

# **Henry Sully's Life Story - Chapter 9 Final Years and Beyond**

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## FINAL YEARS AND BEYOND - Draft

This is the ninth and final chapter in this story of Henry Sully's life and work. Previous chapters have described Sully's origins in Somerset; his apprenticeship in London; his life in the Netherlands, Austria and Germany; the many years he spent in Paris and Versailles; a brief return to London; and a return to France where he came up short in his twenty-year goal of producing a marine timekeeper. This chapter will document Sully's final two years, spent in Paris, where he died on Sunday October 13, 1728.

## INTRODUCTION

In the previous chapter, we learned about Sully's return to the Continent, following a brief period in London, to rejoin with his family, and pursue horological opportunities there. In particular, he spent much time, energy, and his money, to try to finally come up with a suitable design for a marine timekeeper to solve the longitude problem which had so long alluded him and other horologists. A valiant attempt on his part came to an end during somewhat unsatisfying trial results on ships in the estuary of Bordeaux. He documented all this in a book<sup>1</sup> that was published at the very end of 1726.

While he was running the trials of his clock in Bordeaux, in the Fall of 1726, and as Julien Le Roy recalled<sup>2</sup>, Sully's furniture and best tools had been sold (by his wife presumably) to cover his debts. As discussed in the previous chapter, Sully had known low points before in his personal and professional life, but this latest setback may have been a final blow to his hope of finding fame and fortune. The debts from his attempts in Bordeaux likely brought him to his financial knees. A letter to Montesquieu<sup>3</sup>, documented in the previous chapter, suggests that may have been compelled to essentially beg for money, in order to feed his family.

The book published at the end of 1726 may have provided some financial relief for Sully, it's hard to know what revenue may have been generated from it. But at the beginning of 1727, his family consisted of his second wife Angélique Potel (whom he had married in 1716), and his children Anne (19 years old), Charles Henry (18), Henriette (16), Jeanne Angélique (?), Henry (5).<sup>4</sup> It is not known how many of the older children may still have been living in the family home at that time.

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<sup>1</sup> Sully, Henry, *Decription d'une horloge d'une nouvelle invention pour la juste mesure du temps sur mer*, Briasson, Paris, December 1726.

<sup>2</sup> Sully, Henry, *Règle artificielle du temps* (1737) p. 407

<sup>3</sup> Charles Louis de Secondat, Baron de La Brède et de Montesquieu (1689 - 1755), generally referred to as simply Montesquieu, was a French judge, man of letters, historian, and political philosopher (Wikipedia). He was also President of the Académie des Sciences de Bordeaux.

<sup>4</sup> A boy named Jean, born between Anna and Henrietta, does not seem to have survived childhood. Jeanne Angélique and young Henry were born during Sully's second marriage.

At the time, Sully still benefited from a pension of 600 *livres* a year, that he had been granted by the King in 1726<sup>5</sup>. But it would have been difficult to live very comfortably, with a fairly large family, on such a limited income<sup>6</sup>.

Julien Le Roy described Sully's state of mind upon returning from Bordeaux<sup>7</sup>:

*The considerable amount of time spent on his research, to make his clocks as perfect as possible, the money that the trips to Bordeaux cost him, his furniture and many of his precious tools sold to pay the rent in his absence, all contributed to upset him; he became ill with sadness, and his temperament weakened such that it took a long time for him to feel better, and regain his strength.*

## BACK TO WORK

After this period of extended illness (that today we would probably call an episode of depression), Sully mustered up the gumption to take up activities and new challenges again. It's unclear whether he may still have been able to make some money repairing watches, as he had done five years before upon his return to Versailles from London. After all, many of his "precious tools" had been sold off in his absence in Bordeaux to pay the rent, and it's impossible to tell if his current dwelling, shared with his family, would have offered the necessary space to work on watches or clocks. This probably explains the types of activities and projects he became engaged with at this point in his life: various writings; designing the gnomon of Saint Sulpice; and participating in the Société des Arts.

## MERIDIAN AND GNOMON OF SAINT SULPICE CHURCH

Some time in 1727 or 1728, Le Roy recalled that "*Sully approached the curé of the parish of Saint Sulpice [Jean-Baptiste Languet de Gergy<sup>8</sup>], and proposed to trace a meridian line in the superb church that was being erected*". Who approached whom is difficult to establish with certainty, but Sully did in fact work on this project for some months. Saint Sulpice was the second largest church in Paris (after Notre-Dame de Paris), and had been originally built in the twelfth century. At the time of Sully's involvement in creating the gnomon, the church was undergoing significant renovations and enhancements under the leadership of Languet de Gergy.

A gnomon is by definition the part of a sundial that casts a shadow. A gnomon can also be a perforated hole projecting an image of the Sun on a flat surface to allow telling the time of day or year. Such devices were possibly used by the ancient Chinese (as far back as the 11<sup>th</sup> century BC). An Egyptian mathematician and astronomer named Ibn Yunus also made use of them around 1000 AD. In 1475, Paolo Toscanelli installed a bronze plate with a hole in the dome of the Cathedral of Florence, projecting an image on the floor to tell the time of each mid-day (noon) as well as the summer solstice. Without a doubt this or similar gnomons inspired Sully to

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<sup>5</sup> Sully, Henry, *Règle artificielle du temps* (1737) p. 402

<sup>6</sup> The average worker at the time earned between 3 to 10 livres per day.

<sup>7</sup> Sully, Henry, *Règle artificielle du temps* (1737) p. 406-407

<sup>8</sup> Jean-Baptiste Languet de Gergy (6 June 1675 - 11 October 1750) was the curé of the church Saint-Sulpice à Paris from 1714 à 1748. He contributed to the work of enhancing the church over a period of many years.

install one in the church of Saint Sulpice, for similar purposes. The line traced on the floor with markings, where the image of the Sun was projected, was referred to in French as a *méridienne*.

