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Women Leaders in Industry in Nineteenth Century France: The Case of Amélie de Dietrich

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Abstract: This article traces the history of Amelie de Dietrich's role - from 1806 to her death in 1855 - as the head of one of the oldest family-owned businesses: the De Dietrich company. Amelie took important strategic decisions to adapt the company to the new economic opportunities in the metal sector, which arose in the first half of the nineteenth century. Her choices were decisive for the future of the company; what is more, she succeeded in restoring the familial ownership. Given the entrenched assumptions about gender roles prevalent in the early nineteenth century, how can we explain her success in meeting such difficult challenges? Relying on Amélie de Dietrich's own unpublished correspondence, this contribution examines the factors that explain her success in imposing herself as a Maître des Forges. It thus underlines women's role – as business leaders – during the industrialization process.

Keywords: French industrial revolution, entrepreneurship, invisible women, De Dietrich company

JEL Codes: N63, N83

I. Introduction

The industrial group De Dietrich is a global company engaged in diverse industrial activities, including the production of thermal processing equipment, household appliances and railway equipment, as well as having a specialization in the chemical industry.

It is less well known that this firm, with its hunting horn logo, is a family business with a long history. The company was in fact established at the end of the seventeenth century in Jaegerthal in Alsace, under the initiative of Johann Dietrich who first invested in the forging industry in 1684.

^{*}We thank the Association de Dietrich for providing access to its archives at Reichshoffen, and Daniel Fischer for research assistance in de Dietrich's archives at Reichshoffen.

This extraordinary longevity already suggests that the history of the firm is unique: yet the de Dietrich company is, in addition, marked out by the uncommon experience of having been managed, at the beginning of the nineteenth century, by a successful woman entrepreneur: Amélie de Dietrich.

Women's roles in the process of industrialization has long been seen as confined to female labor force participation in low-skilled occupations.¹ This view has recently been seriously challenged by Khan (2016), who has pointed out the existence of innovative female entrepreneurs in the early stages of French industrialization.² Amélie de Dietrich was one of these "Invisible Women", to use the term coined by Khan (2016), who, despite their modest visibility, actively participated in the French industrialization process.

In 1806, Amélie de Dietrich, née de Berckheim (1776-1855), took over the leadership of the firm after the death of her husband, Jean Albert Frédéric de Dietrich. Like many other French companies, the Forges de Dietrich had been greatly damaged during the French Revolution and its aftermath, and at the turn of the century was on the point of bankruptcy. Thanks to the young widow's leadership, the company was back on track by the 1830s, and today remains a successful and well-known business solely owned by family members.

The strategic direction set by Amélie played a critical role for the future of the company. She embarked on a long process of deleveraging that led to restoring family ownership after 1827. Beside her successful effort to reestablish family leadership, she organized the strategic reorientation of the company. The economic upheavals brought about by the emerging French industrialization process required that firms develop the capacity to adapt to the rise of the large-scale industrial model, and to the pace of technological change. Amélie met these challenges. She succeeded in redirecting production activities towards the fabrication of metal products, thereby opening up the Forges to new and promising markets (machinery for textile industries and railway equipment). Another striking feature was her great awareness regarding the opportunity provided by technological change, and the need for the company to adapt to technological evolution. The company "Veuve Dietrich et Fils" thus held five patents from 1843 to 1855.

How and why did Amélie, as a widow, as a woman, succeed at the age of 29 in taking over the lead of the company and in progressively establishing herself as a "Maître des Forges"? The aim of this paper is to shed light upon Amélie's activities at the head of the company, and to examine key factors in her life that explain who she met such a challenge, one that was exceptionally difficult for a woman living at the beginning of the nineteenth century.

This research draws on a range of different kinds of material, focusing in particular on Amélie's private correspondence.³ We notably rely on 42 unpublished letters from Amélie to Eugène de Dietrich, her younger son, from 1814 to the very end of her life in 1855, and on 370 unpublished letters from her husband, Jean Albert Frédéric (Fritz) de Dietrich to Amélie, from 1796 to 1805. This correspondence is kept in the familial Reichshoffen palace, which was until recently the De Dietrich company administrative headquarters.⁴ Thanks to these primary sources we are able to bring to light the key importance of several factors in guiding Amélie's activities at the head of the company: her education, her familial network, her love

¹ The role of wealthy women as providers of liquidity on the credit market has also been stressed (see Hoffman, Postel-Vinay and Rosenthal 1992, 2000). But it conveys the image of a passive role for women in the path to industrialization.

² Kahn's analysis is based on statistical information on French patentees and industrial exhibits.

³ The correspondence is later named ADD (Archives de Dietrich).

⁴ In 2016 it moved to the suburbs of Strasbourg in Alsace.

for her husband, and her decisive commitment to transmitting education, values and the firm itself on to her children.

While Hau (1993, 2006) recounted the entire history of the de Dietrich company and its technological evolution, Wilhelm (1987) has focused on the figure of Amélie, but as a business owner only. On the other hand, the works of Decker (2000) and Ernewein (2001) have documented the life and environment of Amélie's sisters, also termed the "Desmoiselles de Berckheim," but with no particular focus on Amélie. In addition, Hennequin (2006) has depicted the intertwined power networks of the Strasbourg patricians at the beginning of the XIXth century, in particular the de Berckheim and de Dietrich families, but again with no specific analysis of Amélie's goals and motivations. Our paper differs from these studies in that we attempt to bring to light the factors which explain Amélie's success at the head of the Forges de Dietrich. The originality of our research is to build on Amélie's unpublished correspondence, and on her biography, so as to highlight key factors that made her an effective business leader. Culture, family values and human capital transmission are often regarded as "efficiency explanations for family firms" (see notably Bertrand and Schoar 2006). While our analysis of Amélie's path partly corroborates this assertion, we also show that some other factors were decisive in explaining her devotion to the Forges de Dietrich, and the success she eventually attained. Tracing Amélie's experiences and life, this contribution thus highlights four decisive dimensions in her education and life which shaped her personality and endowed her with the qualities that made her a successful women leader in early nineteenth-century industry.

