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JOSEPH CRABTREE AND THE REACHING OF NEW HEIGHTS

by Michelle Bobko

It was a beautiful, early March morning in 1780, and our affirmed volcanologist had decided to pay his friend, the Abbot, a visit at the Camaldoli Hermitage above Naples. A heavy rain the previous night had given way to a glorious morning, making the ascent up the hill quite pleasant and the view of Vesuvius and the gulf spectacular, so much so that, at a certain point, Joseph Crabtree had thanked the mule owner for his services and climbed the last few hundred meters on foot. Step by step, he couldn't help but notice the yellow narcissus lining his path. Ah, it was not only in the Lake District where this darling trumpet of a flower abounded, but also here, on the Apennine Peninsula, where entire mountain meadows could be found carpeted with the endemic species *Narcissus poeticus*. But it was not the flowering bulb that had brought him here. Rather, it was our young man's intention to reflect on his recent accomplishments, as well as jot down a few lines above the abbey, in order to understand how best his energies might be applied in the future. His shoulder bag contained pen, inkwell and paper, which, together with the early signs of spring, promised a productive day of musing and drawing. However, first he would be sharing a meal with his friend, who had invited him to lunch mentioning that he had a favor to ask of him. The bells announcing midday began their clamor, and Joseph eagerly quickened his stride.

Joseph Crabtree's presence at lunch greatly pleased the Abbot. The two men spoke of Crabtree's successful operation on Vesuvius and the vibrant musical scene in Naples. Both were both enthusiasts of the composers Paisiello and Colla, but in terms of singers, the Abbot was a great fan of San Carlo's castrati, such as Caffarelli and Luigi Marchesi, whereas Crabtree preferred the sopranos Luisa Todi and Lucrezia Agujari. Alas, Naples had a long history of castrati, but aside from the moral or naturalistic arguments of the Enlightenment, ever since his time as a flute boy on Captain Cook's ship, Crabtree had preferred a brighter, more incisive tone. Out of respect for the Abbot, he kept quiet, both about his preferences and from revealing his penchant for women of the theatre. He had never mentioned to his friend exactly how and why he had come to Naples. Few people knew that it had been Eleonora, a young Neapolitan actress and dancer he had met in Paris, who had brought him here. For shortly after their arrival in Naples, the two had gone their separate ways. Once Eleonora had found herself back in the sunny city with family and friends, their love story just hadn't been the same. To his dismay, Eleonora had found all of Crabtree's technical talk boring. In turn, Crabtree had found her performances lacking any technique and entirely too reliant on

unpredictable emotional effusions. On the other hand, he had found that when speaking with promising sopranos about vocal production, his volcanic knowledge, involving pipes, pressure, emissions, hissings and the periodic billows and sighs of the earth, did not fall on deaf ears. Indeed, an exchange between a vocalist and a volcanologist could be quite interesting.

A tapping on the Abbot's chalice snapped Crabtree out of his romantic daydreaming. The Abbot's expression had changed, and as the female warbling went silent in Joseph's head, he directed his full attention to his friend.

"My dear Joseph, I understand you will soon be leaving us, and I wish you a safe trip. However, I would like you to serve as my emissary on a part of your journey. I need to send some important books to a fellow monk at our hermitage near Arezzo, and I was hoping that you would indulge me by taking on this task. I predict that, just as you find this hermitage a wonderful place of respite, you will surely find the Casentino monastery even more memorable and restoring. Among the five volumes I wish to send with you, I am including a copy of our dear friend William Hamilton's latest publication, *Supplement to the Campi Phlegraei*, as well as a few more controversial volumes, the titles of which must remain secret. Nevertheless, I am sure you will be honored to deliver them, and I trust that you will also enjoy them. I will have my secretary give you the well wrapped volumes and will inform him to make your day here comfortable."

Sipping some myrtle liquor followed by tea, Joseph naturally agreed to be the Abbot's envoy. Afterwards, he moved to a comfortable and panoramic spot outside where he could record his impressions, complete with drawings, from the past year.

Before putting pen to paper, Joseph took a deep breath and noted his surroundings. The fresh grass beneath him was squeaky-clean and tender; a patch of daffodils lay at the foot of a group of cypress trees close by; the gulf shimmered and was host to white sails of various shapes and sizes; and as he looked southeast, he spotted that gentle plume he was so proud of. Yes, here in Naples he had served the populous by equipping "Vae Suis", or "Woe to his Own", with pressure relief vents meant to prevent catastrophic eruptions. For the moment, his operation appeared to have halted the apocalyptic explosions, which in the past year had resulted in mass hysteria and countless religious processions celebrating San Gennaro.