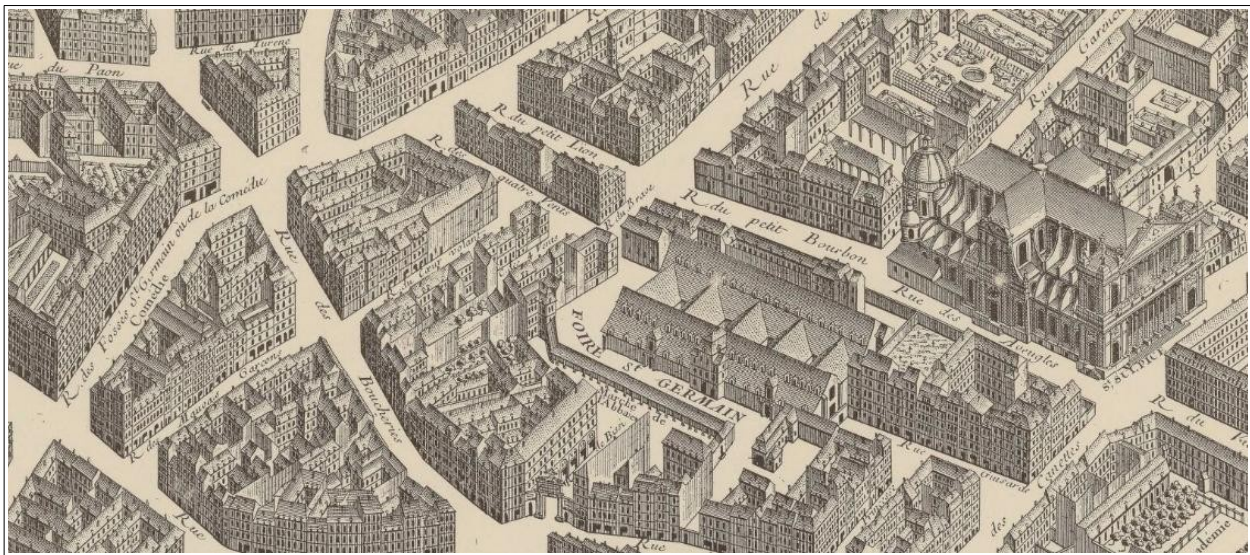


Figure 1: Excerpt from Turgot Plan 1739

At the time, or certainly by the middle part of 1728, Sully and his family lived close to Saint Sulpice, on *rue de la Comédie* (on center left in the image above, with *Église Saint Sulpice* on the right side). This would have facilitated his walking to and from the church located a few blocks away, to work on the meridian.

Sully himself submitted an article to *Le Mercure de France*, published in July 1728<sup>9</sup>. His objective in installing a gnomon and meridian line at Saint Sulpice seems to have been to allow more accurate ringing of church bells in Paris:

*For many years I have thought of a practical means, available to all, to know accurately, on any day of the year, true time according to the Sun, to which should be adjusted all instruments used for the measure of time, above all the public clocks. It is something as awkward as strange, that in a city like Paris, one be exposed to such a degree of discordance and uncertainty as to the real time of the day, as has always been the case until now. It doesn't seem to have been easy to bring about a remedy that is as effective as the inconvenience is general; and whatever it might be, that all the public be able to benefit from equally.*

*The frequent view of the beautiful and spacious Église de Saint Sulpice, situated in one of the most beautiful neighborhoods of Paris, suggested to me an expedient that seemed to me appropriate and sufficient for this effect. I imagined to trace there a meridian line, and on the same day that this idea came into my head, I communicated it to the Curé of Saint Sulpice, persuaded that he would find it agreeable. The idea of this being useful to*

<sup>9</sup> *Mercure de France*, July 1728, *DESCRIPTION de la Ligne Méridienne de l'Eglise de S. Sulpice, avec l'explication de ses usages, Par M. Sully, 1728.*

*the public good did not allow someone, who had done so much for it, any time to hesitate. In that same instant, the [curé] savoured my proposal, desired its execution, and gave me the honour of asking me to apply myself to it. I joyfully accepted this commission, of which I have acquitted myself with extreme pleasure, flattered at having contributed something toward such a noble goal, and to the embellishment and sparkle of such a magnificent building.*

After such a formal introduction, Sully went on to explain in considerable details the way in which the North-South meridian line functioned, in concert with “an opening of one inch in diameter in a brass plate located in a western window of the church, at a height of 75 feet”. The Sun’s rays, “passing through that one inch aperture, generated an oval image of around ten and a half inches long and nine and a half inches wide at the Summer Solstice”, on the paving stones of the floor of the church. This image “increased every day in length and width until the winter solstice is reached, and comes back in diminishing size in the same manner”. He goes on to explain that “the movement of the image, being directly opposite to the daily apparent movement of the Sun, occurs on the floor from west to east, and true noon is when this image is split into two equal portions, by the meridian line.”

Sully further indicated that the meridian line measured 176 feet on the floor of the church, which was not sufficient to represent the Sun’s passage toward the Winter Solstice, as this would have required the line to be more than seventy feet longer. To accommodate this, a twenty-five foot tower in the shape of an obelisk was erected at the North end of the line, which displayed the Sun’s image from the beginning of November, rising up to the mark for the Winter Solstice (December 23), and then descending to the bottom of the tower at the beginning of February.

In the article, Sully went on to indicate that several markings were placed on the tower, to assist its general usage. He also wrote “we shall not speak here of uses of this line which are of interest only to those who are versed in the principles of astronomy, nor to further additions or embellishments which are possible; I can speak of this elsewhere and at the same time describe to learned people the methods and the care that I have used to trace this line as accurately as is possible. The description provided here is clear and abbreviated, available to and accessible by everyone”.

The article also contained more detailed information about solar versus mean time, explained why days from solar noon to the next noon were not equal during the entire year, and how a meridian line can assist in finding true noon, by observing how the Sun’s image on the floor interacts with the line. A table of correcting numbers was included, as well as examples of how to use these figures to find true noon.

Thus Sully envisioned the meridian line allowing the bell-ringer at the church to ring noon accurately on any day of the year. He also hoped that Saint Sulpice would thus become the standard by which all other churches in Paris would ring their bells at noon.

Finally, being able to accurately determine the occurrence of solstices would allow the Church to effectively determine when Easter Sunday, one of the most important religious days of the year, would occur.

Sully's sudden illness and untimely death in September 1728 prevented him from fully completing the work on the meridian line. Some markings on the floor indicate where he had started to draw out the location of the meridian. Sully's line is a short distance (roughly half a meter) from the final meridian line installed some years later. Most of his original markings are faded by countless footsteps that have passed on those stones during the centuries since.

