

“ . . . there was difficulty and danger on every side”: The Family and Business Leadership of Rebecca Lukens

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Rebecca Webb Pennock Lukens (1794-1854) was one of the most powerful and successful businesswomen of the antebellum period. A legend describes how Lukens, suddenly widowed at age thirty-one, saved the ironworks her husband had been struggling to establish. After Charles Lukens' death in 1825, as the story goes, the workmen were beginning to desert the business and head off down the road to find more secure employment, when Rebecca Lukens ran out to call them back, begging them to remain and promising that she would stand by them. They returned, accepted the risk of working for a female-run ironworks, and eventually reaped the benefits. Like most legends, this story is vivid, memorable, and historically undocumented.¹ Also like most legends, it reinforces an established image of the life and times of an exceptional historical figure. In this case it highlights the anomaly of a woman who dared to step outside her place and succeeded, thus supporting the view that separate spheres of domesticity and business characterized nineteenth-century society. The image is attractive and the story beguiling, but this view of Rebecca Lukens' life is romanticized and distorted.

Why, then, is Rebecca Lukens remembered? Her achievement was, indeed, remarkable in several respects. Her Brandywine Iron Works became Lukens Steel, until recently a Fortune 500 company, located in Coatesville, Pennsylvania. In 1998 it merged with Bethlehem Steel to form Bethlehem-Lukens Plate.² Founded in 1810 by her father, Isaac Pennock, this business was managed for 125 years by Rebecca Lukens' descendants, whose stated goal was “to make money honorably with the best product . . . and with accent on customer satisfaction.”³ On her bicentennial in 1994, she was posthumously appointed to the National Business Hall of Fame and recognized as “the nation's first woman industrial leader” by the Pennsylvania Senate.⁴

Rebecca Lukens' achievements and honors seem to set her apart from her contemporaries as a “woman of iron,”⁵ who succeeded in the most overtly masculine segment of early nineteenth-century industrial enterprise. Examination of her papers and other primary documents, however, supports a more complex and intriguing analysis of her historical significance. Lukens did, indeed, act against prevailing trends by assuming leadership of a “man's business,” yet she was essentially conservative in her steadfast dedication to her maternal role and in the manner in which she raised her daughters. She is of

interest today not as a groundbreaker or trendsetter—she made no attempt to spread her influence—but as a fascinating example of the complexity of women's roles and the extent of a woman's possible achievement in antebellum America. She was a powerful, talented business leader, but no evidence suggests that her ambitions extended beyond making the family business and her estate prosper and fulfilling what she saw as her responsibilities. Her life and actions integrated the separate spheres, demonstrating that, when necessary, these divisions could and did disappear. Work and family were one to her.

Rebecca Lukens' life story supports historians' skepticism that the separate spheres dichotomy accurately depicts the reality of nineteenth-century women's lives.⁶ Lukens, in fact, lived fully and successfully in both worlds. The home in which she raised her daughters was not a haven from the brutal pressures of an increasingly competitive industrial environment. The mill was at her doorstep; growing prosperity eventually allowed her to move the office out of her home to make space for a dining room. The separation of home and work clearly did not apply in the case of Rebecca Lukens, but her life was not unique in this respect. Although the early and unexpected death of her husband placed heavy burdens upon her as a young mother, it also enabled her to achieve business successes that were certainly exceptional in scope but not fundamentally different in kind from the experience of other widows at that time.

Circumstances and chance played a significant role in Lukens' life.⁷ A woman of great natural ability, Lukens was undoubtedly conversant with the iron business prior to her husband's death.⁸ Early widowhood, however, presented the unsought opportunity to achieve on her own, and her Quaker culture of tolerance and respect for women's leadership further supported her. At first it might seem that her family responsibilities would have presented an insurmountable barrier to her achievement in business, since she was pregnant with her sixth child when her husband died. Their only two sons had died in infancy, and a daughter died later, in 1832. Like the majority of widows at that time, Lukens never remarried, but raised her three surviving daughters alone.⁹ She lived twenty-nine years unencumbered by additional pregnancies before her death in 1854, and this relative freedom would have enabled her to achieve in business more readily.¹⁰ The fact that Charles Lukens had died with no male heirs further put his wife in a position to retain leadership of the family and the business over an extended period of time.

Rebecca Lukens assumed her leadership roles at a time of great change in American culture. Her letters and journal attest to her dedication to values of domesticity, yet her business papers show she was deeply and personally involved in the excitement of a developing industrial capitalism. The American iron industry began its transition to new forms of business management and technological innovation during the years she managed Brandywine Iron

Works. In his study of the evolution of the Pennsylvania iron industry, Paul F. Paskoff notes that "the passage of Pennsylvania iron-making from a small, scattered number of furnace and forge owners to the extensive, complex, and increasingly powerful industry of 1860 was for the most part a transformation by accretion."¹¹ Brandywine Iron Works was one of many small operations that employed a small number of workers and related to them in a paternalistic fashion. Throughout Rebecca Lukens' life, its business organization took the traditional form of individual ownership or limited partnership.¹² Under her management, the rolling mill made few technological changes and did not move in the direction of integrated rolling mills that became associated with forges in order to combine production of iron and manufacture of iron products. But her mill survived and prospered.¹³

Although major changes were not made under Lukens' management, she saw the fledgling business through rough times that destroyed many other ironworks; when she retired, the business was a stable and prospering family concern, capable of making the best use of the new technology under the management of her son-in-law and descendants.¹⁴ Her leadership of "the firm,"¹⁵ was inseparable from her family leadership. The context of the developing iron industry in Pennsylvania helps to explain why her dedication to family was integral to rather than opposed to her success and why her achievements support the view that the doctrine of separate spheres did not always operate in the practical experience of early nineteenth-century American widows.¹⁶

Rebecca Webb Pennock was born in 1794 in Chester County, Pennsylvania to Isaac Pennock, a Quaker farmer-turned ironmaster, and his wife, Martha Webb Pennock.¹⁷ Rebecca was the eldest surviving child among nine siblings. She was drawn to nature, and loved riding horseback over the grounds of her father's estate, where she followed him about even as a child as he operated his ironworks. Her mother trained her in domestic skills and she learned childcare by tending to younger siblings. The financially comfortable Pennock family sent Rebecca at the age of twelve to Westtown School for a year and afterwards to a Wilmington, Delaware boarding school. There she excelled in chemistry and French, and happily roamed the countryside with her companions. Despite her love of learning, she realized that her formal education was not to continue much longer: "I was ambitious of distinguishing myself, considering this as the last opportunity I should have of improving in those studies."¹⁸