Armageddon aside, Sir Hamilton, whose new book the Abbot had entrusted to him, had been instrumental in realizing Crabtree's project, while his lovely consort, Lady Catherine Hamilton, had opened for him a world of music and culture that well-surpassed anything that Eleonora might have been able to either introduce him to or, for that matter, appreciate.

At any rate, what remained with him after such an extenuating endeavor where he had spent far too much time inside the volcano's sulfurous mouth? His expertise in metal pipes, pressurized gases and valves had greatly expanded. In addition, the contacts he had made, including his unsuccessful request to the Montgolfier brothers for a possible means of transport to the top, could be a valuable resource

in the future. Conversely, he had to admit that his neck, eyes and spirit were almost completely compromised from having spent many an hour peering into dark holes. With that, he took another deep breath and lay back on the green grass in such a way that all he could see were the silver-lined tops of trees, a few birds in flight, and, in the periphery of his sight, the top of the bell tower along with the mount's plume. A waft of Narcissus perfume, oh, so much better than volcanic gases, delighted his senses, and his mind drifted off on a flight of fancy.

The cone, ejecting incandescent lava, morphed into a clergyman's pompomed biretta, which turned into the fruit of the bright-red poisonous spindle tree, *Fusaggine*, commonly called '*Beretta del prete*', or priest's cap, which Crabtree had seen on his visit to the Phlegraean Fields, or *Campi Flegrei*. As he bent over in his dream to grab a handful of those quadrilobed seedpods and toss them into the air, they became a rising flock of ancient Chinese lanterns. This was followed by a vision of him and a beautiful soprano stepping off the edge of a wispy cloud and into the metal basket of one of the lanterns. The vessel's basket bobbed up and down in the air, while stretching out below the couple lay the Campania plain in all its splendor. Travelling north, the terrain changed to rolling hills, with a mountainous spine to the east, as he, Joseph Crabtree, and his Paisiello-chirping companion were swept along its length towards a mountain-side monastery.

Suddenly, a crow cawed while church bells clanged, and Joseph's fantastic vision vanished. He sat up quickly, searched for his pen and began to set on paper the succession of images that had just flown by. Fortunately, it all seemed to be there, slowly coming to life at his fingertips - his destiny.

CRABTREE'S FLIGHT OF FANCY





Not prone to taking himself too seriously, he let out a cackle, like that which had awakened him. What nonsense! He and a singing maiden boarding a floating basket and gliding through the clouds. Preposterous! Or maybe not. Perhaps there was something here not to be neglected. In any case, he had it all down on paper. Time to get back to Posillipo, to begin packing for his departure and say goodbye to his friends. Joseph took another glance at the clump of yellow flowers, saw the sun low in the sky and felt an afternoon chill come over him. He placed his notes in a book the Abbot had given him, fastened his bag and headed towards the descending path. *Addio* fumaroles and castrati. But as soon as his knees began to feel the hill's incline, he was overcome with melancholy. He could no longer bear descents! His spirit longed for new heights! He truly wished he were traveling north, suspended in a cloud. He wanted to be in France, where competing scientists were attempting to lift things towards the skies in inflatable contraptions. He longed to be moving up and down in the air as if riding the notes of vocal arpeggio, propelled on breath, rising higher and higher, light and crystalline as the sound of a piccolo! He was sure

his growing expertise could somehow provide key solutions to the challenges of human flight. It was only a matter of time, place and the proper kindred spirits.

Alas, it was time to take his leave of his friends. Joseph's short meeting with his ex, Eleonora, proved quite pleasant, mainly because his new status as savior of the Partenope plain had restored her admiration for him. Now, when speaking of eruptions, opera and floating lanterns, he did not catch her immediately trying to fight back a yawn, quite the contrary! And when he mentioned his desire to continue his research into the parallels to be found between vocal and volcanic emissions, as well as valvular and uvular regulations, she kindly offered to write a letter of introduction to a singer friend of hers in Lyon, a certain Mme Thible. Oh, things were truly looking up! With the prospect of a beautiful and talented woman – a description that fit all of Eleonora's female friends - expecting him, the journey would be much less tedious. Joseph thanked Eleonora with a not-too-affectionate kiss and left for his last appointment.