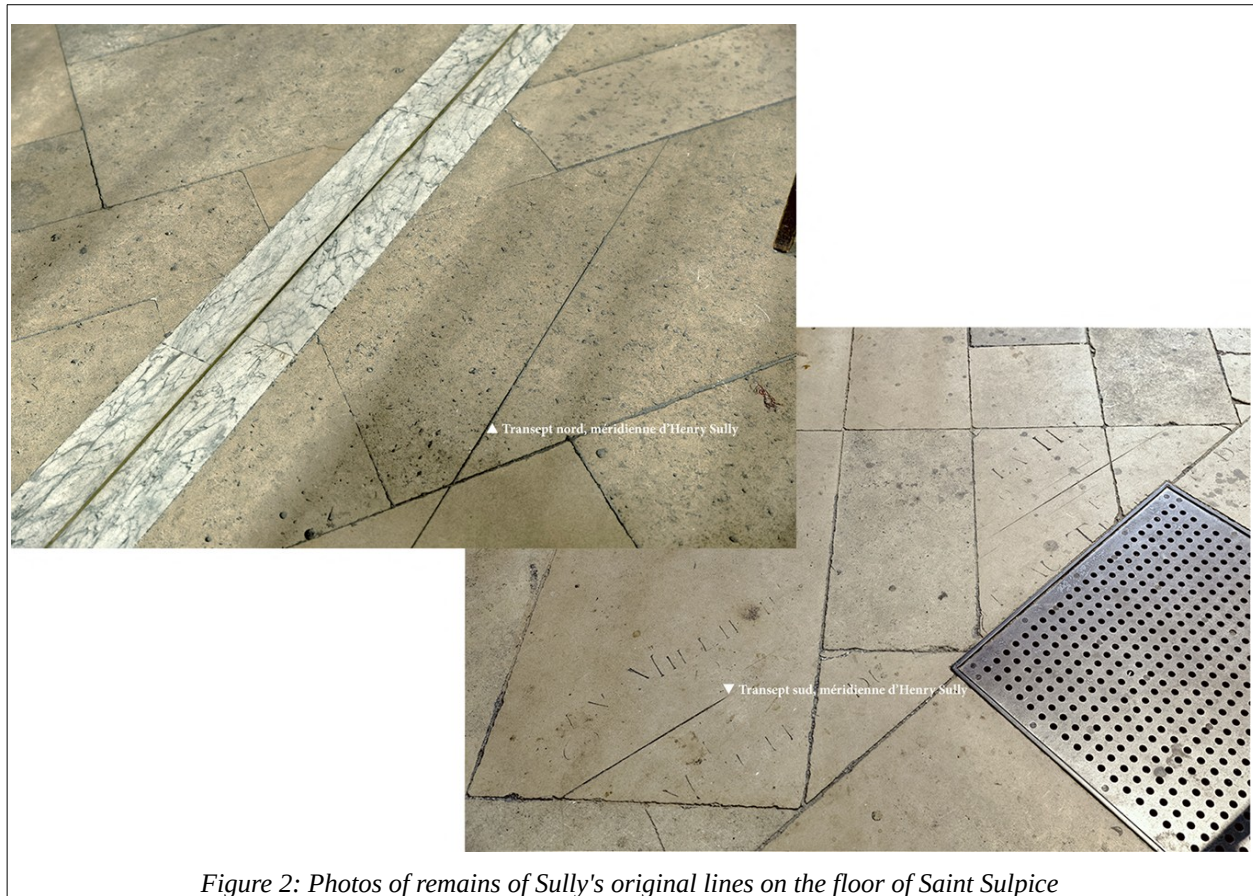


Figure 2: Photos of remains of Sully's original lines on the floor of Saint Sulpice

The work on the meridian/gnomon was finally completed in 1743 by Pierre Charles Le Monnier, astronomer at the *Académie des Sciences de Paris*, who tasked engineer Claude Langlois to execute the final design. It was Langlois who had the 10.72m obelisk installed against the North wall of the transept of the church, and from there, had the north-south meridian marked by a brass line in the floor.

Note that in his 1728 text in the *Mercure* quoted above, Sully indicated that during his participation in the project, an obelisk had been installed at the North end, so perhaps a replacement obelisk had been installed fifteen years later by Langlois, or he may have simply moved the original obelisk some distance to the side to align with the new meridian line he had installed and marked with solid brass.

## MORE WRITING<sup>10</sup>

In his final years, Henry Sully still had his trusty pen. In 1726, he had outlined an ambitious plan to write an all-encompassing treatise on horology (as Leibniz had suggested to him twelve years before). This plan was described in his penultimate book entitled ‘Description of a clock of new invention for accurately measuring time at sea’.<sup>11</sup> Near the end of that book (pages 284-290), Sully declared his intention to write a ‘*traité*’ (treatise) on horology in six volumes.

The first volume would consist of an augmented version of his 1717 book *Règle artificielle du temps*, and would stand on its own. The other five books would (in his words) consist of: (2) the history, (3) the description, (4) the theory, and (5) the practice, of horology. The sixth book would consist of letters and critical essays, which would put the other five books into proper context (‘*donner le juste prix*’), since ‘*only by criticism can we clarify doubtful subjects and stimulate the mind.*’

The original idea for this treatise on horology probably stems from an open letter to Sully from his acquaintance Gottfried Wilhelm Leibniz (1646 – 1716), which Sully had included as addendum to the original 1714 edition of *Règle artificielle du tems*. In that letter, Leibniz wrote:

*It would be very desirable to have a book on horology, able to communicate the entire practice of the art, not only in its principal purpose, which is the measurement of time, but also by the accessories, which consist in the number of beautiful inventions produced by the masters of this art. The author of this discourse [i.e. Sully], who has joined theory and practice, and who has the talent to express himself fairly well, would be most suited to doing this.*

*Mémoires de Trévoux* (March 1728 pp. 420-422) featured a review of Sully’s last published work, a small booklet entitled ‘*Méthode pour régler les montres & pendules*’ [Method to adjust watches and pendulum clocks]. In that booklet, Sully had returned to the spirit of his very first writings, providing practical advice to watch and clock owners. Quite possibly, he wrote it to generate some badly needed income after the difficult economic setbacks described earlier.

Also outlined in this last published work was another indication of his ambitious plan for a six part Study of Horology (outlined above), and the reviewer concluded the review with these lines:

*There only remains to wish but two things: firstly, that someone as able as Mr. Sully executes this work in its entirety; secondly, that the Scientists and Artists (Scavants et Artistes) communicate to him, in good spirit and enthusiasm, everything they deem to be useful to execute such a work, which indeed requires the help of many hands and minds.*

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<sup>10</sup> This section borrows from this author’s article entitled *Henry Sully, Règle artificielle du tem(p)s*, published in December 2022 (Vol. 43, Number 4) of *Antiquarian Horology* (pp. 495-508), by the Antiquarian Horological Society in London, England.