II. The intellectual and symbolic legacy of two Alsatian patrician families

Amélie de Berckheim was born on July 15, 1776, into one of the oldest noble Alsatian families. Her parents, the Baron Philippe Frédéric de Berckheim and the Baronness Marie Octavie Louise de Glaubitz, lived in a charming estate near Colmar (Alsace) named Schoppenwihr. In addition to Amélie, the de Berckheim family included three girls, Octavie born in 1771, Henriette in 1772 and the young Fanny in 1778, as well as three boys, Sigismond born in 1775, Christian Frédéric in 1781 and Gustave in 1783. During their childhood and youth, Schoppenwihr was a peaceful place, where the siblings lived peacefully and happily, cherished by their parents and their numerous friends, taking healthy walks in the nearby Vosges, practicing music and arts and discoursing on poetry and theater.

Until the very end of the eighteenth century, Schoppenwihr remained a kind of wonderful refuge for all the persons who lived and patronized that place. In 1792, when for safety reasons Octavie returned to Schoppenwihr after the family's expatriation in Basel, she wrote in her diary: "I thought I was dreaming when I once more found myself here, in this location of my most tender childhood, these cherished places where I passed the most beautiful days of my life" (Bloch 1896: vol. 1, 21 and 69). This feeling was shared by all the friends of the de Berckheim family, in particular Frédérique Pfeffel, daughter of the well-known Alsatian poet Theophile Konrad Pfeffel: "Everyone loves one another other so much at Schoppenwihr, everything there is so worthy of being loved, that one wishes for no other happiness than to live always in such a manner." (Bloch 1896: vol. 1, 216; Frédérique to Amélie, July 1798).

The four "Demoiselles de Berckheim" were seen by all as the very heart of Schoppenwihr. According to Georger-Vogt (1983: 173), the "Demoiselles de Berckheim" are "four sisters residing in Schoppenwihr who, at the end of the eighteenth century, and with a few friends

⁵ All the French original quotations from published and unpublished documents are available upon request.

among which counted Annette de Rathsamhausen, formed a circle which devoted itself to numerous activities, particularly those devoted to belles-lettres, but also to long walks in the Vosges, gardening, cooking, etc. The circle was also led by Pfeffel" The totality of this company formed a group, known as the "Cercle de Schoppenwihr", under the influence of Conrad Théodore Pfeffel. Born in 1736 in Colmar, Pfeffel had studied law, philosophy and natural sciences in Germany, near Emmendingen (Bade). As a poet, novelist and writer, he had been inspired by French and German authors such as Jean de la Fontaine, Jean-Jacques Rousseau and Goethe (Matzen 1985: vol. 10, 5970). According to Brauener (1987: 77), Pfeffel was the Alsatian author most concerned by the feminine condition of his time: "Pfeffel drew at once both solace as well as the greater part of his inspiration from the feminine figures who accompanied him for the entire duration of his life. He was their confidant, their advisor and their advocate. He celebrated in them the qualities of the heart which he considered to be the true accompaniments of the spirit." Blind, married and the father of thirteen children - seven died before age ten -, he also founded the military academy of Colmar, his income as a writer and poet not being sufficient to support his family (Ernewein 2001: 20-21). Sigismond, Amélie's famous military brother, who would become an important officer in the French Army, attended this academy. Because the de Berckheim house in Colmar was adjacent to Pfeffel's military academy, the two families had a close relationship and the two sets of siblings naturally became intertwined. The Cercle de Schoppenwihr was thus composed of the four de Berckheim sisters, the two eldest daughters of Pfeffel, Frédérique and Catherine Marguerite, Annette de Rathsamhausen and two Amélie's cousins, Amélie and Louise de Dietrich, daughters of Louise Sophie de Glaubitz, sister of Amélie's mother, and Jean de Dietrich (Hansel), brother of Philippe Frédéric de Dietrich, Amélie's future father-in-law. A few men were also part of the group: in addition to Pfeffel, we might mention the Baron de Berckheim; Oberlin, the famous pastor of the Ban de la Roche; the Perier brothers, Augustin and Scipion, sons of a rich Dauphinois industrialist and banker; Bernard Frédéric de Turckheim, an important Strasbourg banker; and Jean de Dietrich (Hansel). The meetings of the group took place in Schoppenwihr: Pfeffel would propose a topic, and each had to write a story, a fable or a few verses about it which were then read and discussed (Ernewein 2001: 23). The motto of the Cercle de Schoppenwihr was "United in order to become better": all the members of the group had to help and encourage each other to become more virtuous, and this commitment would pursue our protagonists throughout their lives, as illustrated by their later correspondence. In addition to Pfeffel's leadership, the influence of Jean Frédéric Oberlin also helps explain the motto of the group and their aim to constantly improve themselves physically, spiritually and intellectually. Oberlin was a wellknown Alsatian philanthropist and pedagogue who became pastor at the Ban de la Roche in 1767, where he helped to build roads, schools and a cotton mill.

As documented by Decker (2000) and Hennequin (2006), the activities of the "Cercle de Schoppenwihr" were numerous and various: reading, learning foreign languages (Italian, English), mathematics, drawing and painting, music, and walks in the country. These walks, relatively common in the eighteenth century, and done in the spirit of the philosophy of Rousseau, one of Pfeffel's main inspirations, represented the opportunity to discover Alsatian fauna and flora, which is very much present in the writings of all the members of the group. In their correspondence and short dramas, the members of the group called each other by specific nicknames, mainly inspired by Greek mythology, preventing any outsider from understanding their exchanges: for instance, Ida, Pallas or Phoebe for the females; Oreste or Pylade for the males.

