' gilding had faded into distant memory. The fountain's many water features had long fallen silent. Once a Mansart masterpiece commissioned by Louis XIV as the crown jewel at the far end of his much-loved Grand Trianon, the monument had become nothing more than a ghostly shadow of its once striking self. Unlike the other fountains dotted around it, it didn't catch the eye or pique curiosity. Isolated and alone, it continued to exist, but our team and the fountain engineers knew that its days were counted. It is moving to imagine it as simply exhausted by the many long years — 130, to be precise. Deemed outdated by Louis XVI, the fountain was merely consolidated when Napoleon launched restorations on the Trianon estate in 1892. Until now.

It took Nicole Bru stopping to linger over it for us to finally take stock of how dangerous this neglect had truly been. Because yes, it was her interest in the fountain that set the wheels in motion, above and beyond her generosity. Madame Bru instantly saw that the Water Sideboard Fountain slipping into the shadows created a sense of imbalance in the Trianon gardens, depriving the grounds of a gem that might single-handedly embody all the joys and wonders of the Versailles estate.

As Head Architect of Historical Monuments Jacques Moulin puts it, to restore is to see the history we think we know all too well in a whole new light. The restoration coaxed out a world bursting with colour, gold and shimmering water. We suspected we might be treated to subtly placed marble in red and white. But we hadn't foreseen how the lions Neptune and Amphitrite would be whisked away greying and wounded to the Fondation de Coubertin, only to emerge regilded and dazzling, standing proud at the end of the alley on the edges of the grounds, just as Mansart had planned. With the Fondation Bru's sponsorship and the Trianon's hydraulic loop restored, Latona once again reigns supreme over free-flowing waters at Versailles, in a triumph of the Versailles fountain experts' singular craftsmanship in recreating the complexity of how the shimmering waters interact with the marble features.

Bringing the Water Sideboard Fountain back to life called on each individual's inventiveness, and especially the gardeners' imaginations. This year, the parterres leading in to the Grand Trianon will be bursting with colourful flowers intended to represent the different shades of marble, a full-bloom starting point for a walk that leads visitors along little-known spots such as the Four Nymphs parterre and basin.

To mark 400 years since work first began on the Palace of Versailles, a new wander through the gardens unfolds for visitors to enjoy, with the glowing gold of the Water Sideboard Fountain glistening in the distance and guiding their path, just as it once would have done.

**Catherine Pégard**

President of the Public  
Establishment of the Palace, the Museum and National Estate of Versailles













PART 1

# A GRAND TRIANON LEGEND



## THE GRAND TRIANON AND ITS GARDENS UNDER LOUIS XIV

From the 17<sup>th</sup> century on, the Trianon estate was refurbished into a country home designed to feel cosy yet luxurious, a haven of pleasure and relaxation at the sovereigns' disposal. This is where they would stay with family and select guests, withdrawing from duties of etiquette and the demands of power.

### AN ESTATE AMIDST THE COUNTRYSIDE

The story of the estate stretches back to 1668, when Louis XIV decided to buy and raze the small medieval village that neighboured the royal estate: Trianon. Located just under a mile away from Versailles and directly across from the Menagerie (the Grand Canal didn't yet exist at the point), a small château was built here to the north of the estate. Designed by Louis Le Vau, the "Porcelain Trianon" was entirely clad in white and blue faïence and multicoloured sculptures.

The site's charm lay in its gardens, luxuriant spaces that earned the building the nickname "the Floral Palace", a kingdom where flowers reigned supreme designed by Michel III Le Bouteux. The gardener poured heart and soul into creating a luscious, ever-blooming garden bursting with rare, colourful, incredibly fragrant flowers. He had flowers shipped in from across France and further afield (Dutch tulips, Spanish jasmine), and combined royal lilies, thousands of tuberose, daffodils, anemones, cyclamens and hyacinths in a profusion of blues, whites and reds: the colours of the King and the Virgin.

The crown jewel was nevertheless the orange trees planted in open ground, that required covering with glass come winter. Two galleries of trellises framed the garden, with one leading to the "cabinet of perfumes", a small outhouse where floral fragrances could be enjoyed.

### THE TRIANON'S SECOND CHÂTEAU



*Vue des parterres du Trianon de marbre avec Zéphyr et Flore endormie, Jean Cotelle, oil on canvas  
Palace of Versailles  
© Palace of Versailles, Dist. RMN © T. Garnier*

In 1687, Louis XIV had another, larger château made: the "Marble Trianon", today's Grand Trianon. Built by Jules Hardouin-Mansart, this Italian-style palace unfurled in a series of gold and pink wings, with a peristyle by Robert de Cotte connecting the courtyard to the gardens and ensuring the château blended seamlessly in with the surrounding nature.

Freshly tasked with working on the Trianon, André Le Nôtre didn't make too many structural changes to the gardens. Tens of thousands of perennials and tuberose thrived here in a colorful, perfumed profusion of blossoms that accentuated the flawless architecture, designed to open out onto the gardens. Thousands of flowers carpeted the upper parterre leading down from the peristyle, while trellises of tumbling jasmine framed the lower parterre and rows of orange trees stood guard on the left.