<sup>11</sup> Sully, Henry, ‘*Description d’une horloge d’une nouvelle invention pour la juste mesure du temps en mer*’, Briasson, Paris, 1727. This book in part described Sully’s attempts to design and build a working marine chronometer, that was tested near Bordeaux that year with some success. Sully realized the clock needed more refinement, but he unfortunately did not have time to further advance his work in this area, and it was left to his friend Julien Le Roy’s son Pierre, and the Swiss immigrant Ferdinand Berthoud to build on Sully’s work and take French chronometry to the next level.

This collaborative approach to fully describing horology later came to be realized in numerous articles<sup>12</sup> within Diderot and d’Alembert’s *Encyclopédie* project.<sup>13</sup>

In the introductory pages of this 1728 booklet, the publisher noted that Sully was also busy at the time preparing other works for publication, including:

- A translation of an English text from Oxford astronomy professor Gregory<sup>14</sup>, on the usefulness of mathematics and how to study them.
- A new practice to more exactly determine longitude for navigation<sup>15</sup>.
- A second edition of *Règle...*, with additions and figures<sup>16</sup>.

At the end of this chapter we will discuss the influence of Henry Sully’s horological writings on the written works produced by other French horologists in later decades of the eighteenth century.

## RETURN OF THE SOCIÉTÉ DES ARTS

In Chapter 6 of this story, we described the *Société des arts*, first created in 1718 by Henry Sully, Julien Le Roy, William Blakey and a few others. The Société provided a means for *artistes* “such as clock- and watchmakers, surgeons, architects, painters, and sculptors [to] elevate their social status through their association with academicians, savants, state officers, and aristocratic patrons”.<sup>17</sup>

The Société seems to have become dormant for some years, possibly coinciding with Sully being away from Paris from around 1719, first leading horological factory projects in Versailles and Saint Germain en Laye (see Chapter 6), then briefly returning to London (see Chapter 7), and finally spending some years in Versailles working on his marine timekeeper (Chapter 8). But by 1728, the Société was meeting again under new leadership and had expanded with many new members. As Julien Le Roy recalled, Sully was asked to rejoin the meetings<sup>18</sup>:

*As he toiled at [creating the meridian/gnomon of church Saint Sulpice], which he very much liked, some members of the Société des Arts, that met here in front of the Louvre, under the patronage of the Regent, and to the establishment of which he had contributed much, proposed to him to join them to start up again the interrupted meetings.*

*His love for Science and the Arts, motivated him to devote much care in getting this project to succeed, which pleased him much; he got other people excited to join him, and*

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<sup>12</sup> Many of these written by Julien Le Roy’s son Jean-Baptiste (1720 - 1800)

<sup>13</sup> Diderot, D’alembert, *Encyclopédie, ou Dictionnaire raisonné des sciences, des arts et des métiers*, Paris, 1751-1766.

<sup>14</sup> David Gregory (1659 – 1708) professor of mathematics at Edinburgh University, and later professor of astronomy at Oxford University. One of Sully’s last acts was to give a presentation of his translation of one of Gregory’s paper to the *Société des Arts* in Paris.

<sup>15</sup> Chapter 8 described Sully’s efforts for over twenty years to develop a marine timekeeper. He wrote about this life work in *Description abrégée d’une horloge d’une nouvelle invention pour la juste mesure du temps sur mer*, Briasson, Paris, 1726. In particular, refer to the section ‘Éclaircissements’ in that book.

<sup>16</sup> Perhaps the rough manuscript for this was kept and later used in coming up with the 1737 edition, it’s difficult to say.

<sup>17</sup> Paola Bertucci, *Artisanal Enlightenment*, Yale Press, 2017, is an excellent book on the Société des arts and related subjects, which features much information related to Henry Sully.

<sup>18</sup> *Règle artificielle du temps* (1737) p. 407-408

*rented a room in which meetings started soon after. At the last meeting that he attended, he read a letter from Mr. Gregory<sup>19</sup>, that he had just translated from the English, on the usefulness of mathematics.*

In her book<sup>20</sup>, Bertucci indicates that Sully and Languet de Gergy<sup>21</sup>, the curé of Saint Sulpice, had previously known each other for quite some time. When Sully had been director of the Versailles watch manufacture (see Chapter 6), according to Bertucci, “*Languet de Gergy obtained from the regent a thirty-year privilege for the establishment of a Manufacture of Muslin in Paris that would employ destitute girls from the city and countryside*”. She goes on to write that Sully’s proposal to use a gnomon/méridienne at Saint Sulpice to establish accurate time of noon that would serve all of Paris, “*would serve the organization of labour in the Manufacture of Muslin*”.

Bertucci also suggests that Sully played an important role in the re-creation of the *Société* in 1728, and brought together some of the members of the original 1718 *Société* to collaborate again.

Unfortunately, Sully did not live long enough to see the *Société* expand significantly under the leadership of the Abbé Bignon<sup>22</sup>. By November 1728 (a month after Sully died), there were twenty-five members, and the number continued to increase in the following years. Over 150 members from various disciplines are known to have been associated with the *Société* at one time or another from 1728 to the 1740’s.

Of the twenty-five early members in 1728, “*thirteen were ‘artistes’, the majority of them were involved in clock- or watchmaking (four); the others were two surgeons, a goldsmith, the metal engraver for the mint, the assayer for the mint, a map engraver, a maker of navigational instruments, a calligrapher, and a carpenter and entrepreneur (...) of the remaining twelve, five were savants (three mathematicians and two astronomers), two composers, the treasurer of the mint*”<sup>23</sup>, etc. The diversity of membership and its heterogeneity were seen as the *Société*’s strength.

It’s possible that during these last months of his life, Sully was again visiting some Parisian *horlogers* to see what new practices they were developing, share his knowledge and encourage them, as Le Roy had written in his short biography of his friend<sup>24</sup>:

*There were some who could have lived in abundance and comfort, if he had had more taste for their fortune, than for the perfection of their works: the late Mr. Sully was one of these; I saw him, all excited, go from door to door preaching to horlogers how to perfect*

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<sup>19</sup> David Gregory (1659-1708) was a Scottish mathematician. In 1683, he was appointed Professor of Mathematics at Edinburgh University. Later, in 1691, he became Savilian Professor of Astronomy at Oxford University. A fervent commentator on the works of Isaac Newton, in 1703 Gregory published *Euclidis quae supersunt omnia*, his commentary on Euclid’s *Elements*. (W) Perhaps Sully had corresponded with Gregory in the past (before 1708) or decided to translate and share one of his writings. Gregory’s specialties in mathematics and astronomy coincide with some of Sully’s interests, not only insofar as applicable to horology.