At the age of nineteen, she married Charles Lukens, a young Quaker physician from Abington, Pennsylvania, who found ironmaking more to his liking than medicine. Together they took on the formidable task of repairing Brandywine Iron Works and Nail Factory, a dilapidated house, and a farm owned by Rebecca's father. He charged the couple rent but promised his daughter that the mill would be her share of the inheritance upon his death.¹⁹ A rolling mill, Brandywine Iron Works used water power from the Brandywine

River and charcoal blooms purchased from forges in the area to produce rolled iron sheets and iron rods that could be cut into nails. The process employed blooms, or masses of wrought iron that had been extracted from iron ore through a relatively primitive process of heating and hammering.²⁰

Charles Lukens was alert to the business potential of this simple rolling mill. In 1818 Brandywine Iron Works rolled the first boilerplate in America, and plate became the hallmark product of the nineteenth-century firm as well as of the twentieth-century Lukens Steel Company. The last business venture of Lukens' life was also an engineering first: in 1825 he contracted with John Elgar of York, Pennsylvania, to produce sheet iron for the *Codorus*, America's first iron hulled steamboat, which sailed on the Susquehanna in November 1825.²¹

A brief twelve years after his marriage to Rebecca, in June of 1825, Charles Lukens suddenly died of a fever, extracting from his wife a deathbed promise to continue with their efforts to establish their struggling Brandywine Iron Works as a successful business. She described her situation: "During the whole period of our being here the iron business had been very poor and added to this, the serious outlay . . . in our constant expense in repairing the works. It was utterly impossible there should be a support left for the young and helpless family now dependent solely on me. . . . The estate showed an alarming deficiency when the books were examined. I will not dwell on my feelings when I began to look around me; there was difficulty and danger on every side."²²

Difficulty and danger were certainly present in 1825 as a widow ventured to establish a new and insecure business, but in continuing her husband's enterprise Lukens was not acting radically. In studying documents relating to the lives and livelihood of Pennsylvania widows from 1750 to 1850, Lisa Wilson concluded that many of these women were responsible for their families' support and that their obligations often required them to ignore codes of acceptable female conduct. Wilson explains how the reality of widows' lived experience contradicts historians' gendered image of separate spheres:

Widows' conduct reflects a necessary and sometimes seemingly contradictory layering of gender roles and family needs. The result is a whole larger than the parts, complex and yet completely compatible within the confines of an individual woman's life.

Acknowledging the multi-layered lives of widows, argues Wilson,

suggest[s] an answer to the apparent enigma of separate spheres: Their world revolved around the family rather than issues of gender. Certainly gender definitions are part of family life; however, these women regarded

their role as defined primarily within the context of the family. Issues of financial or legal power, of what could be deemed proper female behavior, faded in comparison with the overall priority of family survival after the loss of a father and husband. Adding this family focus to the concept of separate spheres makes the picture less dichotomous, and closer to a realistic representation of how these women viewed themselves and their lives.²³

Julie Berebitsky's study of the women associated with Hopewell Furnace near Elverson, Pennsylvania in the 1830s confirms Wilson's thesis as it applies to the widows of laborers and skilled artisans in the early Pennsylvania iron industry.²⁴ Half of the women listed in Hopewell's records were widows; many had minor children and remained unmarried. Although it is unlikely that these women performed any work directly related to furnace operations, records of their credit and store purchases at Hopewell, wills and probate records provide information on how they supported their families. Sewing and washing for Hopewell workers provided income for some women, while others apparently had sons old enough to work at the furnace, and their earnings were then credited to their mothers' accounts. Women who owned property were in the best financial position; woodland, for example, could yield income or store credit when widows sold wood to Hopewell for use in furnace operations. Berebitsky makes the important point that a widow's financial security and her family's comfort often came down to chance. Given the same basic economic circumstances at the start of a marriage, if a husband lived long enough to accumulate some property and he willed it to his wife, the family's future was much more secure than if he died young and in debt.

In Rebecca Lukens' case, the chance early death of her husband brought burdens as well as opportunity for achievement. Her ability to face this challenge provides evidence that wives were not ignorant of family business matters during their husbands' lives. The family legend, cited by Lukens' granddaughter Clara Huston Miller, that she staunchly assumed control of the mill after first brushing up on her multiplication tables, is colorful but simplistic.²⁵ On the contrary, the concept of "hidden market work"—the wife's involvement in the family business during her husband's lifetime—surely operated in the Lukens household.²⁶ In her 1850 statement detailing the business history of Brandywine Iron Works, Rebecca Lukens demonstrated her intimate knowledge of the family business, its finances and improvements to the mill from its inception.²⁷ She capably served as administratrix of Charles Lukens' estate when he died intestate.²⁸ Her Brandywine House Account Books (1839-48) reveal Lukens' detailed knowledge of and personal involvement in numerous real estate investments, rentals, and loans during the years of her mill's growth in prosperity. She obviously paid very close attention to her assets and had a sophisticated understanding of how to spend and invest them.²⁹

Certain cultural and social forces increased the “difficulty and danger” facing Lukens, but others supported her actions and actually helped her integrate the business and family aspects of her responsibilities. The most basic force operating against her initially was the objection of her mother, who advised her not to proceed in this unfeminine enterprise. Lukens overcame these objections by pleading eloquently and forcefully on the basis of her promise to her husband and her duty to their children: “Mother wanted me to leave Brandywine and said it would be folly for me to remain. Necessity is a stern taskmistress and my every want gave me courage, besides I had promised my dying husband I would remain, and where else could I go and live? . . . [Mother] offered no assistance if I left but thought, as a female, I was not fit to carry on such a concern. I then firmly but most respectfully told her I must make the attempt.”³⁰ The tension between Lukens and her mother continued until Martha Pennock’s death and beyond, in family struggles over the wills of Isaac Pennock and his wife.