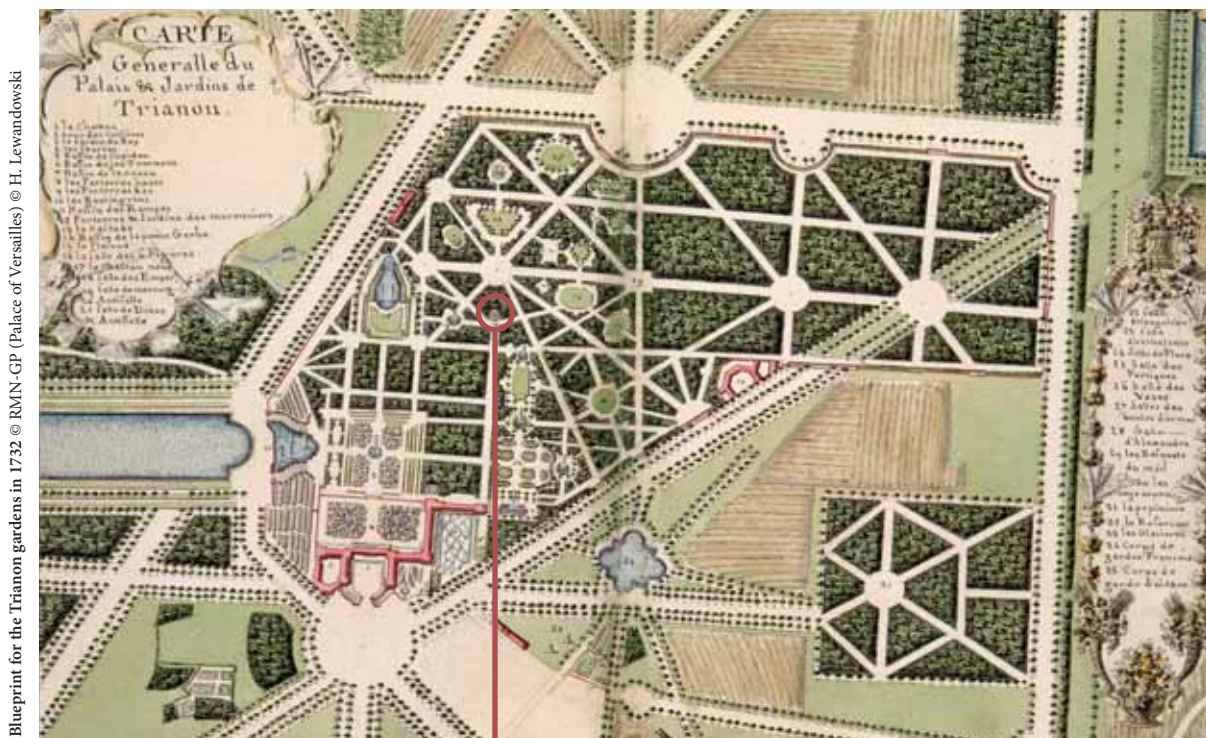
Several basins that still exist today were built in the gardens: the Plat-Fond Basin at the end of the perspective, a rectangular basin running along the Trianon-sous-Bois wing, and the Bassin du Trèfle. Finally, near the entrance to the château, a special garden – now known as the King's Garden – was home to the most delicate and remarkable scented flowers.



## WHERE WATER AND SCULPTURE MEET

At the dawning of the 18<sup>th</sup> century, it was Jules Hardouin-Mansart's turn to unleash his creativity on the Grand Trianon's fountains and gardens. From the late 17<sup>th</sup> century on, he had been appointed head gardener at Versailles, with Le Nôtre's Baroque-flavoured landscaping no longer in vogue.

Mansart's new designs laid out plans for creating the *Salles Vertes*, the Grand Trianon's groves: structured green spaces stretching either side of a long path running north to south, and intended as intimate nooks. The basins' decorative elements were readjusted for balance, with some of the sculptures moved from Versailles' gardens to the Grand Trianon, where they had been lacking. The reflecting pools and water jets embody the Trianon's full diversity of water features, and were representative of a new approach to gardens as places studded with precious artworks. The three basins at the upper and lower parterres – one at the far end of Trianon-sous-Bois and the Water Sideboard Fountain – are made from a similar pink marble to that used on the building's pilasters, and create a sense of harmonious balance between the palace and its surroundings.



Blueprint for the Trianon gardens in 1732 © RMN-GP (Palace of Versailles) © H. Lewandowski



The Cascade,  
or Water Sideboard Fountain, in 1732



# THE WATER SIDEBOARD FOUNTAIN: A SYMBOL OF THE SUN KING'S VERSAILLES

## A FOUNTAIN FIT FOR A KING

In 1682, Louis XIV commissioned fountains for both ends of the path that carved out the northern border of the Porcelain Trianon's gardens. These fountains were shaped like staggered waterfalls covered in faïence tiles, and featured gilded or painted bowls to match the décor at the small leisure palace.

When the Marble Trianon was built in 1687, one of its pavilions was arranged facing the same path. One of the fountains that had its back to the new château at the time was removed, and replaced with a much showier building by Jules Hardouin-Mansart. To fit seamlessly in with the new château, the building was designed as a Water Sideboard Fountain clad in red and white marble.

Delivered in 1702, the fountain was not exactly to Louis XIV's taste, with the monarch ordering its décor be transformed. The king had the dragons on the top level replaced with lions, made changes to the central spillway, and added a few violet Breche marble panels to the tiers. The sculptures were gilded, too.

In 1703, the fountain was finally complete, with the appearance it still enjoys today locked down. This was to be the gateway to the Trianon estate's Salles Vertes rooms.



Promenade de Louis XIV au Grand Trianon, Charles Châtelain, 1713, oil on canvas  
© RMN (Palace of Versailles)/D. Arnaudet

## A MONUMENTAL STRUCTURE

Despite a very frontal feel, this majestic monument measures 12 metres deep from the front of the basin to the back of the stonework.

The Water Sideboard Fountain is staggered in three main tiers covered in marble ranging from vibrant Languedoc and Campan Royal red to immaculate white in the Carrara marble used for the bowls and ornaments.

The fountain is home to particularly refined gilded lead figures, with *Neptune* and *Amphitrite* reigning over the whole as they hold up a central urn, flanked by two lions and four young tritons cavorting beneath the bowls. Bas reliefs depicting sea gods and wreaths decorate the lower levels.

From the moment it was first unveiled, a series of water features cascaded down into the basin, the water streaming down from the top urn to the lower levels. Each tier would create a wash of water that would then spill down into the row of white marble bowls below. Angled jets sprayed out from the four masks used to adorn the lower section and embody the winds (*Boreas*, *Eurus*, *Auster*, *Zephyrus*).

Some of these works' sculptors are specifically mentioned in the royal accounts, which allows us to attribute *Neptune* and *Amphitrite* to Corneille Van Clève, and the bas-reliefs on the second tier to Louis Garnier. We also know that Simon Mazière, Robert Le Lorrain and Jean-Louis Lemoyne contributed to the décor, although the precise nature of their work is unknown.

When the fountain was activated, the different nuances of marble were enhanced by the glistening water playing over their surfaces.





The Water Sideboard Fountain prior to restoration © Palace of Versailles, T. Garnier



1.



2.



3.

1. *Neptune and Amphitrite* prior to restoration © Palace of Versailles, C. Millet / 2. Central bas-relief on the Water Sideboard Fountain prior to restoration © RMN-Grand Palais (Palace of Versailles) G. Blot / 3. Mask depicting one of the winds, lower tier of the basin, prior to restoration © Palace of Versailles, T. Garnier



**THE FOUR  
NYMPHS  
PARTERRE**  
(prior to  
restoration)

**BASSIN  
CARRÉ**

**GRAND  
TRIANON**

**HORSESHOE  
FOUNTAIN**



**FAR NORTHERN  
END OF THE  
GRAND CANAL**

**WATER  
SIDEBOARD  
FOUNTAIN**  
(prior to  
restoration)

**PLAT-FOND  
BASIN**

Left-hand page: Aerial view of the Grand Trianon and its gardens © Palace of Versailles, T. Garnier  
Right-hand page: The Water Sideboard Fountain seen from above, prior to restoration © Palace of Versailles, T. Garnier













PART 2

# RESTORING THE WATER SIDEBOARD FOUNTAIN



# AN EMERGENCY RESTORATION

## RESTORATION TIMELINE

A symbol of Louis XIV's Trianon, by the time Louis XVI came to the throne the Water Sideboard Fountain was already out of fashion and in very poor shape.