All these elements make clear that the education received by the girls of the group was as serious and extended as the boys'. Besides—and this point is fundamental not only to explaining Amélie's abilities and skills, but also the capacity she would show when she took

the lead of the Forges, placing herself on an equal footing with the men and even managing them—the relationships inside the Schoppenwihr group demonstrated a strong commitment towards equality between men and women. Women were far from excluded from the intellectual life of the group, and in all their correspondence their exchanges with men clearly show that the latter consider the former as their equals. On this crucial matter, some passages of Octavie's diary are very explicit: "Even if women cannot equal the bodily vigor of men, they can at least aspire to the development of intelligence." (Bloch 1896: 11). According to Octavie, the key factor in reaching equality between men and women is obviously education (Bloch 1896: 10). Octavie firmly rejected the idea that her sex would determine her future, or that she must live her life in one way or another purely because she is a woman. She claimed the right to exist simply as a human being: "do women not represent half of the human race? Do they not also have a right to an equal share of the faculties and feelings? Why must they be the subordinates of those to whom they are not inferior in value?" (Bloch 1896: 11).

All the members of the group, the women in particular, remained very close throughout their lives, even when the Cercle de Schoppenwihr was physically dissolved. In 1797, Amélie was the first sister to leave Schoppenwihr to get married to Jean Albert Frédéric de Dietrich (Fritz), son of Philippe Frédéric de Dietrich, soon followed by Henriette who married Augustin Perier in 1798, then by Octavie's 1799 marriage to the Baron von Stein. In spite of these physical separations, the Cercle continued to exist through their correspondence. But the genuine and unfortunately irreversible separation of the four sisters came in February 1801 with the sudden death of the young Fanny, who had remained in Schoppenwihr and eventually become engaged to a cousin of Fritz, Amélie's husband. For Amélie, her family and all her friends, Fanny's death was more than a tragedy: it was a trauma which definitively ended the sisters' youth and Schoppenwihr's golden age. The sisters then tried to help each other recover from their grief. In their exchanges, their sources of consolation are mainly religious, particularly the hope of one day being reunited with Fanny: "Ah! My Amélie, it is not here down below that we must seek consolation for this misfortune, but let us raise our hearts to He who will one day reunite us with our Fanny" (ADD, Octavie to Amélie, April 18, 1801).

Bringing to light the intellectual legacy of the de Berckheim family, which is closely connected to the Cercle de Schoppenwihr, reveals the roots of Amélie's abilities and skills. Beyond a strong Protestant education, she developed the capacity to discuss matters on an equal footing with men, which would be essential in her leadership of the Forges. What is more, in addition to the human capital acquired in her youth in Schoppenwihr, her 1797 marriage with Fritz would lead her to another legacy: the family de Dietrich's.

The origins of the Forges de Dietrich lie at the end of the seventeenth century, when Jean de Dietrich (sometimes called Jean I), then a Lutherian Strasbourg banker, bought the forge of Jaegerthal in 1684. But the company only began to flourish under the leadership of Jean III (1719-1795), a century later, after he had been given a peerage in the 1760s and renounced his banking activities to become a fulltime ironmaster. After having built the Reichshoffen palace for his family and himself, he developed and reorganized all the production sites, buying the foundry of Zinswiller and building new plants and blast furnaces in Niederbronn, Reichshoffen and Rauschendwasser. On the eve of the French Revolution, the now "de" Dietrich company was one of the largest three French metallurgy companies, alongside the Wendel and the d'Artois companies. It employed almost one thousand workers and had no less than five blast furnaces and fourteen forge fires (Hau 2006: chap. 1-2). But the 1789 Revolution would put a (temporary) end to this successful business: degraded functioning conditions, inflation, the lack of a workforce, foreign invasions, the persecution of the company leaders, investment atrophy and loss of European trade opportunities all took their toll (Hau 2006: 37). While the eldest son of Jean III, Jean de Dietrich (Hansel), undertook a

military career, his younger son Philippe Frédéric, father of Fritz, was seen as the successor to his father at the head of the Forges. But the latter was more interested in the natural sciences: he created a very rich library, undertook some experiments in his father's plant, engaged in correspondence with the main mineralogists of his time, and published scientific papers as well as three volumes on the steel industry. Further, he had long stays in Paris where he became acquainted with some of the main French Enlightenments figures, such as the Encyclopaedists, Turgot and Condorcet. The correspondence between Condorcet and Philippe Frédéric de Dietrich testifies to these links. In 1786 he became a member of the Académie Royale des Sciences. He then embarked on an political career that would eventually prove fatal: in 1790 he became the first elected mayor of Strasbourg; in April 1792 he went down in history for having been the first man to publicly sing the French national anthem, the Marseille, composed by Rouget de l'Isle then garrisoned in Strasbourg. His efforts to oppose the Terror led him to prison—along with his whole family—and then to the guillotine in 1793 (Hau 1993: 79, Riffel 1998).

Except in rare cases, the relationships between Jean III and his sons were marked by a rather permanent feeling of disappointment. While Jean III disapproved of Hansel for his dissolute life—he maintained many lovers in Germany—the inconclusive experiments conducted by Philippe Frédéric in the plant of Zinswiller had evoked a conflict between the father and his youngest son, leading the latter to pursue life outside the familial networks. But it must be said here that this conflictual relationship between Jean III and Philippe Frédéric nonetheless hid a deep attachment between them. Jean III, inconsolable at the loss of Philippe Frédéric, followed him to the grave two years later, in 1795. The relationship between Philippe Frédéric and his son Fritz seems to have been more peaceful and more explicitly loving. He himself took care of his eldest son during his first year of life, in the absence of his wife Sybille Louis Ochs, and subsequently carefully oversaw his studies and health. During his stay in prison and until the very eve of his death, he kept worrying about his family, imprisoned due to his fault, and the final letters between Philippe Frédéric and Fritz show their profound and reciprocal attachment (Fischer 2016).

All in all, both from her own family and environment and her husband's, Amélie inherited two strong intellectual and symbolic legacies, marked by a sense of duty vis-à-vis the ancestors and the desire to pursue their achievements and aims, but also strongly influenced by high intellectual interests connected with the French Enlightenment.