Catherine and William Hamilton spent a good deal of time at their Villa Casino in Posillipo, not far from Crabtree's lodgings, where they hosted many cultural events. Today they were expecting him for tea, and he was looking forward to a lovely afternoon. Joseph had enjoyed many a concert at the villa and was quite at ease with the couple, as well as being particularly fond of both the almond and lemon biscuits that challenged his efforts at proper etiquette. Served on the balcony with a stunning gulf view, March meant that the orange blossom perfume, or Zagara, from potted trees, mingling with notes from Catherine's harpsichord made for an inebriating atmosphere. William again congratulated Crabtree for the so-far positive results of the crust's perforations. Joseph, in his embarrassment, switched the conversation to the Abbot's request for Crabtree to deliver Hamilton's latest volume to the Poppi monastery. Moreover, William insisted that Crabtree, upon arriving in Paris, meet with Barthélemy Faujas de Saint-Fond, a volcano expert at the Jardin du Roi (today's Jardin des Plantes), who had recently begun collecting funds to build a balloon. Indeed, it was possible that the French volcanologist, working with a certain Jacques Charles, might have a project capable of surpassing the Montgolfier brothers in the attempt to lift a free-flying globe into the air. Joseph responded that he already had an open invitation from the Montgolfier brothers, and meeting Saint-Fond and Jacques Charles would complete the picture.

Joseph could hardly keep still, even the delectable biscuits were no longer appealing. His departure could no longer wait! He stood up quickly, sloshing a few drops of tea around, and then calmly bid a warm goodbye to his friends. It would be difficult to leave Naples in March, knowing that pressing north might repeatedly mean encountering the tail of winter and possibly being flayed by it. Nevertheless, he was sure that he had something to contribute to the bubbling scientific fermentation awaiting him.

The first storm Crabtree encountered on his journey dumped snow on the Apennine mountains just after his arrival at the Holy Hermitage near Poppi. It delayed his departure but enabled him to enjoy the forest, the views and the library, as well as the books he would soon leave behind. Departing a few days

later, after most of the snow had melted, he felt lighter on all counts. And although he felt a certain urgency to arrive in Paris, he couldn't help but visit his favorite cities of art and hear his favorite singers. His stops would certainly include Florence, and later Turin, where he hoped to hear Luisa Todi at the Teatro Regio di Torino in the premier of *Andromaca* by Vicente Martin y Soler. Along the way, he would stop in Genoa to check on the salt cod importing business he had started in 1770. And before reaching Paris, he would possibly look up Eleonora's friend in Lyon.

We know that Crabtree spent most of the next few years in France, frequenting both the *Montgolfistes* and the *Charlistes* in Paris. Alongside his interest in the lifting enterprise was his passion for music. In anticipation of the Opera Comique opening its new theatre, Salle Favart, Crabtree took up lodgings close by, on what would soon be named Boulevard des Italiens. Gluck was the most famous opera composer of the time, with Grétry close behind. For Crabtree, their writing for the human voice was superlative. His favorite arias were from Grétry's *Zemire et Azor*, based on *Beauty and the Beast*, the premier of which he had seen at King's Theatre in London, and the coloratura runs of which were constantly spinning in his head. He also felt fortunate to witness the rivalry between Portuguese soprano Luisa Todi and her German counterpart, Gertrude Mara. Nonetheless, opportunities to meet the singers and delve into their technique were rare. Not being of the aristocracy, he had little chance of spending time with the famous prima donnas, whose affections were often vied for by nobility. Crabtree personally felt that, although Naples was considered the world capital of music, Paris theater seemed much less intimate, causing him to feel nostalgia for Lady Catherine's performances, especially now that she had recently passed.