*[...] This cascade is a poor breed of architecture, and were it not to exist, it ought not be made...*

The Count of Angiviller, managing director of the King's buildings, writing in a letter dated 28 September 1776.

*[...] The second point I observed is that the cascade is falling into ruin on all sides, and might only be reestablished were it to be taken apart from the bottom up to be rebuilt as new. [...] In its current state, it cannot have long to subsist...*

Jean-François Heurtier, architect, writing to the Count of Angiviller, managing director of the King's buildings, in a letter dated 4 November 1776.

A series of plans — all abandoned — were mapped out to move and rebuild the fountain elsewhere in the Grand Trianon's gardens, yet Richard Mique kept it in place upon overhauling the spaces in 1776, although he didn't have it restored.

After the Revolution, in 1808 Napoleon I made the Trianon his country home. A handful of changes were carried out in the garden, particularly around the Water Sideboard Fountain: the plot was whittled down by an alley that was carved out on the other side, and by the esplanade at the front being slimmed down.

**In 1812, the Emperor's architect Guillaume Trepsat began planning the very first restoration campaign** for the fountain as part of wider plans to restore the Grand Trianon's basins. A quote was drawn up for inside-out restoration works on the Water Sideboard Fountain, to include the marble work, plumbing, paintwork, stone masonry and metalsmithing. Ultimately, just one operation took place to consolidate the feature's foundations: strapping the external structure around the basin with staples and iron bars, and consolidating the framework on the decorative lead elements.

**In 1892, head architect Marcel Lambert kickstarted the first major restoration campaign for the Water Sideboard Fountain** two centuries after it was first created by Hardouin-Mansart. The stonework was consolidated, and the marble was removed and restored, as were the lead ornamental elements, which were sometimes recast and gilded afresh. Works were also rolled out to tackle the sealing on the basin. Trepsat's metallic strapping was removed, without the fountain's foundations being consolidated. This was the last big campaign to restore the Water Sideboard Fountain until today.



The Water Sideboard Fountain in 1930 © Palace of Versailles, Dist. RMN © C. Fournier

**In the 20<sup>th</sup> century**, the fountain and its decorative elements began gradually disintegrating. In 1955, nine years after 1946's general works were abandoned, the central bas-relief had to be restored.

In the 1970s, several lead ornamental elements disappeared and one of Neptune's legs was smashed, most probably by a fallen tree. A web of fractures began spreading on the other figures, too. The marble continued to oxidise and blacken, and the basin was no longer watertight.

In 1999, Storm Lothar ravaged the flora in the Grand Trianon's gardens, the place the Water Sideboard Fountain called home.



The Grand Trianon's gardens © Palace of Versailles, JM Mansat



**From 2011 on**, the head architect of Versailles' gardens Pierre-André Lablaude conducted a preliminary survey with a view to drawing up a precise inventory of the Water Sideboard Fountain and its worrying condition.

**In 2019**, the survey was picked back up by Jacques Moulin, Head Architect of Historical Monuments appointed to the gardens since 2012. What the survey revealed was alarming indeed: the fountain was on the brink of destruction. The feature's structure was unstable and cracked, the marble was crumbling away from the walls, the various basins were no longer watertight, and as a result there was major leakage occurring in its stonework. The lead sculptures also needed work.



The Water Sideboard Fountain prior to restoration in 2009 © RMN-Grand Palais (Palace of Versailles), G. Blot

## **2023: THE WATER SIDEBOARD FOUNTAIN REVIVED**

Over 300 years after the fountain first saw the day, and 120 years after the last set of works, the Water Sideboard Fountain restoration campaign kicked off in 2022 in an initiative sponsored by the Fondation Bru.

The fountain's structural stability problems that had been highlighted as early as the 19<sup>th</sup> century were still a concern, and now the fountain also needed restoration work in its marble, lead decorative elements and infrastructure.

This restoration was driven by a stable of gold-standard craftsmen and expert artisans, ranging from stonemasons, marble-workers and coppersmiths to founders, gilders and fountain engineers. Working side by side in their workshops and on site, they were powered by a sense of synergy, collaborating in a spirit of mutual assistance and support. The way the fountain is built meant that from time to time certain works by specific professionals needed to be carried out before the next team could set about their craft, and some steps required experts to work simultaneously.

Laying down the marble cladding, say, could only begin once the lead sealing plates had been set down.

The decorative elements on the upper levels are another example of this: pieces designed to support the spouts, which could only be refitted at the same time as the work carried out by the sculpture, marble and fountain restorers.



# | NOTES FROM THE WORKSITE

## TO-DO LIST

Considering the fountain's architecture and the various tasks that needed to be rolled out, the Water Sideboard Fountain was restored in the following order:

- Lead ornamental elements and figures removed to be restored in the workshops.
- Lead sealing plates removed.
- Cladding marble taken down to be restored.
- The fountain's stonework superstructures consolidated, with unstable sections taken down and reassembled with the damaged stone replaced and tie rods added.
- Foundations reinforced via expansive resin injection.
- Restored marble put back in place.
- New lead plates used to seal the fountain and ensure water-tightness, and fountain plumbing elements returned to the structure (lead piping, jet nozzles, valves, etc.).
- Decorative lead elements restored and gilded in the workshops and put back in place.

## CONTRACTOR

Jacques Moulin, Head Architect of Historical Monuments, 2BDM agency

## CONTRACTING BODY

Department of Heritage and Gardens at the Palace of Versailles.

## ON-SITE EXPERTISE

### - Stonework & masonry:

DUBOCQ

### - Injection ground consolidation:

URETEK

### - Antique marble restoration:

Group: H.CHEVALIER / SOGRA

### - Lead sculpture restoration:

FONDERIE DE COUBERTIN

### - Gilding:

ATELIERS GOHARD

### - Fountain engineering:

The Palace of Versailles' water and fountains team, Heritage and Gardens department.



Removing the lead ornaments © Palace of Versailles, J. Camus



Setting up a bridge crane © Palace of Versailles, T. Garnier



Restoring the lead ornaments © Palace of Versailles, S. Giles



Cutting back the lead for the lining on the lower basin © Palace of Versailles, D. Saulnier





Returning the cladding marble and restored bowls  
© Palace of Versailles, D. Saulnier



Casting the lead © Palace of Versailles, S. Giles



Applying gold leaf to the restored Neptune statue  
© Palace of Versailles, S. Giles



Adjusting the lead piping on the back of the structure  
© Palace of Versailles, D. Saulnier



Refitting the restored lead ornaments © Palace of Versailles, D. Saulnier



The Water Sideboard Fountain after restoration © Palace of Versailles, T. Garnier



# UNDERLYING STRUCTURE: GROUNDWORK AND STONEMWORK

## CONSOLIDATING THE BEARINGS

In 2011, a structural survey and tests were carried out to assess ground quality and type. The diagnostics were complete in 2021, with the recommendations advising the ground bearing be improved via controlled expansive resin injections across the fountain's entire foundations.