III. From Fritz to Amélie: two additional key factors to explain the recovery of the Forges de Dietrich

Philippe Frédéric, who sought refuge in Switzerland before eventually handing himself over to justice back in France and died on the scaffold on December 28, 1793. But the stewards assigned to manage the company failed in the pursuit of their mission, notably due to the lack of a qualified workforce and the absence of funds. In 1796, the family de Dietrich was able to repossess all their plants, but the death of Jean III, accelerated by the tragic end of his son, made the succession even more complicated than it already was. Jean III left three male heirs: his eldest son Hansel, and his two great-children, Fritz and his brother Gustave. Fritz, then a brilliant military officer, decided to end his career in order to take care of the succession and devote himself to the family company, thus pursuing the works of his ancestors. From his coinheritors (Hansel, Gustave as well as his mother Sybille Louise Ochs) he obtained the retrocession of the entire familial property (Hau 1993: 80-81). In order to get the Forges back

⁶ This correspondence is kept in the Archives de Dietrich, the Municipal Archives of Strasbourg and the French National Archives.

on track—for they remained highly unprofitable in spite of the sale of many patrimonial goods, including the Reichshoffen palace—Fritz first initiated a partnership with François-Frédéric Karth, which began in 1797 and ended in December 1799.

Meanwhile, the family de Berckheim embarked on matrimonial alliances with the de Dietrich family: on the one hand, the marriage of Fritz and Amélie was celebrated on May 27, 1797, in Colmar; on the other hand, there was a project for a union between Fritz's brother, Gustave, and Fanny, Amélie's sister, who would eventually refuse his proposal. Fritz and Amélie were far from strangers, having met many times in Strasbourg at the house of Louise de Glaubitz, the sister of Amélie's mother and wife of Fritz's uncle Hansel. Besides, their common cousins, Amélie and Louise de Dietrich, were both part of the Cercle de Schoppenwihr and thus seen as very close friends by Amélie. As pointed out by Hennequin (2006: 287), the union of Fritz and Amélie was not only an arranged marriage, but above all a love match. In her letters to her young husband, Amélie was very demonstrative, regretting his absence: "yes, my Fritz, with you I will find happiness everywhere, and without you, it would be lost forever;" "Farewell my dear and tender friend, I press you against my heart, and love you beyond the grave" (ADD, Amélie to Fritz, quotations from letters sent in 1800 and 1801). Indeed, when Fritz and Amélie moved to Jaegerthal, the de Dietrich's initial estate, after their wedding, Fritz was compelled to travel a lot, mainly to Paris, first to deal with the succession of Jean III, then to secure a position in the administration in parallel to the Forges in order to support his young wife as well as his four young children, born between 1799 and 1803, and finally to intervene with Napoléon and the King of Prussia to obtain compensation for the abolishment of the family's feudal rights as German princes who had properties in Alsace (Hau 1993: 84).

In 1800, Fritz launched a new society to secure the future of the Forges with more shareholders, most of them also his creditors: among them, his life-long friend Bernard Frédéric de Turckheim, a former member of the Cercle de Schoppenwihr, as well as the two ironmasters Louis Champy and Louis Drion (Hau 1993: 83). The management of the 1800 society was shared between three men: Fritz, Louis Champy and Louis Drion (Wilhelm 1987: 44). This new society was meant to be dissolved in 1815, and the partners then able to get their capital reimbursed. Amélie was fully aware of the potential represented by the Forges and many times prevented Fritz seeking another position which would move him away from Alsace: "how do you think Mr. Champy will take this new arrangement, and have you yourself not already had many very vexing opportunities to leave your ironworks altogether? Do you not especially fear leaving Drion to take up those sharp ways that would little by little disgust every person attached to the forges, who have already shown they will not suffer them? And would you finally give up this part which will later be your entire fortune??" (ADD, Amélie to Fritz, January 20, 1801). A few months later, she wrote: "I believe it would be unwise to want to quit the forges, where your presence seems to me to be necessary" (ADD, Amélie to Fritz, December 1801). On the same lines, she constantly tried to reassure her husband regarding their financial situation, implicitly arguing that the money they could get from the Forges would be sufficient to support their family: "our children will perhaps do better if they are not raised in abundance and I have little fear that they will die of starvation." (ADD, Amélie to Fritz, September 2, 1801).

During her husband's long absences, Amélie herself took on the leadership of the Forges: "the weather is gray, but it brings back the water and this is a great benefit for the forge, despite the first rains that we had there has not yet been enough, but now I think it will no longer be lacking." (ADD, Amélie to Fritz, September 22, 1799). Fritz's correspondence to Amélie is also testimony to the value he placed on Amélie's opinions and judgments: "I was painfully affected by what happened between us during the last twenty-four hours that we were together: I had time to think about it during my trip. If you loved me less tenderly, you would

not affect yourself so much with the idea, entirely chimerical as it is, of the least sharing, or the slightest indifference to your opinion: and that is what consoled me" (ADD, Fritz to Amélie, December 2, 1802).

From all these elements, it clearly appears that Amélie was ready to do everything to help Fritz in his business: "be persuaded dear friend that I would do the impossible to help you a little if it is in my power." (ADD, Amélie to Fritz, September 14, 1799 and September 23, 1801).

Yet Fritz's health had always been poor, and while the company's business started to improve sufficiently that he could begin to reimburse his numerous creditors, he fell very sick at the beginning of 1805, dying on February 3, 1806. At 29, Amélie became a widow with four young children, and a company to run that was still unprofitable.

In brief, one cannot but surmise that Amélie's almost immediate decision to take over the leadership of the Forges after the death of Fritz was closely related to the love she had for him. There is little doubt that it motivated her to pursue his work in putting the company back on track. The analyses of our primary unpublished sources also confirm this preliminary conclusion that the love she had for her husband is an additional central key factor which explains why Amélie made the decision to pursue the work of her husband at the head of the Forges from 1806 onwards, without which the de Dietrich family would have been definitively evicted from the company. As it was, in 1806 Amélie took the lead of the company as the heir of her husband. The years between 1806 and 1815 were decisive for her: it was in this period that Amélie succeeded in imposing herself as an effective business leader.