Although Lukens’ immediate family did not support her, there was ample precedent in the history of Quakers as well as in the early English iron industry for the retention of family control over industrial concerns. Rebecca Lukens was an Orthodox Quaker and a member of Fallowfield Friends Meeting in Chester County. The historic division of the Philadelphia Yearly Meeting of Friends into Hicksite and Orthodox branches occurred in 1827, not long after the death of Charles Lukens. Although no existing documents record Rebecca Lukens’ decision to side with the Orthodox rather than the Hicksite meeting at Fallowfield, this choice would have been reasonable, given her situation and class standing. In general, Orthodox Friends were urban and Hicksites were rural, but place of residence was not the only deciding factor. Lukens had other compelling reasons that drew her to the Orthodox branch. She had several relatives living in Philadelphia, and letters indicate that she and her daughters valued these close family ties. Then too, the Orthodox branch would have been more comfortable to this increasingly prosperous businesswoman, since the Orthodox tended to draw members from among wealthier Friends. Many of Lukens’ Quaker business associates would have been Orthodox Friends.³¹

Lukens’ Quaker religion would have provided considerable support to her venture into business, although some might consider the “oversight” of Friends’ business practices by the meeting to be intrusive. Quakers who engaged in business in the new republic needed to be concerned about satisfying their meeting as well as their customers and creditors. The Orthodox Quaker *Rules of Discipline* cautioned Friends to “be careful not to venture upon such business as they do not well understand; nor to launch out in trade beyond their abilities, and at the risk of others; especially on the credit which may be derived from a profession of the Truth; but that they bound their engage-

ments by their means; and when they enter into contracts, or give their words, that they endeavour on all occasions strictly to fulfil them.”³²

The Quaker tradition itself, despite the *Rules of Discipline*’s cautions about trade, would have provided some degree of security to Rebecca Lukens. According to Quaker principles, the purpose of trade was more than personal profit; it was service to the community.³³ In his study of seventeenth and eighteenth-century Quakers in science and industry, Arthur Raistrick discusses the principles governing Quakers’ trade. He notes that each local Quaker meeting periodically directed members to examine the ethics of their business affairs. In a sense, each meeting assumed a “corporate responsibility for solvency and honest dealing” by each member engaged in trade. “This must have given a feeling of security and courage, and an assurance of sound finance rare among other businesses, that was a strong factor in favor of the Quaker trader’s success.”³⁴ Moreover, because of religious strictures against marrying out of the Society of Friends, the community of Quakers became close and supportive of each other’s spiritual as well as business affairs. Raistrick notes that for early English Quakers, “No small business stood alone, but was helped over a difficult time by its numerous ‘cousins’.”³⁵

The *Rules of Discipline* emphasized the close relationship Quakers saw between business enterprises and their religious principles of fairness and peace with others. Friends were clearly cautioned to keep careful watch over their finances and to deal justly with all creditors. Those who lived beyond their means and incurred debts they were unable to pay could expect the involvement of their meeting in the resolution of the debt. Those who refused to deal honestly with creditors could expect to be disowned.³⁶ Business affairs of Friends were thus inseparable from religious affairs and were very much the concern of a member’s meeting. The burden of accountability was balanced by the benefits of support and advice. So, although Rebecca Lukens faced the formidable challenge of assuming control of Brandywine Iron Works, we should not see her as a lone pioneer woman, surrounded by only her dependent children. Rather, she appears more accurately as a widow facing a very demanding and difficult situation, but with the benefit of a tradition of a religious community for her enterprise.

The close family structure of the iron industry itself would have served as a further source of support for the newly widowed Lukens. In his study of the growth of early industry in England, Anthony Wallace cites examples of the importance of “the corporate family” among ironmasters and of “the connection between business, marriage, and descent.” As Wallace explains, the great English industrial families of a century earlier were patriarchal systems that looked back to a titular male founder, but women were essential in maintaining the extended family over generations. “The ‘family’ of relevance to the firm,” he writes, “therefore, is not just the lineage that bears the name of, and

is directly descended in the male line from, the original male founder of the firm, but also includes a ramifying network of men and women connected by marriage and descent through one or more females from the original founder."³⁷ Arthur Bining, in his study of early Pennsylvania ironmasters, confirms that this practice formed the social foundation for the budding colonial industry as well: "Matrimonial alliances connected many families of ironmasters, as the industry spread over Pennsylvania . . .," some "extending over a period of several generations. . . ." ³⁸

Two examples from the early iron industry, one from England and one from Chester County, Pennsylvania, illustrate the importance of this family corporate structure to the continued growth and prosperity of an ironworks. Moreover, they reveal that in the iron industry there was precedent for widows to carry on the family business. Lukens was not the first widow, even in Chester County, to have done so. One hundred years before the Lukens story was that of Theodosia Crowley (1694-1782), daughter of the Reverend Joseph Gascoigne of Enfield, Middlesex.³⁹ When she married John Crowley in 1715, Theodosia Gascoigne joined one of the great English iron families. The family details, at least on the surface, are strikingly similar to those of Rebecca Lukens. In 1728, at age 34, Theodosia was widowed, probably suddenly. Like Lukens, she had six children, two sons and four daughters, and she never remarried. John Crowley's will gave Theodosia control over the firm for eleven years, until his elder son came of age. Unlike Lukens, however, she inherited an already extensive business that gave her family financial security. With capable managers for the business, Theodosia was comparatively free to devote her time and energy to social life and family concerns. Because of the early death of both sons, however, Theodosia resumed direction of the business until her own death. As was the case with Lukens, she gave much care to arranging the marriages and inheritance of her daughters.

In Chester County at approximately the same time, a series of marriages among Quaker families was establishing another iron dynasty. Anna Rutter (1686-1760), eldest daughter of Thomas Rutter, one of the first Pennsylvania ironmasters, married Samuel Savage and had six children.⁴⁰ In 1726, six years after Savage's death, Anna (Rutter) Savage married again, to another Quaker ironmaster, Samuel Nutt of Coventry. A marriage between Nutt's nephew and Anna's daughter Rebecca Savage helped to solidify the family ownership of the business. At Nutt's death in 1738, his will devised to his wife Anna "one half of all my right to the furnace and forge together with all buildings thereunto belonging . . ." and charged her to build a new furnace, which became Warwick Furnace, on "land on the north side of the south branch of the French Creek, in such a place as she shall think proper to build a furnace on."⁴¹ As a result of the deaths of Nutt, his nephew, and Anna's sons by Savage, the Coventry and Warwick Furnaces came to be managed by mother and daughter—Anna (Rutter Savage) Nutt and Rebecca (Savage) Nutt.⁴²