Resin injections beneath the Water Sideboard Fountain's stonework © Palace of Versailles, D. Saulnier



Additional geotechnical investigations also allowed the teams to pinpoint the exact right injection conditions needed (mapping out injection points, target depths, injection pressure levels, etc.). Tests and checks were carried out before, during and after injection using sensors. This meant that further injections could be rolled out in order to reach the set bearing levels.



Work in progress to restore the Water Sideboard Fountain © Palace of Versailles, S. Giles

Fractured and damaged stone was replaced, and the stone that was kept was consolidated by purging the joints and old fasteners and metallic parts, replacing and recalibrating the arch stones on the vaulted ceilings and laying down a sealing glaze, taking down and putting back up the stonework to support the bowls, repointing and filling, limewash grouting, and cleaning the stone cladding.

The fountain's structure was also reinforced by adding tie rods.

## THE STONEMWORK

The cut stone (vaulted ceilings on the internal galleries, the back wall) showed signs of collapse and shifting in the stonework, which called for consolidation, reworking, and reinforcement in the superstructure stonework.

A lack of thickness in the materials over the internal galleries' vaulted ceilings (around 0.30 to 0.60 m, depending on the level) and the need to remove the cladding marble to restore it meant that the masonry could be carried out from the outside, by taking down some of the cut stone.



Tie rod on the back of the Water Sideboard Fountain's stonework and sensor to monitor stability in the fountain and its foundations © Palace of Versailles, D. Saulnier



## THE LOWER BASIN



The Water Sideboard Fountain's lower basin has retained its traditional brick apron (bottom of the basin) rendered watertight by lead plates. Considering the structural damage present on this section of the fountain, this was disassembled and reassembled identically after the restoration.

Once the basin's copings and the lead plates had been removed, the apron's brick parts were lifted away. Next, a new brick floor screed was laid down. The restored apron was fitted back in, with overly damaged sections replaced.

Versailles' fountain engineers then laid down watertight lead plate sealing to match the original. Finally, the basin's support wall was reworked before the the marble copings were laid down.



Work in progress to restore the Water Sideboard Fountain, stonework at the back of the fountain © Palace of Versailles, D. Saulnier



## MARBLE: CLADDING AND BOWLS

All the fountain's marble elements — panels, plinths, cornices, copings, blocks and bowls — were removed and restored in the workshops. A detailed inventory and precise survey of the condition they were in were carried out beforehand.

Before removing the most damaged elements (fractures, significant cracks, crumbling, etc.), consolidation work was carried out.

The metallic fasteners were carefully extracted from the supportive stonework pieces and tests done ahead of time allowed teams to pinpoint the exact right method for removing them.

The restoration work was completed in the following stages:

- Extracting the metallic parts.
- Pre-consolidation and consolidation processes.
- Repairs with glass fibre stay bolts, special glues, etc.
- Filling using different filler/binder mixes depending on the type of marble.
- Cleaning and applying a fine, gentle treatment.
- Final application of microcrystalline wax.

For replacing some of the missing or severely damaged parts with brand-new replacements, and for some of the grafts (primarily Campan marble and violet Brèche marble), teams contacted specialist suppliers to source equivalent materials (in terms of type, shades, veining, depth, etc.).



Marble decorative components on the Water Sideboard Fountain after restoration, before the gilded lead ornaments were replaced © Palace of Versailles, D. Saulnier



The cladding marble was fully reassembled once all the structural work on the fountain was complete, and once the blocking mortar had been added, as was the case for the restoration works on the Latona Fountain.



Filling blockouts between the stonework structure and cladding marble after fixing the fasteners © Palace of Versailles, D. Saulnier



Limewash grouting between the stone and marble © Palace of Versailles, D. Saulnier

For these works, the craftsmen proceeded level by level, working their way from the lowest tier up to the top of the fountain. The cladding marble was fixed in place with stainless steel parts anchored into the fountain's stonework.



Refitting the central marble bowl © Palace of Versailles, D. Saulnier



Marble back in place after restoration © Palace of Versailles, D. Saulnier



# | LEAD FIGURES AND ORNAMENTAL ELEMENTS

## RESTORING THE LEAD FIGURES

Once the basin's lead ornamental elements were removed, they were transferred to the restoration workshops. The first step involved work on the figures' internal framework and checking the state of the lead lining. Once these surveys were complete, additional parts and replacements were made. Overly damaged elements were removed and new stainless steel frameworks were put in.

Missing pieces and parts were then remade, such as the lion's forelock, the bouquet of rushes, and the end bases of the side scrolls. These processes were conducted in line with traditional lead sculpture techniques, from the outlining and clay moulds to the casting, chasing and more.

Some one-off restorations of antique elements were also carried out, filling in cracks, holes and stamped parts, with a chasing finish.

As part of this process, grime, dirt and metallic oxidisation were eliminated. The surfaces were cleaned and degreased, too.

Significant work was also undertaken on Neptune's leg, which had wilted, probably as a result of a tree falling on the statue. Once it had been diagnosed, it was decided a new leg would be made, onto which parts of the original leg in good condition (such as the toes) would be grafted. Once the sketches and clay test models had been made, a mould was produced and a lead cast made to create a new leg. This was then welded back onto Neptune's body, before the old parts were grafted on.

## GILDING

The final treatment on the superficial layers of the lead ornamental elements and figures was carried out in line with the original vision, as laid out in the archive documents:

***That same day, 23 June 1702, His Majesty ordered all lead ornaments and figures on said cascade be gilded.***

Registry of Louis XIV's orders to Mansart, 1699 to 1702.

On the Water Sideboard Fountain, the gilded lead parts contrast particularly harmoniously with the shimmering colours of the marble and the translucent effects of the water, further elevating the fountain's overall beauty.

The lead ornamental elements and figures were gilded in step with traditional gold leaf technique (complete with multiple layers of primer and paste), applying the same patina used by gilder and painter Jacques Bailly in Louis XIV's day.

This gilded patina aspect will be further accentuated by the effects of the water and iron oxide deposits (from the old cast iron piping network), as was observed on the gilding on the lead figures at Versailles' various basins and fountains (the Enceladus Grove, the Latona Fountain, the Bassin des Enfants Dorés).