According to the civil code at that time, the husband was the master and tutor of his spouse. But from the sixteenth century, some traditions (in particular in Paris) had allowed a widow to have full legal capacity (Igersheim 2014). During and after the French Revolution, due to the emigration or incarceration of many male family members, some widows took over the leadership of companies. Among these, one can cite for instance Marguerite d'Hausen, known as "Madame d'Hayange", the widow of Charles de Wendel (who died in 1784), Veuve Clicquot-Ponsardin, Veuve Levrault and after her, Veuve Berger-Levrault, Veuve Ladrière, Veuve Mermilliod, Veuve Gévelot. Amélie de Dietrich would thus become part of this small group. With the help of some acquaintances—Bernard Frédéric de Turckheim in particular—on August 20, 1806, Amélie was appointed manager by the shareholders as the replacement of her late husband.

Son of an old noble Alsatian family, Bernard Frédéric de Turckheim, a former member of the Cercle de Schoppenwihr and a close friend of Fritz, played a fundamental role in the recovery of the company (Hennequin 2006: 209). Born in 1752, he rapidly became an important Strasbourg banker and had business relationships all around Europe. He also had many politicians' duties: mayor of Strasbourg after Philippe Frédéric de Dietrich, French senator, minister of finances of the Bade grand duke, then back to France, representative of the Bas-Rhin, an Alsatian province. In 1778, he married Anne-Elisabeth Schoenemann (Lili), also known as Goethe's ex-fiancee (Lehr 1972: 170). As a shareholder of the Forges from 1800, he would become one of Amélie's main supports and advisors, helping her with the shareholders as well as with Louis Drion, with whom Amélie had always had bad relationships, already apparent in her correspondence with Fritz. Godfather of Amélie and Fritz's first child, he also agreed to become the tutor of the four children on Fritz's death, but not without hiding the difficulties he had in meeting all these responsibilities. Amélie was fully aware of the value of Bernard Frédéric's help to her, her children and the company. After Bernard Frédéric left for the Grand Duchy of Bade in 1809, the weight of his duties towards the de Dietrich family seemed to have been too heavy, for he tried to release himself of his tutorship: "I cannot sufficiently express to you Sir the pain I have

experienced in reading the letter you have done me the honor of writing, and your resolution to relieve yourself of the guardianship of my children, so much am I persuaded that this would be the greatest misfortune that can happen to us. You know Sir that we are still too under the dependence on our creditors not to fear everything from them when they learn that you are no longer concerned with us" (ADD, Amélie to Bernard Frédéric, December 15, 1809). With the help of Lili Schoenemann (Keller 1987: 339; Hennequin 2006: 219), Amélie thus reached an agreement with Bernard Frédéric: he agreed to keep the formal tutorship of his children but delegated the actual tutorship to Cajetan Maroco, a Strasbourg merchant.

In spite of this arrangement, Bernard Frédéric de Turckheim still continued to be Amélie's support and confident regarding the company. In 1815 when the society founded in 1800 expired, Amélie was able to reimburse all the shareholders, but with no money left for new working capital. She was thus compelled to borrow again from some old shareholders such as of course Bernard Frédéric or Paul Athanase Renouard de Bussiere, as well as new ones such as Scipion Perier, former member of the Cercle de Schoppenwihr, and husband of her cousin Louise de Dietrich and brother-in-law of her sister Henriette. We find here another important source of support for Amélie during the difficult years she had had since her widowhood: Scipion Perier. According to Hennequin (2006: 115), he tried to help Amélie as much as he could, accompanying her in her business appointments and lending her money through Bernard Frédéric.

She thus formed a new limited company (société anonyme) for twelve years only, and in doing so eventually got rid of her enemy Louis Drion. Two new managers shared the leadership of the society with her: Renouard de Bussiere, husband of Frédérique Wilhelmine, baroness of Franck, and Cajetan Marocco, who would be replaced on his death in 1820 by Alexandre de Sahune, husband of Amélie's cousin Amélie de Dietrich, and then by Polidoro Marocco. Amélie was also helped by the new director Jean-Valentin Haas, who had come back to the company in 1808 after a few years at Louis Champy's plants (Hau 1993: 86-87). Alongside Haas's nomination, Amélie appointed Wenzélius as accounting director. Both provided invaluable assistance to Amélie in the management of the firm.

The structure of the new company established in 1815 testifies to the growing role given to Amélie in the firm's management from 1815 onwards, and reveals a decline of shareholders' prerogatives. The joint managers received significantly lower remuneration than Amélie (8000 *francs* a year for Amélie and 2000 for the joint managers). As emphasized by Wilhelm (1987), from 1815 onwards Amélie appears no longer just as the heir of the firm, as was the case in 1806, but as the true managing owner of the Forges. From this perspective, the year 1815 marks the beginning of her true leadership at the head of the Forges.

Under her leadership, strategic choices were undertaken that were decisive for the future of the firm. On the one hand, the firm opted for progressive re-orientation of production activities towards the fabrication of metal products. Since 1810 the forges in Reichshoffen had been oriented towards the fabrication of metal products (wire-drawing mills, *chaînerie*, nail factory), and since 1827 a molding workshop, a locksmith workshop and a carpentry shop had also been added. Satellite workshops in Niederbronn and Zinswiller were established: *platinerie* (sheet metal fabrication) in 1817, two locksmith workshops in 1827, and a copper smelter in 1827. The development of these activities extended the product scope, thus opening new markets for the Forges.