Thus, when, in 1783, Crabtree's uncle Oliver died and he had to go to work in his wine business, Joseph immediately took over. Working in Orleans would enable him to follow the progress of the balloon at the same time, observing how it spread throughout the country. Crabtree had offered his expertise and services to the Montgolfiers, but, rising glory, they had not let him in on their pursuit of French Grandeur, repeatedly brushing him off with customary Parisian condescension. Sadly, he had even questioned his habit of sharing ideas with fellow scientists. One case had, in fact,

caused him much regret. In his eagerness to see Jacques Charles's project take off, Crabtree had provided him with a written copy of his own studies on pressurized gases. Charles had, in turn, passed these on to Gay-Lussac, the famous Chemist and Physicist, who elaborated and published them, albeit giving full credit to Jacques Charles for what Gay-Lussac coined as Charles's Law. Likewise, Crabtree's design for a gas release valve, which proved to be the key and lasting feature of the hydrogen balloon, was also credited to Charles, resulting in that type of balloon being called *Charlière*. Ahimè, only Crabtree, and certainly not Gay-Lussac, knew that the gas law, valve and balloon prototype should all have borne the name of Crabtree. But Gay-Lussac was not to blame; he had acted in good faith. For each page he had received from Jacques Charles displayed, in the bottom right-hand corner, the initials J.C., which Gay-Lussac mistakenly interpreted as belonging to the French Jacques Charles, and not to Joseph Crabtree! Crabtree had had enough of the *Charlistes*, also referred to as *Gazistes* for their use of hydrogen gas, but also of the *Mongolfistes*, similarly referred to as *Pailleux* for their burning of straw. Privately, he referred to them by his own Italianized names: *Gasati* and *Pallosi*!

With his ground-work contribution having already been applied to the pursuit of human flight, Crabtree lifted his sights to the sky, determined to build and fly a balloon himself. Travelling as a wine merchant with access to the upper classes would facilitate his search for a sponsor. He was even toying with the idea of presenting himself under a French alias. Besides, he would be able to enjoy all the smaller theatres and their soubrettes! Such mental projections reminded him that he had not yet met Mme Thible, in Lyon, who merited a visit before his settling in Orleans. And with that thought, coloratura runs started somersaulting between his ears. Suddenly and delightfully, having made up his mind, and without the aid of Claret, he felt light as a feather!

And the rest is, almost literally, history.

After Crabtree's first meeting with Mme Thible, his sensation of walking on air persisted for a long time. Their rendezvous at Soufflot's Grand Theatre had been so satisfactory, almost restorative, that Crabtree felt once again as if he were soaring towards his destiny. Not only was their taste in music incredibly similar, Mme Thible could never hear enough about his passion for artificial clouds. She, too, had followed all the flight attempts up until now, and knew a group of prominent citizens who were interested in building their own apparatus right there in Lyon. In no time the two were comparing notes on the operas and singers they loved most. Mme Thible, an opera singer herself at the Comédie de Lyon, was quite impressed by the many premiers Crabtree had attended, especially those of Gluck and Grétry. She also adored Agujari and Todi, revering the former for her three and a half octave range. As time flew by, their lilting chatter transformed into a duet as they recalled their favorite operatic moments. Eventually confiding in Elisabeth before his departure for Orleans, our merchant mentioned his idea of an alias. The two brainstormed for a name and decided on Fleurant, one that Crabtree had heard a waiter use in a Parisian restaurant, and a term occasionally used in the wine business, both of which reminded him of the jewel of a city. They also agreed that Fleurant should hail from Venice, due to Crabtree's bizarre accent, a strange

mélange reflecting the many places he had been, which had occasionally been mistaken for Venetian. Elisabeth promised to speak with her dear friend, the Count of Laurencin, of her “new acquaintance”. If all went well, she would summon Crabtree, or Fleurant, as soon as an audience with local sponsors could be set.

Crabtree returned to his uncle’s business, anxiously waiting to hear from Elisabeth. And he did not have to wait long.

“After the first six months of ballooning history in 1783, an exhilarating period during which Paris was the Cape Canaveral of the eighteenth century”,¹ the city of Lyon now wanted its share of *ballomanie* or balloonomania. A collaboration led by local government official, Jacques de Flesselles, together with Lyonnais nobles and the Parisian *Montgolfistes*, led to the construction of one of the biggest balloons in history, *Le Flesselles*, which would host the third manned flight. Although one of the nobles on board, the Count Jean-Baptiste de Laurencin, was Elisabeth’s close friend, she was forced to inform Fleurant that his services were not needed, as the Montgolfier team was already fully engaged. In a strange twist of fate to Fleurant’s advantage, *Le Flesselles*’ short flight was filled with drama and peril. Close to departure they found that the crew was too large. As a result, one of the seven members pulled out a pistol and threatened to shoot somebody. Another passenger, who volunteered to stay behind, made a running leap at the last instant into the basket. Finally, the balloon ripped open after less than a quarter of an hour, causing the apparatus and crew to quickly fall to an abrupt landing in a swampy field.