© EPV



© Palace of Versailles, S. Giles



© Palace of Versailles, T. Garnier

## NEPTUNE'S LEG



Neptune prior to restoration © Palace of Versailles, D. Saulnier



Close-up of Neptune's leg prior to restoration © Palace of Versailles, D. Saulnier



Making a sculpted clay prototype  
© Fonderie Coubertin © Maltyphotographe.com



Making the mould for the lead casting  
© Palace of Versailles, S. Giles



Lead casting © Palace of Versailles, D. Saulnier



Shaping the new leg  
© Palace of Versailles, T. Garnier



Assembling Neptune's leg prior to welding  
© Palace of Versailles, T. Garnier



Applying gold leaf to the restored Neptune statue  
© Palace of Versailles, S. Giles



## | FOUNTAIN ENGINEERING

All the fountain engineering for the Water Sideboard Fountain restoration campaign was carried out by the Palace of Versailles' water and fountains team,

whose work spanned everything from recreating the missing sealing across all tiers, to bringing the water effects back to life.



© Palace of Versailles, D. Saulnier

### SEALING THE TIERS

Prior to the restoration, the Water Sideboard Fountain was not watertight:

- In the lower basin, the cracked lead stretched all the way along the marble walls, allowing water to leak out at the back.
- On the upper tiers, a cement screed had replaced the lead, and was uneven and cracked.

10 tonnes of lead were delivered to the site in rolls measuring 3 to 5 mm thick and ready to fit.

The fountain engineers measured out the geometry and shapes of each tier and bowl, and set about crafting the wood jigs. They then cut out each custom-fitted sheet of lead one by one with scissors, before positioning, assembling, and welding them.

The sheet lead was then hammered with a mallet to lie perfectly over the supportive stonework.



© Palace of Versailles, D. Saulnier

The sheet metal was then welded via ladle soldering (mix of lead and tin) and autogenous soldering (lead only).



© Palace of Versailles, D. Saulnier

For the edges of the tiers and bowls, the lead plates were dropped complete with careful matting applied depending on each piece's profile, thereby ensuring the water would run in even flows.



© Palace of Versailles, G. Bultez

## LEAD AND MARBLE: IMPROVING THE FOUNTAIN'S WATER-TIGHTNESS



© Palace of Versailles, D. Saulnier

The lead sheets were set up and blocked by the marble down the lengths of the basin's stone walls, inserted beneath in a cleared blockout known as a cut joint (see photo on the left).

This technique was used to set the sheets in place and

prevent them from warping while ensuring the tier remains watertight.



© Palace of Versailles, D. Saulnier

The photo above shows the two systems used to fit the lead. The old system, with an old lead plate resting on and supported by the marble (right), and the new system, with the lead wedged under the marble (left).

## RESTORING THE WATER EFFECTS

The first step involved resizing the lead pipes and reshaping the calibration taps and nozzles.

Each tier is designed to offer up a gorgeous wash of clear, translucent water through which the marble and the chased, gilt lead decorative elements can be glimpsed:

- The water effects pouring out of Neptune and Amphitrite are intended to represent the abundance and riches of the oceans, and to have a moderate flow in order to fill the first tier and create a wash of water without disturbing it.
- The jets of water at the two bowls and the four jets on the intermediary tier produce stunning sprays of straight-flowing water.
- The four mascarons spray water into the basin in abundant streams, resulting in a fine, crystal-clear effect.



© Palace of Versailles, G. Bultez

To restore the water features and their effects, new calibration taps were designed and made in the foundry, with the fountain engineers:

- Restoring the 19th-century cast iron water pipe.
- Shaping the jet nozzles in the workshops using raw bronze cylinders.
- Bending the lead pipes to connect them to the taps and jet nozzles via traditional grooved ladle soldering.

Thanks to the fountain engineers' efforts, the Water Sideboard Fountain water effects so admired by Louis XIV were returned to their former glory.



© Palace of Versailles, D. Saulnier











Double-spread overleaf: The Water Sideboard Fountain after restoration © Palace of Versailles,  
T. Garnier  
Above: Plat-Fond Basin, close-up © Palace of Versailles, T. Garnier







PART 3

# A REINTRODUCTION TO THE TRIANON GARDENS



## | BRINGING THE TRIANON'S WATER FEATURES BACK TO LIFE

Ever since they were first developed under Louis XIV, the Trianon's gardens were known as much for their beautiful flowers as for their basins and water features.

For many years now, the Public Establishment of the Palace of Versailles has been spearheading a restoration and redevelopment policy for these gardens with a view to returning them to their original state, as planned by Richard Mique, in which they were fully replanted under Louis XVI from 1776 to 1779.

The Trianon garden teams from the water and fountains units, the major works unit, and the entire heritage and gardens department, are working to achieve this with Jacques Moulin and Pierre Bortolussi, Head Architects of Historical Monuments appointed to the gardens. The hydraulic system naturally plays a central role in this overarching vision.

### 2020: SETTING UP THE HYDRAULIC LOOP SYSTEM

Originally, only the Bassin du Trèfle watered the Trianon fountains. This system had been designed to slot into the garden's original layouts, with the estate's water needs (fountains and irrigation across the grounds) gradually increased over time with each new overhaul (under Louis XV and Louis XVI, notably). A second water supply system — now cut — had been set up, with an aqueduct built to harvest the Rocquencourt waters.

Ever since the 1950s, the water flowing out of the gravity-fed basins had been intercepted by a sanitation network managed by an external company, which meant that the basins and fountains were limited to only springing forth a handful of days a year.

**The hydraulic loop set up in 2020 and sponsored by the Fondation Bru** now allows this excess water to be collected at the Plat-Fond Basin's peripheral reservoir, and is then channelled towards the northern arm of the Grand Canal, where a pumping station funnels it back up to the Bassin du Trèfle. Creating this hydraulic loop system and restoring the underground galleries and stonework has breathed new life into the spectacular water effects in the Trianon's fountains and basins, with no water wasted.

### RESTORING THE TRIANON'S BASINS AND FOUNTAINS

For water to flow freely throughout the Trianon estate, restoration works on the basins and water features were gradually rolled out around the Grand and Petit Trianon.

At the Grand Trianon, **the Bassin Carré**, one of the rare few basins to have retained its old structure (stone slab bottom, lead plate sealing and red Languedoc marble copings), was refurbished. Work to restore the nearby **Water Sideboard Fountain** was a further step in this process.



The Grand Trianon gardens  
© Palace of Versailles, T. Garnier

At the Petit Trianon, the Palace of Versailles' teams have spent many years working on restoring the **water features in the small waterfalls, grottos and river**. The shores of the **lake at the Hamlet** had deteriorated and were also restored, as was the **Mill run**.