Though the Lukens and Pennock ironworks were much smaller than those of the great English iron dynasties and the Rutter-Savage-Nutt series of ironworks in Chester County, they employed many of the same practices to secure family control of operations. In all these cases, industrial leaders relied upon the extended family to maintain their business, and therefore they bequeathed interest in the business to family members. This practice must have entered into Isaac Pennock's business association with his son-in-law Charles Lukens. Following his marriage to Rebecca Pennock in 1813, Lukens joined Pennock as partner in the Federal Slitting Mill, also known as the Rokeby Works. Pennock then urged his daughter and son-in-law to move to Brandywine Iron Works and develop a business enterprise there. In the same way, this identification of the business with family structure doubtless influenced Charles Lukens' deathbed charge to his wife to maintain control of their business. When crisis struck, she was helped by neighboring business associates, such as Charles Brooke of Hibernia Ironworks.⁴³ But her mainstay was her bachelor brother-in-law, Orthodox Quaker Solomon Lukens, who left his farm, came to live in the Lukens household, and managed the manufacturing processes at the rolling mill. In 1840 he was succeeded as manager of the mill by Joseph Bailey, another brother-in-law.⁴⁴

Lukens' management of Brandywine Ironworks was successful; at her death her estate was valued at about \$100,000 in personal property, with additional real property. As a stout, asthmatic matron, she rode a fine coach, similar to George Washington's, and traveled to Philadelphia to select fine jewelry, silks and satins for her daughters.⁴⁵ Part of her success was due, no doubt, to her ability to take advantage of the rising demand for boilerplate. She was quick to see the benefits to the iron industry of improvements in transportation, as with the construction of the Philadelphia and Columbia Railroad, which made New York, Pennsylvania, and other east coast markets accessible to her.⁴⁶ She was adept at setting prices on her product; business correspondence shows that the firm followed the marketing custom of the iron industry in using commission agents to give advice on prices and to broker deals with potential customers.⁴⁷ All evidence suggests that Rebecca Lukens was an astute and capable manager of her ironworks, and that its survival and prosperity under her management resulted from her business leadership.⁴⁸

Examination of her legal transactions in three areas illuminates Rebecca Lukens as a businesswoman of strength and ethics and supports the view that her efforts on behalf of firm and family were one to her. She was restricted in some business and legal transactions because of her religious discipline, but the records leave no doubt that Lukens was an assertive, down-to-earth business leader and the matriarch of her family; she was a formidable force with which to contend. The three areas of her legal transactions include her business disputes concerning the ironworks, her struggle to own Brandywine Iron

Works and to achieve a just settlement of her mother's and father's wills, and her actions to secure the future of her granddaughter and to ensure her daughters' continuing control of the family business.

As head of Brandywine Iron Works, Rebecca Lukens faced inevitable differences with vendors and other businesses. The Orthodox Quaker *Rules of Discipline* at that time prohibited lawsuits among Friends as being contrary to Friends' "peaceable principle," and warned that members would be disowned if, in the judgment of their meeting, they ignored its advice and persisted unnecessarily in a suit. The courts were a last resort only in restricted cases, and then only "with this caution, that the parties on both sides do behave towards each other in brotherly love, decency and moderation, without anger or animosity. . . ." The *Rules of Discipline* stipulated that, as a general rule, arbitration be used by those Friends unable to resolve disagreements about property: ". . . the parties should be advised to choose a suitable number of Friends as arbitrators, and mutually engage by bond, or other written instrument adapted to the occasion, to abide by their determination."⁴⁹ It appears that Lukens' usual practice was to begin legal transactions by observing the Quaker principle of friendly action, using arbitrators and legal approaches such as amicable actions. But if her opponents persisted, she defended herself. If she was sued by non-Quakers, she had more freedom to engage in suits and countersuits.⁵⁰ Apparently she was able to convince the overseers of her Quaker meeting that her actions were appropriate, for the Fallowfield Meeting minutes do not mention attempts to discipline her.⁵¹

Two case examples from the economically troubled year of 1837, noted for its "Panic," show how she handled a dispute with a neighboring Quaker mill and a lawsuit brought by a non-Quaker vendor. In 1837 the mill had "stopped rolling for a few weeks." Lukens described the mood: "The difficulties of the times throws a gloom over everything. All is paralyzed—business at a stand. I have as yet lost nothing but am in constant fear, and have even forbidden my agents to sell not knowing who would be safe to trust."⁵² Unlike the larger ironworks in nearby Phoenixville,⁵³ Brandywine Iron Works had not laid off workers but had weathered the financial crisis while accepting responsibility toward its employees. Lukens wrote that she had

set my men to repairing the race dam &c, having a heavy stock manufactured already, I do not wish to encrease [sic] it until times are more settled, but shall take advantage of the first gleam of sunshine to resume.

We do not know how to do without a circulating medium. Every one that has a dollar in silver hoards it up as though they never expected to see another and our cautious country people as yet are affraid [sic] of your small notes.⁵⁴

Then, late in 1837, tension erupted between Lukens and neighboring Quaker operators of Triadelphia Ironworks, over Lukens' right to dam the water of the Brandywine Creek, to the injury of Triadelphia's grist mill. Brothers-in-law James Yearsley, John Forsythe and James Forsythe had begun the Triadelphia Ironworks in Coatesville in 1837.⁵⁵ As recommended in the *Rules of Discipline*, Lukens informed the mill owners in October of 1837 that she intended to apply to the courts to have witnesses give depositions concerning her right to dam the creek. She defended her proposed action by citing her iron mill's possession of this water right for twenty-one years. In fact, she claimed, her father had built the dam in 1810, with the permission of the former grist mill owner. Lukens used the courts to serve notice of her actions, to request the appearance of her opponents in court, and to request depositions be taken of aging men from her father's generation who had observed the conditions in question over twenty years before. But she did not sue her opponents, and it appears that she did all she could to circumvent a lawsuit. Triadelphia Ironworks responded by bringing suit against Lukens in the Chester County Court of Common Pleas and asking damages of five hundred dollars for lost profits to their business caused by the damming of the creek.⁵⁶

Lukens pleaded "not guilty" in the case. The court ruled that a second set of depositions of ancient and absent witnesses be taken as evidence on Lukens' behalf. Three additional men were thus selected to file depositions in Pittsburgh on September 13, 1838. Perhaps influenced in some way by these depositions, six days later Lukens and the grist mill operators drew up an "article of agreement" to attempt a peaceful resolution. It was almost a year after the struggle in the courts began that both sides agreed to binding arbitration:

. . . the parties being members of the Society of Friends and desirous of obtaining an amicable adjustment of all differences and disputes aforesaid according to the requisitions of the discipline of the said society, and for the better preservation of the harmony and good order of the same this agreement therefore witnesseth that the said parties have agreed to refer all differences and disputes on the subject matters aforesaid to the award arbitrament and final determination of Edward Tatnall James Canby Ashton Richardson Josiah Tatum and Jesse J. Maris . . . and it is further agreed that the award of the said arbitrators or a majority of them under their hands and seals shall be final, and conclusive.⁵⁷

That day, the plaintiffs' attorney filed papers in court stating that the case was discontinued.