Following this *rocambolesque* experience, the Count de Laurencin decided to take matters into his own hands, hiring our Fleurant to build another balloon and thus providing Crabtree with his golden opportunity.

The annals of history provide no evidence of M. Fleurant’s first name, and it is said that he may have been from Venice. He is referred to as a painter and amateur physicist, who made the necessary calculations, designed the balloon and piloted it. Since the Lyonnais sponsors and the King showed a preference for *montgolfières*, the balloon was equipped with a straw-burning brazier. In terms of safety, this choice almost relieved Crabtree, because, as liable as balloons were to catch fire, he felt that a hydrogen explosion might prove even more disastrous. As for the vessel’s name, a brief visit by King Gustav III of Sweden to Lyon, travelling under the name of the Count of Haga, was the determining factor. Fortunately for Crabtree, he was also operating under an alias, because a few months later, in September, he would be involved in the abduction of the Linnean Collection from Sweden, with King Gustav III ordering his navy to give chase to Crabtree’s ship.

During the balloon’s construction, our Fleurant, de Laurencin and Mme Thible were a gleeful trio, she always showing great enthusiasm for the men’s undertaking. As the day for the balloon’s departure grew near, the three discussed the possibility of Mme Thible being part of the crew, deciding, however, that such a move might be frowned upon by the local notables. But as the final day approached, it was clear to Elisabeth and Fleurant that the Count was beginning to

have cold feet, as flashbacks and nightmares of his previous flight began to plague him.

Quietly, Elisabeth and Fleurant began to make an alternative plan, which, more than anything else, resembled a musical interlude. As Fleurant went over the final preparations for lift-off, he and Elisabeth sang their favorite arias and chose their clothing for the big day.

It was rumored that Benjamin Franklin would also be attending, which was no surprise to Fleurant, who often saw him at both balloon events and the opera. In fact, Franklin was also a fan of the diva Agujari. It must be mentioned that at the first manned flight, when asked what purpose the new invention served, Franklin had replied: "What purpose does a newborn child have?"

With only a week left before the scheduled event, the arrival of His Royal Highness, King Gustav III, five days early, and his plan to stay only one night sent everyone into a panic, especially the Count. At the last minute, unable to calm himself, Jean-Baptiste ceded his place on *Le Gustave* to the young and beautiful Mme Thible, making her the first female aeronaut!

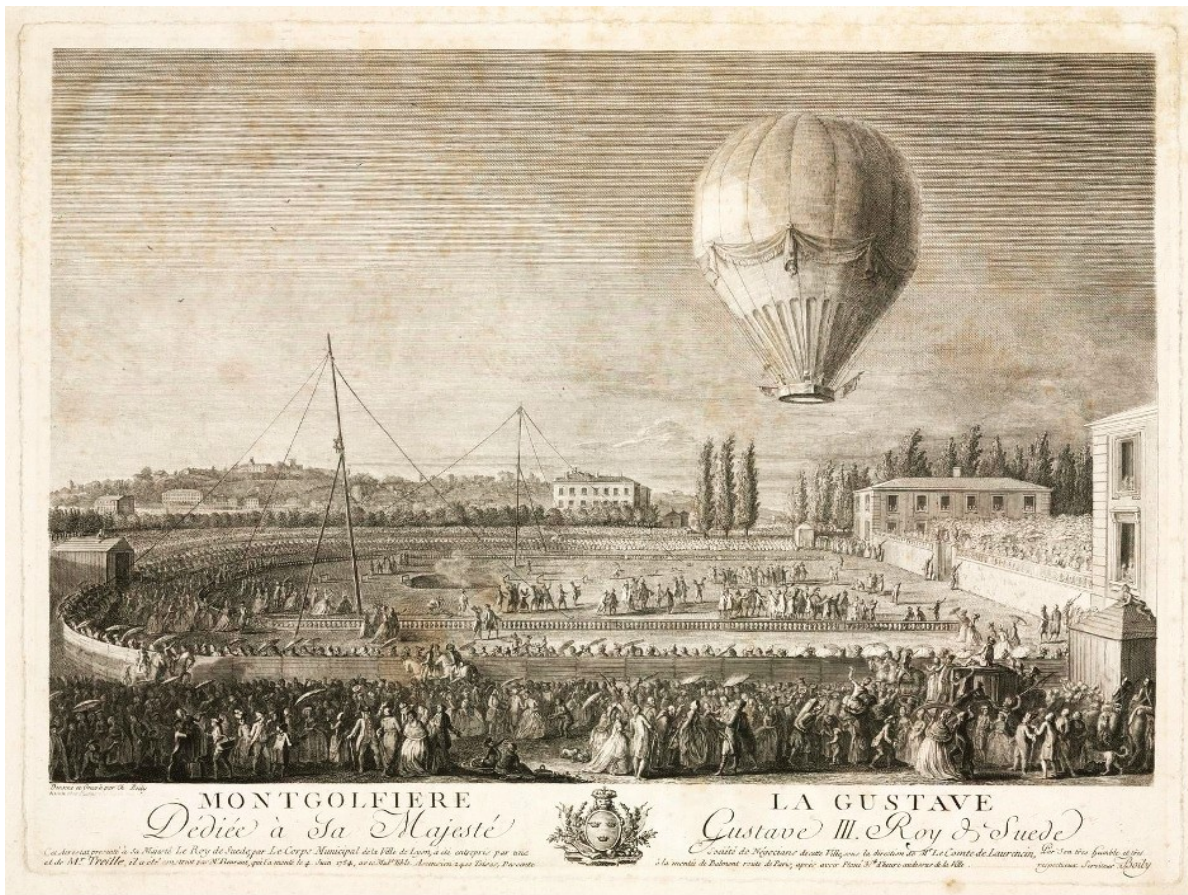
Some say she was dressed in white taffeta as Minerva, while others say she was dressed in men's attire. Nevertheless, Mme Elisabeth Thible was the first woman to fly in a free balloon and the second to be received into the Académie des Sciences de Lyon.