<sup>20</sup> Bertucci op cit, p. 98-99

<sup>21</sup> Jean-Baptiste Languet de Gergy (1674–1750) was parish priest at Eglise Saint-Sulpice in Paris from 1714 to 1748. He was the initiator of the construction of the Gnomon of Saint-Sulpice, initiated by Henry Sully, and completed some fifteen years later by the French astronomer Pierre Charles Le Monnier (1715-99).

<sup>22</sup> Jean-Paul Bignon (1662 – 1743) was a French ecclesiastic, statesman, writer and preacher and librarian to Louis XIV. He also presided over the committee of men of letters who edited the *Journal des sçavans*.

<sup>23</sup> Bertucci op cit, p. 121

<sup>24</sup> Règle... (1737) op cit. p. 381-382



*their art, and encouraging them with speeches and his advice to perfect themselves even more.*

## FINAL DAYS



Figure 3: Detail from engraving in *Règle artificielle du tems*, Vienna 1714

In October 1728, Henry Sully came face to face with Father Time, who had been represented in the engraving which accompanied the original edition of his famous book (*Règle artificielle du tems*, Vienna 1714). Julien Le Roy described Sully's final days thus<sup>25</sup>:

*At the end of the same week [that he had read a mathematics paper to the Société], having learned that someone from the Fauxbourg St Marceau desired to show something interesting to the Société des Arts, he took the address, which was incorrect, and walked around and around this large neighbourhood so much, without being able to find it, that he overheated himself, and died four or five days later of pneumonia.*

*His illustrious Pastor, Mr. le Curé de S. Sulpice, after having saved him spiritually during his illness, organized his burial, and a large funeral; he had him buried in the Church, near the sanctuary doors of the great altar, and just west of the meridian line itself, on which he had traced the signs of the degrees, few days before his death.*

It is impossible to determine whether Sully's remains were indeed buried in the church, at the location that Le Roy indicates. Or whether these remains may have been relocated to one of the many crypts located under the church, most of which are now unmarked and impossible to identify.

<sup>25</sup> *Règle...* (1737), p. 408-409

Just what was this “something” that “someone from St Marceau” was going to present to the *Société* will always remain unknown. It could have been some new horological invention or something altogether different, given the heterogeneous nature of the membership, but if Sully did indeed take a leadership role in the resurgence of the *Société* in 1728, he probably wanted to discuss the subject with the individual, prior to his presentation.

To repeat some words written in the prologue of this story of Henry Sully:

*In Southern England in 1728, there were six consecutive days of fog in September. The winter there would be severe, with snow from mid-December to the end of January. In France, the winter of was said to have been one of the harshest ones in several years. On possibly a cold day in mid-October, an older English clock-maker spent several hours unsuccessfully – he had been given the wrong address – looking for someone in the large neighborhood of St. Marceau, in Paris. By the time he got home to his wife and five children (a daughter aged 21, two late teenagers, and a couple of younger children), he was chilled to the bone and starting to feel ill.*

*Possibly, he had not been feeling well for some time, and the long walk in the cold forced him to bed, where he quickly got progressively worse. By the time a doctor was called for a few days later, he was diagnosed with pneumonia and not given long to live. The parish priest of Saint Sulpice, where the old clockmaker had, only a few days before, been working on the meridian line that he had been tasked to install, sat to comfort the ailing man, whom he had earlier helped convert to Catholicism, which would allow him to be buried with proper honours in his church.*

*As he lay in bed, surrounded by his family, labouring for breath and feeling energies slip away from him, the clock-maker probably looked back on his life, so full of interesting events and famous people met and befriended. He had failed at some of his more ambitious initiatives, but had made valiant attempts to advance the art of horology at a critical juncture of this discipline, especially in France, where he had spent most of his adult life. A few friends came to visit and wish him well, including one of the most famous Parisian watchmakers [Julien Le Roy], who later told the story of his friend’s death, which he said came only four or five days after the ill-fated walk in St. Marceau.*

A contemporary account<sup>26</sup> indicates that “[the death of Sully] left his wife and five children in extreme misery, but Mr. the Curé [of the parish of St-Sulpice] looks after them all”. Ten years later, as we have seen, Julien Le Roy strove to augment and update his friend Sully’s ‘*Règle artificielle du temps*’ but it was still well short of the broad scope of Sully’s envisioned future horological books. Le Roy wrote<sup>27</sup>:

*It was in October 1728 that one of the most skillful watch/clockmakers of Europe died, and whose last days, where he had sought ways to perfect marine clocks, and make them useful to navigation, were neither as serene nor happy as he deserved, for having*

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<sup>26</sup> Angélique Delisle, writing to her brother Joseph-Nicolas Delisle on 17 January 1729, Bibliothèque de l'Assemblée nationale, Paris, Ms 1508, f. 49v

<sup>27</sup> Règle... (1737) op cit p. 409

*courageously attempted such an honorable endeavour, since its success would have preserved thousand of lives from perishing at sea.*

The death notice for Henry Sully appeared in the French weekly paper *le Mercure de France*, in October of 1728. It read:

*Mr. Henry Sully, English, from Somerset County, and watch/clockmaker to his Highness Mr. the Duke of Orleans, living in France for a long time, died in Paris on the 13th of this month, in his 48th year, after having renounced the Anglican religion in the hands of Mr. the priest of S. Sulpice, and received the sacrements given the evidence of exemplary faith and piety. He was not only skillful in his profession, but distinguished in all that relates to mechanics, navigation, and even astronomy. From a very young age, he showed great interest in the sciences and the arts. He learned the profession of watch/clockmaker in London, and started right then to work on machines to measure time at sea. He moved to Holland, and had printed in Leyde his first book in French, titled: "Instructions to regulate watches and clocks". He wrote and spoke very well in French, English, Dutch, German and Italian, his other works are:*

*Artificial regulation of time, in French, first printed in Vienna Austria, then later in Paris at Dupuis, S. Jacques Street. He had gone on several trips to Germany with the Duke of Aremberg, who gave him a pension.*

*A new edition of his Instructions to regulate clocks, much expanded, at the same publisher.*

*He was director of a watch factory, established in Versailles. After this he again put his efforts on his Marine clock with levers, which had very good results, according to experimentation done in Bordeaux. He has written descriptions of it which were printed in Paris and in Bordeaux, and we have given an exact account, detailed in previous Mercures.*