Settlement of this dispute had been a long process, as is typical of many procedures in the Society of Friends, which values consensus and peaceful

resolution of disputes, but arbitration was accomplished in the end. Thirteen years later, Rebecca Lukens wrote a "Statement" of her business history, which indicates that she considered this case critical to the survival of her family enterprise: "I have been at the whole expense of defending the property from an attempt made to destroy the water right which carried on the rolling mill."⁵⁸ It is significant that she was willing to use arbitration when so much was at stake. Moreover, she paid rather dearly for taking this approach to a \$500 lawsuit rather than allowing the court to decide the case: "I think the expenses of my suit with the Yearsleys amounted to upward of \$800, including what I paid Solomon Lukens for attending to it for me. . . ."⁵⁹ With the involvement of Solomon, considered "one of the strictest of the sect,"⁶⁰ the *Rules of Discipline* would surely have been followed closely.

However, attempts at arbitration were not always successful, as seen in a second case, which went all the way to the Pennsylvania Supreme Court. It began as an "amicable action," taken in February 1838 by the Colemans, the family that controlled Cornwall Furnace, for payment of a promissory note Rebecca Lukens had refused to honor. In April of 1837 she had signed a note promising to pay William Coleman \$7023.50 for blooms, raw iron used in the manufacture of her finished rolled iron plates. Payment was to be made in August 1837, but Lukens claimed that the blooms she received were inferior and produced poor iron when she had used them.⁶¹

The Coleman case illustrates the business principles that characterized Rebecca Lukens' management style and that enabled Brandywine Iron Works to survive and grow in an era when so many others failed. Brandywine took pride in the superior quality of its product. Letters from Lukens' agents establish her policy of striving to remain competitive with other mills without compromising quality. Second quality product was to be sold as such, and one agent notes that his customers seeking first quality materials "give your iron the preference."⁶² This was a high pressure, "need it done yesterday" business, where cash flows must have been a constant concern. Much of Lukens' success resulted from her ability to determine the most advantageous purchase prices for her raw materials and the best selling price for her finished boilerplate. Her business correspondence indicates that she informally "organized" with other ironmasters to set a fair price for their iron. She was concerned about practices of other ironmasters who undersold iron at prices that would force Lukens to take a loss if she were to continue to purchase quality blooms.⁶³ Lukens was straightforward in dealing with suppliers, refusing to pay full price for lesser quality raw materials.

The Colemans and Rebecca Lukens agreed to enter the Coleman suit in the Chester County Court of Common Pleas as an "amicable action case," which is defined as "An action brought and carried on by the mutual consent and arrangement of the parties, to obtain judgment of court on a doubtful

question of law, the facts being usually settled by agreement. . . .”⁶⁴ The action named five local ironmasters as referees, three of whom had to agree on a judgment after making “trial of the iron . . . by actual experiment.” The referees’ report concluded that the iron was, indeed, defective, and that the note should be canceled and returned to Lukens, the unused bloom should be returned by rail, and Lukens should pay \$1824.54, a reduced rate, for the bloom she had used.⁶⁵

Exceptions to the report filed by Coleman’s attorney were overruled, and in April 1839 they brought the case to the Pennsylvania Supreme Court. They argued that the suspension of specie payments in May of 1837 was a significant factor in the case, presenting “a strong temptation to purchasers to get rid of their contracts . . . upon the face of this award it is obvious, that the defendant continued to work the iron while prices were good, and after a change of times, sought to return the balance at a loss of near \$2000 to the plaintiffs in the mere depreciation . . . it was *too late*, after the defendant had *accepted* the iron, given her note, and *used twenty-two tons*, to complain.” Lukens’ attorney argued that the expert referees “made an award, which will in their opinion, do exact justice between the parties.”⁶⁶ In the end, the Supreme Court reversed the lower court’s judgment, on grounds that the referees had overstepped their authority. The law authorized them to make allowance for the price of inferior quality iron, but not to rescind the contract.

The case was not yet over, however. The Colemans’ attorney objected when the county court allowed the same referees to examine the case again. Indeed, court records indicate that the same three referees signed both reports.⁶⁷ Two of the three—M. Brooke Buckley and Charles Brooke—were associated with Hopewell Furnace and Hibernia Furnace, long-time friendly business associates of Rebecca Lukens and her late husband. The third referee, Joseph Whitaker, was a very successful ironmaster who had begun as a wood-chopper and collier at Hopewell Furnace, where his father had been employed as a woodchopper.⁶⁸

No records explain the intricacies of business and personal networks and financial strategies that form the subtext of this case, but we can infer that Lukens was anything but a naive businesswoman. Only twelve years after assuming control of Brandywine Iron Works in the midst of family turmoil, she faced a national financial crisis that threatened to shut down her business. Did she refuse payment on bad blooms because they compromised the reputation for quality product she was carefully nurturing, or because the Panic of 1837 intervened? A second Supreme Court decision in December 1841 stated that the same referees must not hear a case twice, and remitted the record to the county court to proceed.⁶⁹ Lukens reported the results in her Brandywine House Account Book: “The settlement with the ‘Coleman’ Agent for the blooms so long in dispute has been made. I am to pay 5000 Dollars in five

equal payments.”⁷⁰ She recorded the last note paid to Mrs. Harriet Coleman, guardian of the Coleman heirs, on 10 mo. 6, 1843.

Her experience dealing with such suppliers must have strengthened Rebecca Lukens’ confidence in her own abilities to make fair and advantageous business transactions, while observing not only the law of the land, but also, so far as she was able, the far more rigorous Quaker *Rules of Discipline*. In 1849, after a series of letters in which Lukens explained to one supplier why she was docking them for a shipment of bad blooms, she finally pulled out the stops and threatened to sue them: “Having considered ourselves perfectly justified in making the deduction for bad iron; we shall not now alter our course unless compeled [sic] by law to do so. & in the attempt to do so we think you will find from decisions of the Supreme Court, in exactly similar case and in reference to Iron delivered at this mill, that we would have been compeled [sic] to take the Blooms bad as they might be and afterwards seek redress in a suit against you for damages a course we shall yet adopt if you carry out your intentions as expressed in our late letter.”⁷¹ Lukens was not to be threatened, and she did, indeed, know the law, at least from her experiences in the seemingly endless Coleman case.