On the other hand, important investments in physical capital were made in order to improve production capacities and to modernize the production process. New equipment and methods were implemented with the aim of increasing productivity and lowering raw material

consumption. Several furnaces and hammers were introduced under Amélie's lead: two furnaces (fourneaux de chaufferie à la houille) in 1810 and a blast furnace in 1839 in Niederbronn, two in Jaegerthal in 1810 and 1844, two in Rauschendwasser in 1810 and 1835 (four à puddler), one in Zinswiller and another in Reischoffen in 1810. Other equipment was also introduced, such as hammers (gros marteaux) (see Wilhelm, 1987, p. 91). The first steam machine was implemented in Zinswiller in 1839, in order to mitigate the limitations of water power. Strategic choices concerning the orientation of production were associated with a heightened awareness of the opportunities provided by technological advances, as attested by the five patents held by the company "Veuve Dietrich et Fils" from 1843 to 1855.

The analyses of our sources suggests that a second key factor in the success of the transition from Fritz to Amélie and the recovery of the company under her leadership was the support and help she received from former acquaintances and friends, most of them having been involved directly or indirectly in the Cercle de Schoppenwihr. Amélie's familial network was in fact decisive in securing her leading position in the company. In particular, the help of the Strasbourg banker and politician Bernard Frédéric de Turckheim was key to the survival of the Forges, themselves intimately linked to the future of her children in Amélie's eyes.

IV. Albert and Eugène: the condition of possibility of Amélie's devotion to the Forges

Beyond the factors stressed above, in our two previous sections which explain why and how Amélie decided to take on the leadership of the Forges, and how she succeeded in this very challenging task, one must not overlook her profound and life-lasting aim to transmit a familial inheritance to the children she had had with Fritz. After Fritz's death in 1806, it seems that her entire life was devoted to this single goal, not only to secure their future prosperity and wealth, but above all to give them—in particular her two sons Albert and Eugène—the means to be actively involved in the management of the Forges. Besides her genuine belief in the virtues of the family, which was rooted in her own childhood, as well as her long-term vision of patrimony rather than short-term profitability (Hau 1993: 90), her work was focused on the recovery of the company so that her sons could lead it and benefit from it. From the very beginning, Amélie worked unceasingly to get rid of the shareholders in order to reinitiate a real familial business solely owned by herself and her children. In 1827, at the end of the term of the 1815 society, she eventually reached this goal. Her joy was clear: "Next April, our shareholding company will have ceased and a great and beautiful activity will open for my children, about which they greatly rejoice; after 30 years of 3 different associations, I will find it strange to be rid of these inconveniences. I never thought I would reach this epoch and I bless heaven for having reserved this joy to my sons who by their wise and applied conduct deserved this reward, of which I hope, they will make nothing but good use..." (Amélie to Edouard His, December 30 1826, a Basel banker, quoted by Aron-Castaing 1986: 138).

Indeed, if although in public Amélie appears via her constant work at the Forges as a wise and respected business woman at work on the Forges, one should not overlook that one of her main motivations to do so was her four children: Amélie born in 1799, Camille (disabled) in 1800, Albert in 1802 and Eugène in 1803. Amélie was above all a mother, and all the more attached to them that having she lost her husband so early. From this the moment onwards of his death, our sources put indicate explicitly in light that her children became her reason to live became her children. In testimony written as soon as 1838, Amélie made clear that

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⁷ See INPI (Institut National de la Propriété Industrielle): https://www.inpi.fr/fr/base-brevets-du-19eme-siecle

her life goal had always been the happiness of her children: "It is with regret that I will leave my dear children whom I have always loved so exclusively, I desired their happiness since their birth, for that had been the goal of my existence." (ADD).

The correspondence she had with her children clearly shows that Amélie was a loving mother, always caring and worrying about their health and state of mind. Her letters to Eugène are clear on this: "I wrote to your brother last night [...] to recommend that you get Mr Marchal [doctor] if you are still incommoded, I hope that [...] one of you will write a few words to me by Saturday's messenger to tell me how you are, because up to that point I will be in a state of the greatest worry" (ADD, Amélie to Eugène, August 4, 1814). Although none of Amélie's children died in their youth, she nevertheless outlived her two daughters: her "poor" Camille in 1836, and then Amélie on January 10, 1854, soon before her own death in 1855: "I feel the need my dear and good Eugène to hold you in thought against my poor heart and to lament with you for our dear and good Amelie, this pain is too deep to be expressed, but it tears my heart, who ever would have told me that at the age of 77, I would have to close my eyes of my second daughter, of this dear Amelie." (ADD, Amélie to Eugène, January 1854).

In Amélie's view, the destiny of her children was thus totally linked with the Forges. This is why she was always very much involved in the education of her children, her sons in particular, so that they could one day succeed her at the head of the Forges. At a very young age, while their mother and their two sisters Amélie and Camille often stayed in Jaegerthal, Albert and Eugène studied at the Gymnase, a famous Protestant school in Strasbourg, where their great-father Philippe Frédéric and their father Fritz had studied before them. The Gymnase included seven grades and the curricula was dominated by literature and classics (Latin, Greek, philosophy, history, geography, arithmetic, poetry, rhetoric, etc.). Symbolizing the upholding of traditions, it mostly welcomed the children of the Alsatian Protestant bourgeoisie (Livet and Schang 1988). In Strasbourg, Albert and Eugène stayed with Mr and Mrs Laib, rue du Fil, but Amélie kept asking them about their courses and encouraging them to study as hard as they could: "I would wish only that you should take a little more pain to write well and that you should make fewer mistakes in spelling, it seems to me that by reflecting a little, you would probably write more correctly [...] I was charmed to learn from your brother's letter that you were both in the Catalog, I hope you will stay there for some time now, it seems to me my good friend that by giving you trouble, you would easily obtain a prize from here to St Michel" (ADD, Amélie to Eugène, August 15, 1814).