*He gave to the public many other works and various instruments of his own invention, equally industrious and useful, consisting of several parts of mathematics, and displaying an inventive mind full of concern for perfecting arts and professions. Moreover, he was a great communicator and very helpful, and we have heard from several skillful masters of horology that they owed much to him. There are many works from him on this subject, that have not yet seen the light of day, and that we will bring to the public in the near future.*

*His last work, that he didn't get the pleasure to see perfected, is the meridian line in the S. Sulpice church, a description of which we provided in the July Mercure; but all is traced, and only 7 degrees 30 minutes are needed to be at the Equinoxes, which is to say to the signs of  $\epsilon$  and  $\omega$ . In addition, he left all instructions necessary.*

The notice indicated that Sully passed away on the 13th of that month, so must have been written very shortly after his death. Unlike death notices appearing in newspapers today, this one made no mention of his surviving wife and children, his parents, etc. It just focused on Henry's life and

laid out the main highlights and achievements rather factually and correctly, so whoever wrote the notice was familiar with Henry's life and work. It could have been written by his widow, though if that were the case one would think she would have mentioned herself and the children – quite probably, this was just not a common practice at the time.

Another possibility is that it could have been written by his longtime friend and past collaborator the *horloger* Julien Le Roy. Possibly, the notice could also have been written by the priest of St-Sulpice Church where Sully was buried, Jean-Baptiste Languet de Gergy, for whom Sully had accomplished his last horological work (the gnomon and meridian line). As discussed earlier, Languet de Gergy also played a role in the *Société des Arts*, so would have known Sully from both a personal and professional perspective. A final possibility is that the notice could have been written by a writer for the *Mercure*, having discussed Sully with one or more of the people mentioned above.

Some of the elements attributed to Sully in the notice are interesting to consider, namely that he was “*distinguished in all that relates to mechanics, navigation, and even astronomy*”, that he produced “*many other works and various instruments of his own invention, equally industrious and useful, consisting of several parts of mathematics, and displaying an inventive mind full of concern for perfecting arts and professions*”, and that “*there are many works from him on subject [of horology], that have not yet seen the light of day, and that we will bring to the public in the near future*”.

Searches in future issues of the *Mercure* unfortunately did not produce any indication as to what these “many other works” may have consisted of, so there is a likelihood that several unpublished writings and inventions of Henry Sully may have been lost forever after his death.

## CODA

Some of Henry Sully's planned written works, including the massive horological treatise described earlier, never made it to print, because of his untimely death. Sadly, no other texts by Sully appear to have survived and come down to us, but the few that have<sup>28</sup> give us a tantalizing glimpse into the body of knowledge and experience that Sully would have been able to impart upon the horological community, had he lived longer.

Other writers have opined that had he been able to continue working for some years, he may well have found the solution to the longitude timekeeper, finally coming up with the marine clock or watch that had alluded him, which would have undoubtedly sealed his place in horological history. That of course is pure conjecture and one can never know.

In horological history books that have been written since Sully's time, he is generally recognized as having been the innovator behind the creation of oil sinks for pivot holes in watch and clock plates (developed in collaboration with Julien Le Roy as retold in Chapter 5), and for his so-called “Sully escapement”.<sup>29</sup> And of course, he is also characterized as the clock-maker who failed in his attempt to develop a reliable longitude timekeeper.

<sup>28</sup> For example, the chapter entitled ‘*Histoire critique de différentes sortes d'échappemens*’ [Critical history of different kinds of escapements], that was inserted by Julien Le Roy and his publisher in the revised 1737 edition of *Règles* (pages 239-272). Also, the section on Verge escapement that made its way into Thiout's 1741 book.

The more lasting impact of Henry Sully on the history of the horological community that followed him lies rather in his writings, which have been described in some detail in the previous chapters of his life story. The following section will summarize the impact of Sully's writings on the French horological writers who succeeded him, as the eighteenth century advanced.

## SULLY'S INFLUENCE ON LATER FRENCH HOROLOGICAL WRITING

Sully's *Règle artificielle du temps* had a strong influence on many horological books that were written in France during the eighteenth century, which was a period of intense intellectual activity and writing on many subjects, under the reigns of Louis XIV, XV and XVI. During these '*années lumières*', horological writing matched the considerable advancements in watch and clock design and construction that occurred. Much of this writing was done by actual French horologists, who described in great detail the intricate aspects of their craft, to inspire other practitioners of the Art. These authors included Julien Le Roy (and his son Pierre), Antoine Thiout, Jean Jodin, Jean-André Lepaute, Ferdinand Berthoud, and others.<sup>30</sup>

Julien Le Roy, Sully's one-time collaborator and long-time friend, never authored a book himself, preferring to write several memoirs on particular horological subjects over the years (some presented to the *Académie Royale des sciences*, others to the *Société des arts*, of which he was a founding and prominent member). However, his fingerprints are all over the revised text of the 1737 edition of *Règle artificielle du temps*, which also features many of Le Roy's own memoirs in the second half of the book, including one which is the closest we have to a contemporary biographical text on Henry Sully.<sup>31</sup>

In 1734, a Dominican priest called Jacques Allexandre, published in Paris a book entitled '*Traité général des horloges*' [General treatise on clocks]. It is a fine attempt to document the breadth of history of horology from earliest times to the present, primarily focusing on clocks, but with some discussion of watches. The book features a most interesting 105-page bibliography of all the books, many quite ancient, consulted by Allexandre in writing his book. In it, Sully's *Règle artificielle du temps* is described at length, with Allexandre summarizing the subject of each of its chapters. References to Sully also appear in two other places in the body of this 1734 work.

The next horologist to try his hand at writing a comprehensive horological book is Antoine Thiout<sup>32</sup>, whose 1741 book<sup>33</sup> is described by G.H. Baillie as 'an exhaustive treatise written by a maker of great repute'<sup>34</sup>. It consists of 400 pages of text and over ninety foldout drawings of all

<sup>29</sup> In the opinion of this writer the latter is ascribed to Sully more broadly than is deserving, as several similar escapements developed over the years are only partially similar to his original design - the "Ormskirk" escapement used in that region of England in the early nineteenth century being a good example of this.

<sup>30</sup> For a brief discussion of these writers, see: <https://timetales.ca/2020/09/03/henry-sully-antoine-thiout-ferdinand-berthoud/> For a discussion on lesser-known Jodin, see: <https://timetales.ca/2021/11/02/jean-jodin-horloger-et-auteur/>

<sup>31</sup> *Mémoire pour servir à l'histoire de l'horlogerie, depuis 1715 jusqu'en 1729* [Memoir to serve the history of horology, from 1715 until 1729], *Règle artificielle du temps*, Paris 1737, pages 381-413.