A second area of Rebecca Lukens’ legal transactions concerned her struggle to gain clear ownership of Brandywine Iron Works and to settle her parents’ wills fairly. The very survival of her enterprise for herself and her daughters depended upon the success of her actions. Isaac Pennock initially had offered to sell the mill to his son-in-law Charles Lukens for his own purchase price. Charles Lukens had declined, but in 1815 or 1816 had agreed to move there with Rebecca and rent the property. Rebecca Lukens understood that the \$9000 note her husband had given her father “would be part of my portion at my mother’s death, but that during her life we must pay her interest, if she required it.”⁷² Pennock had informally but repeatedly promised his daughter Rebecca that she would inherit the Brandywine Iron Works, and she expected that her ownership would be made formal when her youngest sister, Mary Ann, came of age. After Pennock’s death in 1824, Lukens learned that, according to his will, an appraisement and equal division of his real property would be made among his five daughters. The will also provided that the two Pennock sons would each receive a farm.⁷³ Lukens believed that this division of property would signal the beginning of her legal ownership of Brandywine Iron Works. “Mother then startled me by declaring that it was optional with her when the appraisement should be, neither did that weaken her claim to it during her life if she chose to hold it; (she spoke of the whole real estate left to her daughters).”⁷⁴

In 1827 Mary Ann came of age and Martha Pennock proposed the appraisement and division of the real property of Isaac Pennock’s estate. Rebecca Lukens considered it unfair to include in this appraisement the property she

and her husband had repaired at their own expense and totally rebuilt over the years. Before his death, Charles Lukens had already paid a large sum to Isaac Pennock toward the price of the property. To consider the improved iron-works Rebecca's share of the inheritance was, in effect, to charge her twice for the improvements, but she took the necessary steps to make her inheritance legal. Brandywine was appraised at \$11,000. As eldest, Rebecca Lukens chose first, claiming the rolling mill as her share and necessitating payments by her of nearly \$5000.00 to her sisters Sarah Pennock and Martha Coates to equalize the shares. ". . . and now," wrote Lukens, "I felt I had Brandywine by a stronger tenure."⁷⁵

But Martha Pennock would not acknowledge that Brandywine was her daughter Rebecca's property. No evidence suggests that Martha Pennock was actively involved in business following her husband's death, but will and probate records show that she had property of her own in addition to the inheritance in question from Isaac Pennock. Lukens described her mother: "Her understanding was superior though her education had been much neglected and she possessed a vigorous and powerful mind." She was clearly a widow with some knowledge of property and investments. Unfortunately for Lukens, Martha Pennock appears to have been particularly protective of the interests of her sons and Lukens believed she was influenced by some of the Pennock children to act contrary to Rebecca's interests.⁷⁶

Martha Pennock proposed payment of the balance of Charles Lukens' debt plus interest, plus an "annuity" of \$100.00. "Solomon Lukens was ever the negotiator between Mother and myself," wrote Lukens. ". . . I well remember saying to Solomon, when he bore Mother's proposal to me, 'I have no right now to pay anything for Brandywine and Mother knows it well, yet if by paying the sum (\$100) yearly will bring peace with it I will gladly comply.'⁷⁷ By requiring an annuity, Martha Pennock may have been following a practice in Pennsylvania inheritance law. "According to a Pennsylvania statute of 1764, the child who purchased the estate was responsible for paying the widow what amounted to an annual rent of her dower share," in order to guarantee the continued care of the mother.⁷⁸ Martha Pennock had stated, according to Lukens, " 'If I do not need my annuity I will not take it, but all this she must agree to do and I shall be satisfied.'⁷⁹

Lukens' Brandywine House Account Book of 1843 shows how this agreement worked in practice. She noted a payment to Martha Pennock "to tender her the money which I owe her for Brandywine, since my last payment to her, which I believe was made up the 16 of 9th mo. 1835 and on the 16 of 9 mo. 1843 amounts (at 100 dollars pr year to 800 dollars). I have a book account against her for different articles furnished her which amounts to \$131.99 cts—and which will leave a balance to be paid her of \$668.01" (4 mo. 1st 1843). The next entry continued: "S Lukens returned the check and money sent by

him to Phila. M. Pennock would not receive it.”⁸⁰ No explanation is given of what transpired, but perhaps Martha did not need her annuity after all. In any case, it is clear that Rebecca Lukens felt she had purchased Brandywine at a considerable price. In her 1850 “Statement” of her business history, she estimated that Martha Pennock had been paid \$14,000-15,000 for the mill over the years following Isaac Pennock’s death.⁸¹

Martha Pennock and her surviving children concluded another property transaction regarding the estate of Isaac Pennock on May 1, 1837, just days before the Panic erupted with full force. The codicil to Isaac Pennock’s will had included a provision enabling his wife to sell “the Slitting Mill” in case funds were needed for the marriage of Pennock’s daughters or the education of the younger son, George Pennock.⁸² This property, called The Federal Slitting Mill and later Rokeby Ironworks, was Isaac Pennock’s original ironworks. The sale must have been planned for several months, for Rebecca Lukens’ daughter Isabella mentioned it in a letter to her aunt in February of 1837: “So grandmother has sold Rokeby. This I was very glad to hear. . . .”⁸³ Rebecca Lukens, however, was apparently not so pleased about the sale. Writing in 1850, she recalled her response: “About this time Mother made a sale of the old Federal Slitting Mill property, which was a part of the real estate willed to us [Isaac Pennock’s children]. . . . We were all astounded at this act which we felt to be wresting our rights from us. Things went on in this way for some time.”⁸⁴

It is not clear why Martha Pennock chose to sell Rokeby, but county deeds show that Rebecca Lukens and her siblings were party to the formal real estate transaction.⁸⁵ Rebecca Lukens eventually shared in the proceeds from the sale; a “memorandum” dated August 16, 1842 in her Brandywine House Account Book states that Martha Pennock gave her daughter a note for \$4523.23, to be paid upon the death of Martha Pennock, who was to receive the interest during her lifetime. An entry on April 1, 1845, following Martha Pennock’s death, concludes the transaction with a notation that Rebecca Lukens had received the \$4523.23, most of which was deposited by Solomon Lukens in the Bank of Chester County, and that Rebecca Lukens had begun to collect the interest on this amount.⁸⁶