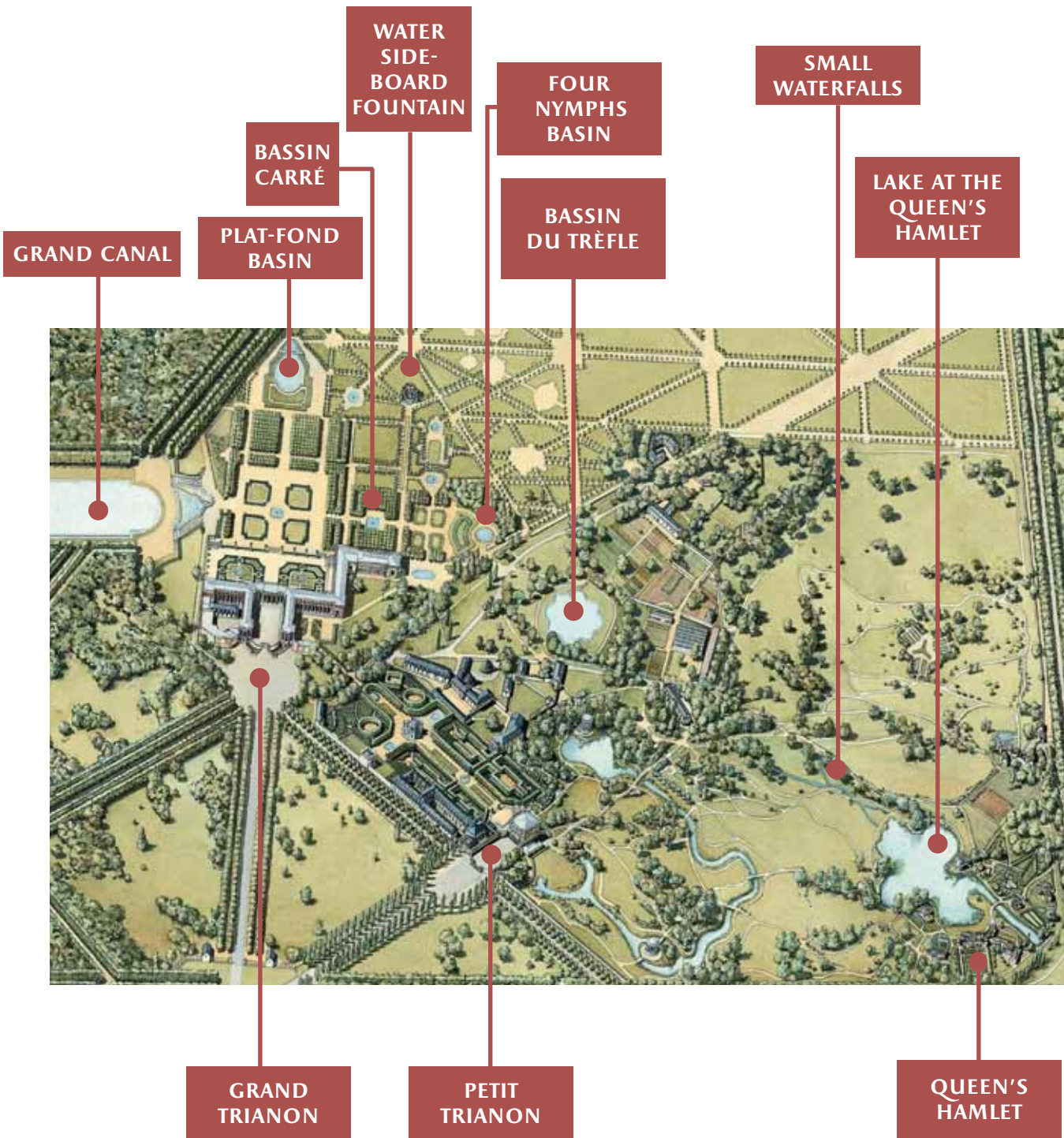
**Redeveloping the lake shores and the dredging, as well as restoring the small waterfalls was all made possible thanks to the support of the Fondation Malatier-Jacquet, under the aegis of the Fondation de France.**

These interventions paved the way for offering visitors today a better overall impression of the estate, as it would have appeared in the late 18<sup>th</sup> century.



The Queen's Hamlet after restoration  
© Palace of Versailles, T. Garnier







## THE FOUR NYMPHS PARTERRE RESTORED

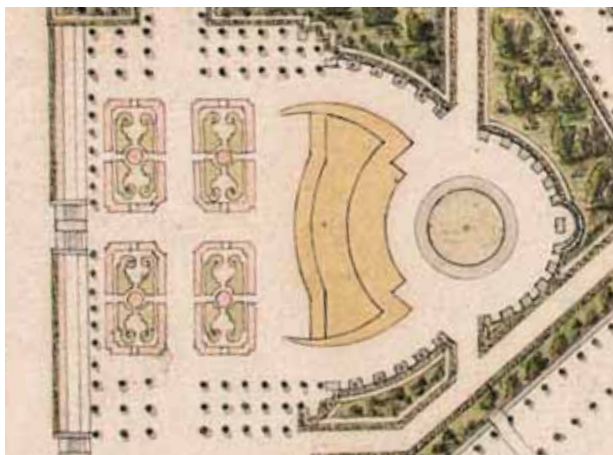
**On the way to the Water Sideboard Fountain, right near the Trianon-sous-Bois wing, lies the Four Nymphs parterre, which runs alongside the basin of the same name and has just been reimaged by the Trianon's gardeners to align with Richard Mique's late-18th-century layout.**

When the gardens were replanted in full from 1776 to 1779 under Louis XVI's reign, Richard Mique set about remapping the Trianon gardens, choosing specifically to redesign the parterres to make upkeep easier, prioritising lawns over flowerbeds at times. This was the case with this four-section parterre that has now been returned to its original pattern thanks to plans dated 1804 that were recently found in the Bibliothèque Historique de la Ville de Paris library. These works were overseen by Jacques Moulin, Head Architect of Historical Monuments.

Framed by borders of box trees, the four compartments unfold in sweeping scrolls that radiate around large central discs.



The Four Nymphs parterre prior to restoration © Palace of Versailles, T. Garnier



Close-up of the 1804 plans showing the outline for the Four Nymphs parterre © D.R.

In order to replicate this design, the Trianon's gardeners had to overcome challenges linked to the many different slopes here, which prevented them from using traditional plotting techniques.

With this in mind, they had students from Rouen's Lycée Professionnel Fernand Léger create wood jigs on the right scale to project the lawn patterns onto the ground. Slats were then laid down to contain the soil and grass. Last but not least, annuals (including cosmos, sage, agastache, rudbeckia and coreopsis) were planted this spring, and will see the parterres blossom in a profusion of red-heavy warm tones.