<sup>32</sup> Antoine Thiout, the elder (1692 – 1767) became master-horologist in Paris in 1724. He was one of the clockmakers who produced pendulum clocks to display real and average time in the 1720's. His 1741 treatise remains one of the great sources of information on horological practices in eighteenth century France.

<sup>33</sup> Thiout, Antoine, *Traité d'Horlogerie, Mécanique et Pratique*, Paris, 1741.

<sup>34</sup> Baillie, G.H., *Clocks & Watches, An Historical Bibliography*, NAG Press, London, 1951, p. 203. Baillie also has interesting things to say about all the French authors mentioned in this section.

aspects of clock and watch design, as well as the tools used in producing them at that time. Until Ferdinand Berthoud's two-volume 'essay' on horology in 1763, it would remain the most complete work on this subject produced in France, and probably any other country, and is still a very useful reference on eighteenth-century horological tools and practices.

Interestingly, Thiout's book includes a substantial ten-page article by Sully on the verge escapement, complete with a detailed diagram. This text is very thorough and technical, had never appeared in print before, and may have been one of the sections that Sully had prepared for his ambitious six volume *Traité d'horlogerie*, which had somehow survived and found its way to Thiout as he was preparing his book.

Jean André Lepaute<sup>35</sup> is the next writer of importance, whose *Traité d'horlogerie* came out in 1755. It is a shorter work than Thiout's (just over 300 pages, seventeen foldout diagrams), but is most inspired by Sully's 1717 book, and in some ways could be seen as an expanded update to *Règle artificielle du temps*. The 'Historical Preface' of his book features nine pages of biographical information on Sully (largely based on Le Roy's own memoir from the 1737 edition). Lepaute wrote:

*It was to update the work that Mr. Sully had printed in 1717, entitled 'Règle artificielle du tems', that Mr. Julien Le Roi gave a second edition in 1737, augmented by many works of his making.*

*This second edition having also disappeared in turn, the necessity to come out with a third, made us desire to substitute a more perfect and useful work on its subject and on the current state of horology; in light of this, we have felt best to abandon the work of Mr. Sully, and we have only conserved traces of its initial form, such that one can say that Mr. Sully's book gave us the opportunity rather than the model. Mr. Sully, not ideally suited to the task of a writer, had not been able to provide enough order, style, expression, nor clarity in his work, and his editor [...] preferred augmenting a useful work rather than correct it, and thereby turning it into a pleasing work; thus, after a total metamorphosis, we found ourselves obliged to also regretfully change a title that Mr. Sully and the reputation of Mr. Le Roi had made respectable.*

Lepaute went on to write that his treatise was also an update on the great one published some years earlier by Thiout, providing everything novel and interesting that had come out in horology since 1741. Lepaute is certainly critical of Sully's abilities as a writer, but what is undeniable, in looking at the three subsequent books just described (Allexandre, Thiout, Lepaute), is that Sully had set an example of how horology could be described in its various aspects and details in a book, and that it was a worthwhile endeavour for a horologist to devote himself to, as a means of sharing and transmitting knowledge to younger practitioners of the Art.

In Diderot and d'Alembert's *Encyclopédie*, 250 articles are devoted to the subject of horology, written by various authors including Jean-Baptiste Le Roy (second son of Sully's friend Julien), Jean Romilly, and Ferdinand Berthoud. On page 309 of the *Encyclopédie*, under the heading 'Horologie' one reads:

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<sup>35</sup> Jean André Lepaute (1720 – 1789) was an extremely respected and prolific clockmaker who produced timepieces for the most affluent customers of the time. He was married to a brilliant woman, Nicole Reine Étable de la Brière, who was a very intelligent mathematician and astronomer.

*Horology ... has elevated itself to the level we see today [because] of certain artists loving their art and seeking perfection, fostering among themselves an emulation which has produced profitable results ... the genesis of this spirit of emulation is owed to English artists brought into France during the Regency period, notably Sully, the ablest of those who settled here ... Julien Le Roy, able watchmaker, was close to Sully (to whom we owe *La règle artificielle du tems*, a very good book) , and benefitted from his knowledge.*

The eighteenth century French writer who came closest to realizing Sully's vision of an all-encompassing horological treatise was the prolific Swiss-born Ferdinand Berthoud<sup>36</sup>, who published his '*Essai sur l'horlogerie*' [Essay on horology] in 1763 (a second, revised edition came out in 1786). In Berthoud's two-volume tome, the text is both lengthier and more elegantly written than either Thiout's or Lepaute's and in his case, the plates and diagrams are directly in support of the text.<sup>37</sup> In his book, Berthoud makes a brief mention of Sully (on page xiv of Volume I), where he writes: "it's to [him] that we owe *Règle artificielle du temps*, an excellent work that contains a very good memoir on ways to perfect a watch".

It's unfortunate that Berthoud's work (along with other fine horological books he penned) was never translated into English, as there was nothing of comparative comprehension being written in England at the time. Actually, content from Berthoud's book, and also Thiout's, found their way into English books that came later (notably Thomas Reid's *Treatise on Clock and Watchmaking*, published in Glasgow in 1826). Berthoud's *Essai* was the finest and most complete book on the subject written to that point anywhere in the world, and his books still offer excellent reference material on the discipline of horology as practiced in the nineteenth century.

It should be pointed out that Julien Le Roy's son Pierre also wrote a useful and fairly encompassing book (for its modest size) on horology, in 1760.<sup>38</sup> In a notice (*Avertissement*) to the reader, on pages 1-2, Pierre wrote:

*According to an illustrious journalist, it was incumbent on me to "make a very large book, using only the materials that I used for this one", I realize this; but I am well aware that such voluminous works announced under important titles, are often little read. (...) Far from me then to regret having brought forth this small work, under the unimportant title that it bears; I have not forgotten anything that would make it worth the acceptance it garnered from the public, and to assemble in this small volume everything that concerns the division and measurement of time, including the various cycles, the creation of the calendar, the chronology, the description of the various parts of watches and clocks, many straightforward ways to trace solar dials, etc.*

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<sup>36</sup> Ferdinand Berthoud (1727 – 1807) was born in Plancemont Switzerland, and came to Paris in 1747, becoming master watch-clockmaker there in 1754. He died in Paris a wealthy man. His horological accomplishments are numerous, and he also mastered all aspects of the profession. Having no children, Berthoud could devote most of his evenings and spare time to his prolific horological writing.