With the death of Martha Pennock in 1844, this tension over the family estate was brought into the courts, for her will named George Pennock and the two younger daughters, Sarah Pennock and Mary Ann Penrose, as beneficiaries, the elder son, Isaac, having already died. Isaac Pennock’s will had contained an ambiguity. It devised to his wife “the use, benefits and profits of my real estate, during her natural life; and also all my personal estate of every description . . . absolutely; having full confidence that she will leave the surplus to be divided, at her decease, justly amongst my children.”⁸⁷ Martha had chosen to write a will of her own and had cut Rebecca Lukens and her sister

Martha Coates out of it.⁸⁸ The *Reminiscences* of Lukens' granddaughter Clara Huston Miller tells the story: "Although Friends were encouraged to subject all their differences to arbitration, and a recourse to the courts was strongly disapproved, this flagrant injustice on the part of great-Grandmother Pennock was more than could be patiently borne, and litigation was begun."⁸⁹

Rebecca Lukens and physician Jesse Coates, husband of Lukens' sister Martha, immediately filed objections with the court, requesting that the will not be admitted to probate. Three days after Martha Pennock's death, Solomon Lukens' letter to West Chester attorney William Darlington conveyed a sense of the pressure these sisters felt to protect their rights through immediate legal action: "George Pennock," he wrote, "has been good enough to advise some of his sisters that her [Martha Pennock] will is made altogether in his favour . . . I have to request thee at the instance of two of the daughters to enter a caveat immediately on the receipt of this note. . . ."⁹⁰ That very day Darlington did enter "a caveat against the probate" of Martha Pennock's will on behalf of Rebecca Lukens.⁹¹ Ten days later Jesse Coates entered a much more detailed objection, asserting that Martha Pennock "was not of sound disposing mind and memory" when she wrote the will and that her son George had exerted "undue and fraudulent influence" over her.⁹² Thus began a legal struggle that continued over nine years. "The case dragged on a very long time, the lawyers wrangling endlessly over the proper interpretation of the word 'justly' in Isaac Pennock's Will. . . ." wrote Miller.⁹³

At this point, Brandywine Iron Works legally belonged to Lukens and its ownership was not in dispute. The issue was whether Isaac Pennock had willed his personal property to his wife outright, with the confidence that she would leave the surplus to their children upon her death, or whether he had intended to establish a trust administered by his wife for the children's use upon her death. If the latter were the case, the personal property remaining after Martha Pennock's death would have to be divided among all the children. If Isaac Pennock had, on the other hand, intended to will the property outright to his wife, she would have the right to do with it as she pleased. This complex case was heard three times by the Pennsylvania Supreme Court (1845, 1850, 1853), and the final decision stated that "the absolute ownership of the personal property of Mr. Pennock is given to his widow, with an expression of mere expectation that she will use and dispose of it discreetly as a mother, and that no trust is created thereby."⁹⁴

It was in response to the second hearing of the case by the Supreme Court, in 1850, that Rebecca Lukens wrote one of the most informative and fascinating documents among her papers. The decision of the court at that time (later revised), was that "Martha Pennock was bound to give all the children something," but that any advances made by her to the children before her death were to be deducted from their shares. Thus came to be written the

"Statement of Rebecca W. Lukens in connection with adjustment of her interest in her father's estate and a history of her labors in conducting her business affairs." She wrote this document for her attorney's use in compiling a report the Supreme Court had ordered be sent to the master concerning possible advances to Lukens from the estate. Her first sentence answers the question directly and emphatically: "You ask what advancements I have received from the personal property of my father, Isaac Pennock, left in the charge of my Mother for the benefit of his children, I answer, NONE."⁹⁵

The document blends the business history of Brandywine Iron Works with Rebecca Lukens' more subjective commentary on the politics behind the early days of this family business. This impressionistic aspect of her "Statement" renders it comparable to her more overtly personal writings about her life, husband, and children.⁹⁶ It concludes with a brief apology to her attorney for what she considered a repetitious, imperfect document, intended only to serve the short-term practical purpose of providing him with background information: "I have written this hastily and mainly at night . . . after you glance over it will be of no further use. . . ." She wrote much more than she knew. The "Statement" represents the inseparable mixture of business and family concerns that was her life.

The narrative outlines a story of struggle and success in the new republic's industrial age. Lukens began with an account of how she and young Charles Lukens rented a decaying mill and home, bore the expense of its repairs, but had not yet achieved any degree of financial security for the business before his sudden death. Her promise to continue their enterprise and her commitment to succeed in order to support their children were the source of energy that sustained her in this "unfeminine" undertaking. She knew the value of trusted friends and advisors, chief among them Solomon Lukens, and credits them in her discussion. In a matter-of-fact way she recounts the repeated efforts necessary through the years to make repairs, effect renovations and improvements, and cope with periodic natural crises when the mill-dam would be carried away in freshets. With simplicity and confidence she acknowledges her success:

I had built a very superior mill, though a plain one, and our character for making boiler iron stood first in the market. . . . The first money I ever made was spent in satisfying the claim against the estate of my husband, the rest in paying off my Mother, and few at this day know that, but for my exertion, the estate of Dr. Lukens would have failed to reach the claims against it.⁹⁷

Rebecca Lukens was proud of her achievement. Her Quaker background would have discouraged ostentatious or boastful claims of success, but her

"Statement" reveals her lack of "feminine" reticence in acknowledging her achievement in a man's business. She stated with clear forthrightness, for legal records, that *she* was responsible for the very survival of the business that bears her deceased husband's name.

But along with this industrial success story runs a more personal narrative. Throughout the "Statement" reverberates Rebecca Lukens' angry opening assertion, "NONE." Though she might refrain from boasting publicly that her "exertions" were responsible for the success of Brandywine Iron Works, she refused to submit to the injustice of those who claimed that she received advancements from her father's estate when quite the opposite was the case. At each stage of the story of Brandywine Iron Works, she referred to the underlying interpersonal tensions. From the beginning, she wrote, she and her husband had protested to her father that repairs to the deteriorating iron-works were a financial burden, but Isaac Pennock had insisted that the couple were simply improving the property they would inherit from him. Rebecca Lukens' affection for her father was considerable. Elsewhere, she described him: "My father was generous and amiable, full of the kindest feelings, and wishing to make all around him happy. I was the first to name him Father and on me was his affection fondly lavished."⁹⁸

Martha Pennock, on the other hand, had never treated her daughter Rebecca with much maternal warmth: "Between my mother and me there had never been that endearing familiarity which ought to exist between parent and child. She was even reserved, and rather repelled than claimed my confidence."⁹⁹ Lukens determined to stay on at Brandywine following her husband's death, but her mother compounded the obstacles with repeated demands for repayment of loans made by Isaac Pennock to Charles Lukens, and payment of interest, rent, and an annuity. The "Statement" gives a blow-by-blow account of negotiations with her mother, clearly delineating Lukens' stresses, but never remotely approaching disrespect in its tone. Ever restrained, she described what must have been enormous frustration in her lived experience. Since 1827, Brandywine Iron Works had been legally documented as Rebecca Lukens' property, after her father's estate was appraised and divided. "Mother had always known that we thought with this appraisement her claims ceased and ours commenced, but she would not admit it." And so the payments continued.