**Parterre restored with the support of Van Cleef & Arpels**

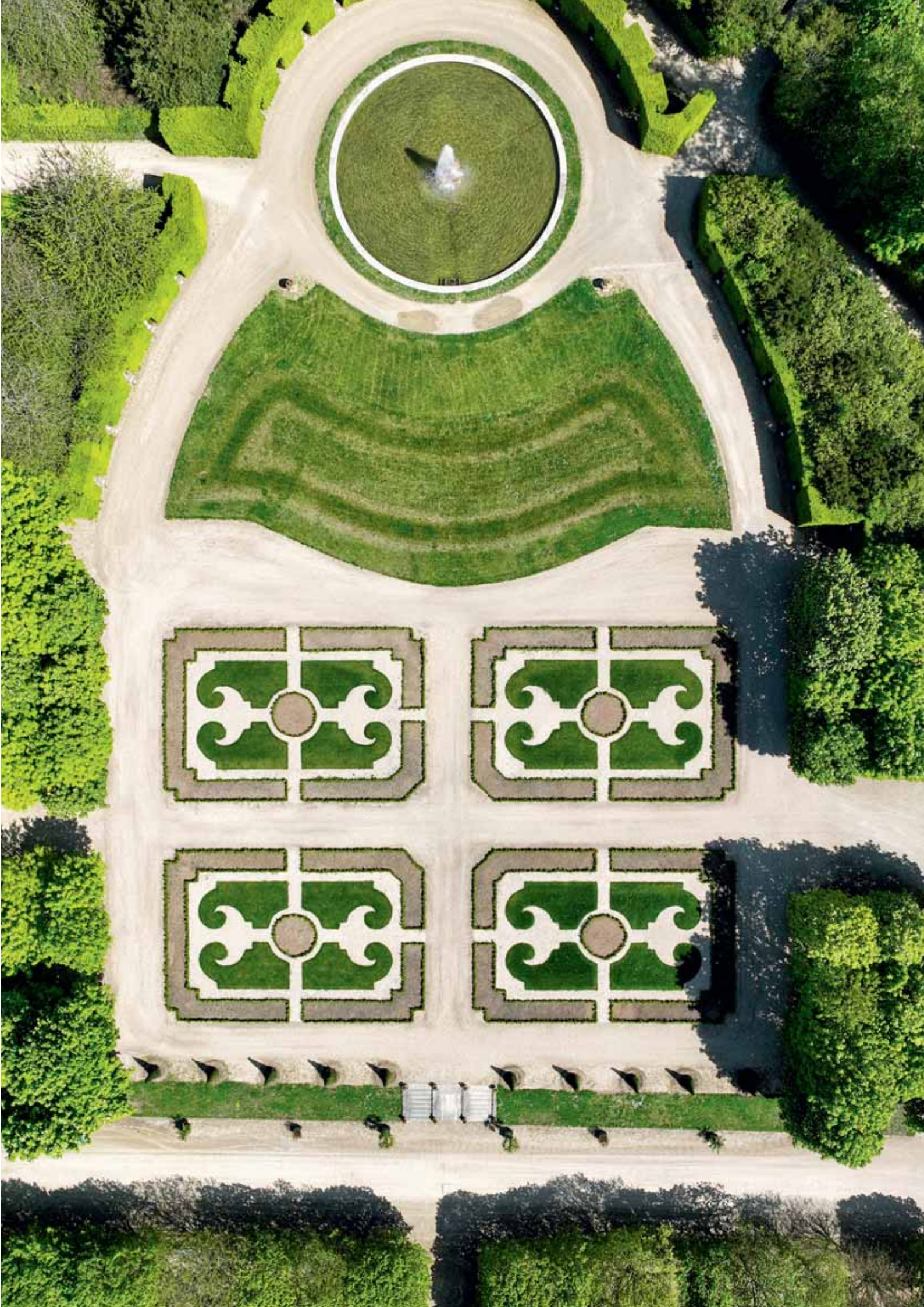


Working with jigs to replicate the parterre's scroll design ©Palace of Versailles, T. Garnier



Aerial view of the Four Nymphs parterre during restoration © Palace of Versailles, T. Garnier













PART 4 | **OUR SPONSOR**





The Geneva-based Fondation Bru was set up to keep the memory of the Laboratoires UPSA founders alive, and encompasses all sponsorship initiatives initially started by Doctor Nicole Bru with a view to pursuing them while simultaneously seeking new ones.

The Fondation Bru sets out to provide long-term support and assistance for projects concerned with education and safeguarding heritage,

often becoming involved in the very earliest stages of the projects it backs. Over and above financial support, it strives to play a long-term role in helping projects grow and paving the way for new partnerships.

As the living embodiment of this entrepreneurial spirit and sense of human connection, Doctor Nicole Bru continues to guide the foundation today through the effort and commitment she pours into working for the common good.

As early as 1993, she set up the UPSA Pain Institute, followed by the Association Docteurs Bru in 1994. Working out of the house in Agen where the company first launched, in 1996 the association opened its Maison d'Accueil Jean Bru, a pilot shelter for young girls subjected to sexual abuse or incest.

The Fondation Bru supports a number of initiatives, including:

- Help setting up China's very first engineering school for French-speakers, the École Centrale de Pékin: the fruit of particularly innovative Chinese/French joint efforts. Engineering students from the first cohort of this École Centrale were awarded their diplomas in January 2012.



The École Centrale Pékin's very first graduates in September 2005

- Restoration work on the 17<sup>th</sup>-century Casino Zane, which went on to house the Fondation Palazzetto Bru Zane – Centre of French Romantic Music in 2009. Through its research and publishing activities in addition to its concert seasons, this Venetian foundation works tirelessly to raise the profile of the 19<sup>th</sup>-century's greatest composers, and to coax once-forgotten works back out into the light.



The garden at the Casino Zane Bru in Venice, a palazzetto that was restored in 2008 to house the Fondation Palazzetto Bru Zane – Centre of French Romantic Music.

- Support for the Concert Spirituel (since 1987).
- Support for the Gilles Caron Foundation with a view to showcasing the artist's body of work and returning it to its rightful place in the history of journalism, art and photography.
- The AMFA, the Association Internationale des Charités, the APREC, a range of different cultural schemes in Geneva, community action and initiatives, work with fencing, museums, and beyond.