After their studies in Strasbourg, Amélie sent her two sons first to the Ecole des Mines de St Etienne, then to the University of Heidelberg and in Paris. According to Hau (2006: 73), Albert and Eugène acquired there higher technical and scientific skills compared to most of the ironmasters of their generation. Yet Eugène's behavior caused his mother unceasing worry. During a stay in Paris in 1825, his frivolity made Amélie very upset, as shown by the following long passage: "I would think to fail in duty and in frankness if I left you ignorant my dear Eugène of how afflicted I was to learn from Alfred [Eugène's friend] that you were in urgent need of money, and that in less than one month you had spent 600 f. [...]. But what causes me such extreme torment is to understand how you were able to spend in a such a short time a sum of money which should have carried you through to the end of March, I presume that your negligence, your lack of order, would have made it such that you have been robbed, or at least that you have spent it thoughtlessly and absent-mindedly, which would pain me even more; [...] you must grasp that my fortune will not be sufficient for your expenses at the rate of 25 louis a month, and that in such a case it would be necessary to give up contributing to your studies, which would be an agony for me, but a ghastly humiliation for you [...]. I

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⁹ At that time, let us remind ourselves, one child in four died before the age of one, while only one in two reached the age of ten.

have had the good fortune up to this point to have had sons who have given me nothing but satisfaction, and who thereby enabled my happiness for the future. Will I be obliged to revisit this constant hope? And would you by the inconsistencies of inattention flood with bitterness the heart of your mother, who for so long has lived for nothing but your happiness?" (ADD, Amélie to Eugène, February 7, 1825). All of Amélie's main concerns and aims are reflected in this long passage: her systematic efforts to save money to ensure the continuity of the company and her genuine desire to see her sons grow up both serious and happy, able to take the lead of the Forges after her. As when they were younger, Albert is clearly seen by his mother as the wisest son, more reliable than his brother.

But Amélie's strategy regarding the future of her children—and thus of the Forges—did not end with her concern for their education: it also included matrimonial strategies. Indeed, as shown by Hennequin (2006: chap. 4), the family was the main basis of the power networks among the Strasbourg patricians at the beginning of the nineteenth century. We have already explained the close relationships between Bernard Frédéric de Turckheim and Fritz, and then Amélie. The desire to establish strong relationships between the two families was furthered by the marriage of Amélie's eldest daughter, Amélie, to Frédéric Guillaume de Turckheim, son of Bernard Frédéric. The wedding, celebrated in 1818, was a source of great satisfaction for the two allies, Amélie and Bernard Frédéric: "Guillaume left us 4 days ago to pursue his own affairs and I can assure you that his absence makes us fail at everyone, it is impossible to have greater sensitivity and goodness of heart, which is in my eyes a very great prize, Amélie loves him more and more, and I like to think that this household will be perfectly happy, which I hope will cause you as much pleasure as it does me, who at this moment is enjoying a union that is so well matched" (ADD, Amélie to Bernard Frédéric, June 15, 1818). But this marriage cheered the entire family as well, as notably attested by a letter by Pierre Ochs, brother of the late Amélie's mother-in-law Sybille Louise Ochs, also bore witness to the perfect matrimonial strategy pursued by Amélie: "you will possess in your department, in your city, this child, whom you will know to be happy, and you will see him enter into a family which has been unceasingly attached to you, to your late husband, to my sister" (ADD, Pierre Ochs to Amélie, April 24, 1818). Nor did the de Turckheim family, father and son, hide their satisfaction: "Guillaume feels his happiness with a vivacity worthy of its object. Mr de Turckheim the father is ecstatic." (Bloch 1896: vol. 2, 211). As noted by Hennequin (2006: 140), these congratulations show that this arrangement was seen as beneficial for the de Dietrich family: in this regard, a marriage with Guillaume or any other Turckheim son might have been thought to lead to the same satisfying result. But the story turned out differently, since Guillaume rapidly became very involved in the company as one of its managers, on an equal footing with Albert and Eugène, until his death in 1831. His name became part of the de Dietrich legend, as Amélie's "precious son-in-law" (gendre précieux). Regarding Albert, his successive unions with his cousins, the sisters de Stein, daughters of Octavie and the baron von Stein, Octavie in 1828 and Adélaïde in 1840 after the death of the former in 1839, corroborated Amélie's desire to create links between close families and allies. Albert's unions gave birth to nine children.

Hence, after 1827, the management of the new company "Veuve Dietrich et Fils" was shared between Amélie, Albert, Eugène and Guillaume, her *gendre précieux*. One might then have surmised that Amélie would henceforth let her co-managers cope with the main duties of the firm, but this was not at all the case: according to Hau (2006: 74), she retained her dominance in the direction of the firm as well as the property of half of the Forges, with a wage of 8000 francs plus half of the surplus, while the three other co-managers earned 4000 francs plus one-sixth of the surplus. The correspondence with Eugène gives a clear overview of her careful leadership, always struggling against creditors and debts. In spite of the successes of the company, the debt she had towards one of her former co-managers and shareholders Paul

Athanase Renouard de Bussierre still continued to worry her: "tell me please if Renouard's debt has not begun to fall a little. It's a great weight that I have constantly upon my heart." (ADD, Amélie to Eugène, January 30, 1830). Even when the business was flourishing, this debt haunted her: "it seems that business has decisively resumed which gives me great pleasure, it will take a good many months to reduce the Renouard debt which is still there like a spectre, but with wisdom we will get there eventually" (ADD, Amélie to Eugène, July 4, 1838). As a rule, her obsession with developing the firm free of any exterior constraints, debts, shareholders or creditors remained marked until her death: "here then is 15,000 francs less interest to pay for what is a journey to happier times, I would enjoy it well for you my dear friends, and I am not sorry to see in my old age a journey to a calmer time, and I thank the Lord for it from the bottom of my heart" (ADD, Amélie to Eugène, January 4, 1849).