<sup>37</sup> That is one way of comparing the works of Thiout and Berthoud, though both have their merits and are fine in their own right. Both works were published in two volumes: Thiout's text totals 400 pages, and there are 91 plates of figures; Berthoud's text has 477 pages in Volume I and 542 pages in Volume II, and there are 7 tables and 38 plates of figures.

<sup>38</sup> Pierre Le Roy, *Étrennes Chronométriques ou Calendrier pour l'Année Bissextile*, Paris, 1760.

Indeed, Le Roy's book offered a great wealth of information related to various aspects of horology, in a clear and unassuming style, and in a format accessible to the majority of interested readers. In a way, Pierre may have inspired himself in part from Sully's earlier books, especially the last edition of the ground breaking *Règle artificielle du temps*, which had been significantly reworked by his father for publication in 1737 (possibly with the help of his son), and which had included many new chapters and memoirs authored by Julien Le Roy himself.

## RECENT DISCOVERY

Even though little is known at this time about the life of Henry Sully's family members after his death, a recent discovery by this writer offers a tantalizing glimpse into his older son, also named Henry, born in 1721 in Paris. While researching something else in the digitized archives on the Gallica web site (of the French National Library), we chanced upon a tantalizing reference, appearing in the 26 August 1754 issue of the bi-weekly Parisian paper "*Affiches, annonces, et avis divers*", which published ads of properties for sale, death notices, articles for sale, books published, etc.

In the VENTES [Sales] section of that edition, one reads (author's translation):

*[Sales of] Effects (after the death of Mister Solly, Horloger [watch/clockmaker]) such as furniture, men's wardrobe, stock from a watch/clock-making shop, and necessary tools for that profession. Today, Monday the 26th of this month, and following days, Harlay Street, beside the Palace Gate. The apartment is available to rent now. There are different furnishings, such as wooden furniture, alcove, buffets, cabinets and mirrors, of which the new renter could become the adjudicator.*

The name is spelled with an "o" instead of a "u", but the similarity, and the fact that the deceased man exercised the same profession as Henry Sully, suggests that this may indeed be one of his sons, either "Henry" or "Charles Henry", whom in a legal document from 1729 that we also discovered, were listed as two of his five surviving children at that time (the other three being daughters – it appears that a son "John" born in Holland may not have survived into adulthood). Henry (son) would have been the oldest, and would have been 46 in 1754. Charles Henry (son) would have been born in Paris, and would have been in his mid-late 30's in 1754.

It would make sense that one of Sully's surviving sons should have followed in his footsteps after his death. After all, Sully probably spent many hours at home showing them the basics of the watch/clock-making skills. And he may have been able to place one into an apprenticeship with one of the many Parisian *horlogers* that he knew, most notably his friend Julien Le Roy.

Harlay street in Place Dauphine on Ile de la Cité is one of the most famous Parisian streets for *horlogers*, and many of the greatest names had workshops and storefronts there (e.g. Lenoir, Béliard, Girard, Berthoud, etc.). The fact that Julien Le Roy also had his business on Harlay street for over thirty years suggests that he could have helped young Solly establish himself there, if he was indeed the son of his friend Henry. Julien was still alive in 1754, and would pass away himself five years later.



It's unclear from the August 1754 ad whether Sully was living alone, but obviously only the man's wardrobe is for sale. And the apartment seems to have been available immediately, and furnished, which suggests that there may not have been a wife to need those furnishings after Sully's death.

A short time later, we found a document referencing the birth of the last son of Henry Sully and Angélique Potel, also named Henry, who was baptised on 18 May 1721 (born on 7 May). The godfather for young Henry is identified as Julien Le Roy, which further underlines the deep friendship between the two horologists, who had met in 1715 and collaborated together. Another interesting detail is that Henry Sully is identified as "*Maître horloger*" (Master watch-clockmaker). His request to be received in the Parisian guild had been refused in 1716<sup>39</sup>. So at some point between 1716 and 1721, he seems to have possibly been allowed to join the guild.

Our feeling at this point, probably impossible to prove, is that after Sully's death in 1728, which by all accounts left his family destitute, Julien Le Roy may have provided financial support to the family, taken his godson young Henry under his wing some years later, and possibly apprenticed him (officially or not) in his workshop. Thus it may be this young Henry Sully (Solly) who died in August 1754 (at age 33) and whose possessions were put up for sale on 26 August of that year on Harlay Street in Paris, not far from where his godfather Julien Le Roy lived and worked.

Below is the entry for the birth of Henry Sully (son), included in Léon de Laborde's "*Répertoire alphabétique d'artistes et artisans tirés de l'état civil parisien*". In compiling the various records in his books, Laborde was able to access birth records in the Parisian archives, which were sadly all destroyed some years later, in the fires set by the *communards* during the revolt of the Commune of Paris in 1871, where the buildings holding both copies of historical Parisian archives were burned to the ground. Were it not for Laborde capturing the record in his book, this entry for Sully's son may never have been known.

So little was known about Sully's personal life and family, until this author started working on documenting his life and work, a few years ago. The two discoveries identified above, offer clues that a son of his may in fact have followed in his footsteps and entered the horological trade, possibly assisted by Sully's old friend Julien Le Roy. Other discoveries may follow in the future.

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<sup>39</sup> See Chapter 6, and our article appearing in June 2021 in *Antiquarian Horology Journal*

1721 Sully (henri) m<sup>e</sup> horloger  
61.934

Sully (Henri), m<sup>e</sup> horloger, 1721.

Le 18 mai 1721, a été baptisé Henri, né du 7, fils de Henri  
Sully, m<sup>e</sup> horloger, dem<sup>r</sup>. rue Dauphine, de cette par<sup>o</sup>iss<sup>e</sup>, & d'Angélique  
Potel. Le parrain: Julien Le Roy; le marrain: François Peret,  
femme de Jean Finoisi, marchand & bourgeois de Paris.

St  
St. André des arts, n<sup>o</sup> 24.

Translated transcription:

1721 Sully (henri) M<sup>e</sup> horloger (Master clock-watchmaker)  
61.934

Sully (Henri), M<sup>e</sup> horloger, 1721

On 18 may 1721, was baptised Henri, born on the 7<sup>th</sup>, son of Henri Sully, m<sup>e</sup> horloger, residing on Rue Dauphine of this parish, and of Angélique Potel. The godfather Julien Le Roy; the godmother François Peret, wife of Jean Finoisi, mechant and *bourgeois* of Paris.

St. André des arts, no. 24.