**The Fondation Bru sponsored restoration works on the Water Sideboard Fountain and rebuilding work for the Trianon gardens' hydraulic loop, as well as the marble parterres that were set up as a pop-up feature by the Grand Trianon gardeners for Summer 2023.**

PRESS CONTACT FOR THE FONDATION BRU  
contact@fondation-bru.org



## **INTERVIEW WITH NICOLE BRU, FOUNDER OF THE FONDATION BRU.**

**You chose to lend your support to restoring the Water Sideboard Fountain in the Trianon gardens. Why this feature in particular?**

*My love for Versailles, and the absolute necessity of ensuring the Water Sideboard Fountain would live on: a unique masterpiece that was on the brink of collapse. You and your teams presented me with restoration plans that instantly spoke to me.*

**You've kept a close eye on every step along the way. What surprised you most about this epic undertaking?**

*I was gobsmacked by how the works were organised, by the sheer expertise of everyone involved, from the architect to the fountain engineers. Most of all, my tour of the Fonderie de Coubertin took my breath away, this foundry where the sculptures were restored – or healed, as the surgeon in me wants to say. The quality of the work, the sense of camaraderie this hive of activity exudes... This is a place where everybody pours heart and soul into achieving the very best, there's a passion you can feel in the workshops, and all this means this one-of-a-kind space produces the very best results. The challenge for the next few years is passing this heritage on to future generations.*

**You're a big patron of the arts and culture, especially music. What would you say to young people to get them visiting Versailles?**

*Passing our legacy down is something that matters to me, which is why we've set up primary schools in disadvantaged regions such as the Atlas Mountains in Morocco. In south-west Myanmar, there's a village called Pa Sut, where we built a dispensary and primary school to give the very best pupils the chance to continue their studies in Rangoon or Myeik. We found out that in 1687, musketeers and Jesuits were once dispatched to Myeik (formerly known as Mergui) by Louis XIV as ambassadors to the King of Siam. At Beihang University, we helped set up China's very first engineering school for French-speakers, the École Centrale de Pékin: the fruit of particularly innovative Chinese/French joint efforts. This school trains multi-skilled, trilingual (Chinese, French and English) engineers via a curriculum that lets them go on to work in both China and France.*

*Sharing knowledge should be vital to us all: it's the link that binds us to our past and sheds light on our present. We need to get young people into Versailles to give them the keys.*

*History doesn't get the airtime it deserves in the educational system. Pupils need to get out of the classroom and come and learn about events in the places where they took place. We need to design tours for families, led by teachers and curators, offering up a tapestry of different perspectives and bringing the past to life, sparking imagination. I know that all this calls for a lot of time and resources. But we should never give up hope.*

**The Palace of Versailles is turning 400. What does that symbolise for you today?**

*Inside and outside, wherever you look here you'll find beauty, balance, and a sense of grandeur that inspires wonderment. Each and every corner of the estate is steeped in our past, leading all the way back to Louis XIII. I see Versailles as a compendium of places, monuments, and grandiose works. And if I may, I'd like to mention the Royal Opera, where the music that the Fondation helps bring to life takes on a highly specific charge and resonance. As any music lover will tell you, Versailles is now synonymous with music.*

**Interviewed by Catherine Pégard, President of the Palace of Versailles**

Extract from the "Goût des autres" article published in Issue 22 of the Carnets de Versailles.







PART 5 | **FURTHER  
INSIGHT**



## | GET EXPLORING

### GUIDED TOURS

#### *The Trianon gardens*

“But, when nothing subsists of an old past [...] smell and taste still remain for a long time, like souls.” (Proust, *Swann’s Way*).

The same might be said of the Trianon’s flowers, the essences of which lead us in the wake of those who dreamt and imagined the gardens into being. The Palace of Versailles invites visitors to come and soak up the subtle, peaceful atmosphere of this blossoming haven, parting back the leaves for a glimpse of its history.

#### *Trianon in stone and water*

Still and slumbering, or gushing and flowing: water in all its glory is one of the gardens’ most precious ornaments, and awakens the senses. What role does it play at Trianon? What ingenious methods have been used to harvest it? Embark on a guided stroll to admire the basins and fountains, including the freshly-restored Water Sideboard Fountain. Visitors will learn how these hydraulic features work, with insight into the fountain engineers’ expertise.

### PRACTICAL DETAILS

View the full programme complete with days and times for each guided tour at [www.chateauversailles.fr](http://www.chateauversailles.fr)

**Prices:** €10 + entrance fee, reduced rate: €7

#### **Booking required:**

- By phone: +33(0)1 30 83 78 00
- Online: [billetterie.chateauversailles.fr](http://billetterie.chateauversailles.fr)
- In person on the day (subject to availability).

## | BOOKS



### THE GRAND TRIANON Tour guide

**Overseen by Benoît Delcourte**, Head Heritage Curator, Palace of Versailles.

**With Béatrice Sarrazin**, Heritage Curator, Palace of Versailles

**Published: end of July 2023**

€20

160 pages

**Co-published by: Palace of Versailles/National Museums - Grand Palais**

“A small pink marble and porphyry palace with delicious gardens” (Jules Hardouin-Mansart): the Grand Trianon is undoubtedly one of the Versailles estate’s most refined set of buildings, and is a testimony to Louis XIV’s personal tastes, with the king having had the idea of a peristyle that would connect the courtyard to the garden. Raised on a single floor, it feels like an orangery, interacting with the gardens around it. The fragrant potted flowers are designed to be refreshed daily in a mark of luxury.

Intended as Louis XIV’s private palace, occupied by Napoleon followed by Louis-Philippe, the Grand Trianon became a presidential residence for hosting foreign heads of state on official visits under General de Gaulle.

**Richly illustrated with photographs and detailed maps and blueprints, this guide includes an exhaustive breakdown of the Grand Trianon’s apartments, the artworks, furniture and furnishings to be found in each of its rooms, and its gardens’ parterres and basins.**



### TRIANON AND THE QUEEN’S HAMLET

**Jacques Moulin**,  
with contributions from  
**Yves Carlier**  
**Photography: Francis  
Hammond**

**Published in September 2019**

€75

304 pages

**Co-published: Palace of Versailles/Flammarion**

Ever since Le Vau built the elevated pavilion for Louis XIV, Trianon has embodied an oasis of tranquility for the royal family, far from the politics and rituals of monarchy. This was where Louis XV gave his passion for plants free rein, creating a small country château that oozed refinement and served as a shining example of French artistic excellence. It was here too that Marie-Antoinette fostered the art of landscape gardening, and where Louis-Philippe sought peace and quiet.

Mere minutes from Versailles but a world away from the restrictions and demands of courtly life, the Trianon estate evolved into an ideal of beauty and peacefulness that kept hold of all its original charm. Nestled amidst some of France’s most precious gardens, it exudes what Talleyrand described as “the pleasure of living”.

**Jacques Moulin recounts how the site was developed and the role it played in the political and cultural context of its times, with Yves Carlier delving into the rich collections of furniture and furnishings. A compendium of anecdotes and stories brought to life by never-before-seen photographs from Francis Hammond.**