Regarding the functioning of the equipment of the Forges, she continued to be very much concerned with the practical and technical aspects. Due to the new forestry code established in 1827, which ended the system of concessions in favor of a less favorable system, the wood supply which was necessary for the proper functioning of the blast furnaces and the refinery fires became more and more complicated. In 1830, Amélie thus made the decision to progressively shift from iron production to engineering and metal processing, thus hiring in succession two brilliant engineers, Georg Bodmer and Nicolas Cadiat (Hau 1993: 88-89). This strategy proved to be successful and Amélie seemed to be fully aware of the technical issues at stake regarding the machinery: "Albert tells me that the establishment of Reisch will give us some nice profits this year, the steam engine [...] is it a success? And is there still no hope for the iron bridges?" (ADD, Amélie to Eugène, July 4, 1838); "Zinswiller's blowing machine is causing me some trouble, but in the end it must be able to run without obstruction" (ADD, Amélie to Eugène, August 14, 1838).

Amélie's leadership nevertheless did not preclude Albert and Eugène from having important duties inside the firm Veuve de Dietrich et Fils. It seems that the division of tasks between Albert and Eugène was based on a clear understanding of latter's specific abilities and skills. While Albert lived in Reischshoffen and Eugène in Niederbronn, each being in charge of one of the main locations of the company, the latter undertook most of the business trips to Paris and elsewhere, notably to defend the de Dietrich wood's concessions after 1827 in a long series of trials. Eugène seemed to be the best able to deal with these issues compared to his brother Albert, and even Amélie herself. In 1835, in spite of an injured foot, Eugène went again to Paris for business: "that, my good friend, does not prevent me from abjuring you to look after your foot [...], we should not have let you go, and I should have offered to replace you, but my head has become so weak, trust in my talents so minimal that I feared like Albert to fail in this affair. [...] [I hope] that a hobbling man will perhaps inspire the concern of our judges and facilitate a favorable decision of the case. However, I'd much rather see you walking aright" (ADD, Amélie to Eugène, December 29, 1835). Nevertheless, in 1837 the family will lose its main wood concession, the Bitche forest. It should be noted that one of the reasons why Eugène was mainly in charge of the business trips turned also on Octavie's, Albert's first wife, long-lasting illness, which would prove terminal in 1839. Notwithstanding his four young children plus the management of the Forges, Albert seemed to have suffered a great deal during his decade-long first marriage: "I am delighted [...] by the happiness that [Albert] feels in finding himself with you my dear Eugène, your affection will replace that of his poor wife and children and will do him good. I cried for joy in being persuaded that the sweet relations of good brotherhood will be maintained in the future, and that our good Octavia is yet destined to enjoy them. [...] Your poor brother deserves this reward [the healing of Octavia] for the courage, patience and resignation he has shown for so long" (ADD, Amélie to Eugène, July 4, 1838).

As the correspondence clearly shows, the attachment and the love Amélie had towards her young sons was still very much present when they grew up. For Amélie this was combined with her constant concern for the future of the Forges, as well as her obsession with saving money, even in private matters which properly concerned Eugène's household alone, he having married Virginie Mathis in 1838: "I advise you to keep Griesmann in your service and to take back Jakébele for the garden. Griesmann would have chief oversight, and take care of the difficult things, and you'd have one less man in the house, which would be an economy in the Virginia household. I expect that my idea will be approved by the lady of the manor." (ADD, Amélie to Eugène, January 30, 1839).

Until her death on December 12, 1855, she thus never stopped giving advice to her sons regarding investments, warning them to be careful and to lead the Forges with frugality. But the last words of our story should of course concern Amélie. In this passage from one of her last letters to Eugène, written when he and Albert were engaged in a project to build another blast furnace, one can identify all the goals and concerns Amélie had had throughout her life: "I therefore believe, my dear friends, that I have the right to formally refuse this new construction, which with all its accessories would certainly exceed 100,000 f. It is painful to me to contradict your wishes, but I am persuaded that it is in your own interest. The employees will always share your opinion whenever you consult them about the administration of the forges, but they do not know the bottom of the sack which is often light since we draw from it with unequalled prodigality [...]. Last year Mr Wencelius told me that our position instead of improving, is getting worse, which I declare is a weight on my heart, having hoped before the end of my days to see an end to the liquidation which for over 30 years has been the goal of my sad and often indeed tiresome existence" ADD, Amélie to Eugène, 1854 or 1855).

V. Conclusion

Widowed at the age of 29, the mother of four children, Amélie de Berckheim successfully took the lead of the de Dietrich company on the death of our husband and quickly became a respected Maître de Forges. The case of Amélie de Dietrich is not unique, however. Other famous or unknown widows had a similar story: such is the case, for instance, as mentioned above, for "Madame d'Hayange", the widow of Charles de Wendel, Veuve Clicquot-Ponsardin, Veuve Levrault and after her, Veuve Berger-Levrault, Veuve Ladrière, Veuve Mermilliod, and Veuve Gévelot, who involved themselves in diverse industrial sectors (metallurgy, textiles, etc.) with greater or lesser success.

Similar experiences were also shared abroad. One could cite, for instance, the case of Aletta Noot Haniel, whose path in Prussia (Ruhr basin) is very close to Amélie's own. Likewise the mother of four children, Aletta successfully continued the business of her late husband and extended it to the coal trade before bequeathing it to her children. Helene Amalie Krupp, another widow, started a business in iron production in Essen after the death of her husband (James 2009). Barker (2006) has also documented the role of women in business in the late eighteenth to the early nineteenth century.

Women's role in the rise of industrialization is being increasingly recognized. Contrary to a view that has hitherto been widespread, women's contribution to industrialization is not confined to the provision of unskilled labor for the industrial activity, mainly in the textile sector. Case studies such as this one on Amelie de Dietrich reveal that women also participated in the industrialization process as business leaders. Yet for a young widow in the early nineteenth century, exerting authority came with difficulties. We have thus shed light on several factors—Amélie's education, the strength of her familial network and her

determination to pass down a legacy to future generations—that were decisive in her success. Were these factors necessary conditions for a widow in early nineteenth century to be successful? Were successful industrialist widows to be found only in old industrialist families which shared those values? Analysis similar to this one, examining the paths of other women leaders in industry, would help shed light on these issues and help provide a more accurate view of the role women have played in the industrialization process.

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