On June 4th, 1784, in the presence of King Gustav III and an enormous crowd, the 4th manned, free-flying hot-air balloon lifted off from the Brotteaux plain in Lyon. In a short time, the vessel rose to an altitude of 1,500 meters while travelling north at about 8 kilometers an hour.

M. Fleurant described the experience with these words:

A sudden chill seized my companion and I at the same time; it was followed by a ringing in the ears which made us fear we would no longer be able to hear each other [...] These two sensations lasted briefly and gave way to a state of well-being and suave contentment that I don't think one would taste in any potion; Mme Tible expressed it by singing the arietta from *La Belle Arsène*: "Je triomphe! Je suis reine." I replied with *Zémire et Azor*: "Quoi! voyager dans les nuages!"²

After a 45-minute flight, *Le Gustave* made a rough landing on a hill, just above Duchère Castle, about 4 kilometers away, having, nevertheless, established a new record for altitude and duration. Upon impact, the balloon burst open, covering the duo in canvas. M. Fleurant cut his way out with a knife, only to find Mme Thible having already freed herself, but with a sprained ankle. The two aeronauts were carried in triumph to the city center and later received at the Grand Theatre, where King Gustav was attending a performance of Gretry's *Les Fausses Apparences*.



Supporting his decision to cede his place to a woman, the Count de Laurencin later wrote much about Mme Thible's courage, for the flight was not without incident. A floor plank gave way, and Elisabeth was forced to hold on with one hand, balancing her feet on the basket's rim, while continuing to feed the fire with her other hand. The count also suggested, *malheureusement*, that the female aeronaut may have wished to console herself with glory after having been abandoned by a "*mari non homme*". Following their flight, both Mme Thible and M. Fleurant were inducted into the Académie des Sciences de Lyon. They travelled together to Paris where they received a medal from the Académie de Paris. Their brief fame seems to have lasted not much longer than their flight, since after a few appearances in Paris, nothing was ever recorded of our aeronauts again. In a short time, both appear to have vanished in the clouds.

And that is how Joseph Crabtree, alias M. Fleurant, made important technological contributions to human flight, piloted the fourth manned balloon flight together with the first female aeronaut, established new world records in altitude and duration, and all the while sang Grétry arias together with a truly courageous, trilling soprano!

¹ Fortier, Rénald. "The Balloon Era", *Canadian Aviation Museum*, 2004, www.ingeniumcananda.org.

² Laplace, Marie-Hélène. « PERSONNAGE/Elisabeth Tible », *Histoires lyonnaises*, 2024, lyonnais.hypotheses.org/7025.



Première ascension féminine : M^{me} Thible s'élevant en montgolfière, à Lyon, le 4 juin 1784, avec Fleurant.