Now it does seem very strange to me, when I think of all that has passed, to hear the arguments that have been made against me. . . . And when I had complied strictly with the firm agreement I had made with my Mother and paid her principal and interest in full—even to the sum my dying Father had assured me would on Mother's decease be a part of my portion of his personal property—paid off my two sisters, and spent long

and weary years in realizing an independence for myself and those committed to my care, with no assistance and little sympathy, it does seem very preposterous that any attempt should be made to show that by a reduced rent I had received an advancement from the trust fund—a trust never acknowledged by my Mother, though urged on her by myself when I feared that all she had would be [worse] than lost on George. I repeated to her my Father's words and besought her not to forget the sacred trust reposed in her.¹⁰⁰

Lukens believed that the jealousy of some of her siblings over her success led them to influence their mother negatively.

... there was a dark, a malign influence, continually exerted against me by those around her, and my being prosperous as the Mistress of Brandywine was the cause though never until Sarah spoke openly against me was I aware of her bitter and vindictive feelings. . . . I know Mother ever valued me, and had it not been for the "dark shadow" by her side, ever prompt to check each kindly feeling, she would have acted very differently by me; indeed there were times when she showed much kindly feeling. Poor Mother! She was often I think, rendered very wretched by George's actions, and I think it would have broken her heart could she have in everything known and believed the truth as related to him.¹⁰¹

The master who considered the case following the 1850 appeal to the Pennsylvania Supreme Court agreed with Rebecca Lukens: "His report was submitted, in which it was stated that there were no advancements except to George Pennock . . ." ¹⁰² Despite this ruling in her favor, the Supreme Court ultimately decided, in its third and final hearing of the case in 1853, that Isaac Pennock had bequeathed his personal property to his wife to do with as she pleased and had created no formal trust for his children. The case was finally over, but it had taken a toll on Rebecca Lukens. When she wrote her 1850 "Statement," she was still very much in mourning for the loss of her daughter Charlesanna the year before. This must have compounded her pain, which surfaced as she recounted the history of her efforts at Brandywine: "In this long and weary struggle to gain a living—the estrangement and protracted suit so long pending—the very energies of life seem exhausted." Four years later, Lukens died of apoplexy.

A third area of legal activity includes Lukens' actions not only to establish "the firm," as she called it, but also to ensure her family's continued control of it and the financial well-being of her daughters and granddaughter. At the time of her husband's death, Lukens had already lost two children, and she was to lose a third, teenage daughter several years later. She raised three surviving daughters to adulthood, and all evidence indicates that she was a very

involved mother; indeed, Martha (1814-1895), Isabella (1822-1889), and Charlesanna (1825-1849) appear to have been very close with each other and with their mother.

Lukens gave her daughters an education similar to her own. The ultimate objective was to develop refined literary and artistic tastes and social graces as well as good judgment and the ability to make sound decisions. Family letters indicate that the girls enjoyed the rounds of social and family visits, in both Chester County and Philadelphia, that were customary for eligible young women of their class. But Lukens developed in her daughters practical business skills as well. The eldest daughter, Martha, contributed to the family in both domestic and business areas. In the earlier years of the firm, Lukens needed Martha's assistance with office work. After completing boarding school, Martha acted as the mill bookkeeper, until she was unable to keep up with the firm's increased business. She then served as housekeeper when Lukens recognized her skill in managing servants.¹⁰³

The marriages of all three daughters were more than religious and social events; Lukens' involvement in their lives led her to take an active, and at times directive role in their selection of husbands. True to the pattern of Quakers and ironmasters before her, Lukens secured the family hold upon the business by accepting as partners the husbands of her two elder daughters. Martha married Abraham Gibbons, Jr. in 1841, and Isabella married Charles Huston in 1848. Gibbons was the first son-in-law to join the firm. He began in 1842 by replacing Joseph Bailey as superintendent of the mill, and by 1844 he was a partner in the firm then titled Lukens & Gibbons. Lukens' "Articles of Copartnership" in 1847 with Gibbons marked her "retirement"; she became a silent partner, but her powerful influence remained in effect, as the agreement stipulated, "The name and title of the Firm shall be 'A. Gibbons Jr. & Co.' and the affairs and business thereof subject always to the advisement and concurring judgment of the said Rebecca W. Lukens. . . ."¹⁰⁴ At this time, Martha Gibbons was Lukens' only married daughter, but both Isabella and Charlesanna married the following year. Charlesanna was engaged to marry Philadelphia physician William Tingley, who never joined the firm. But the fact that Charles Huston and William Tingley signed the "Articles of Copartnership" as witnesses in 1847 speaks to Rebecca Lukens' essential fairness to her daughters. She made sure that Huston and Tingley clearly understood the status of the firm *before* their marriages to her remaining daughters took place.

Two years later, Charles Huston became a partner and the firm became known as Gibbons & Huston. His daughter, Clara Huston Miller, relates in her *Reminiscences* how this young physician became an ironmaster. Huston's father, Robert Mendenhall Huston, was a prominent Philadelphia Quaker physician and professor at Jefferson Medical College. He had planned that his young, intellectually precocious son would also establish himself in the medi-

cal profession, and he believed that such ambitions demanded a single life, free from concerns about wife and family. He therefore objected to Charles' plans to marry Isabella Lukens, but was assured by a friend, " 'You should be greatly pleased; your son could do no better for himself than to marry a daughter of Mrs. Lukens, widely known and admired for her business ability, and considered the wealthiest woman in Chester County'. "105

The newlyweds resided briefly in Philadelphia, where young Huston established a medical practice, but fellow physicians advised that his failing health required country air and sufficient sleep. The decision was therefore made to move to the Lukens homestead and accept Rebecca Lukens' offer of partnership in the firm. Thus, with the acceptance of both Gibbons and Huston as partners, Charles Lukens' deathbed request that his wife carry on their fledgling business was fulfilled into the next generation.

Soon afterward, in 1850, Lukens wrote her will. She added a codicil one month before her death in 1854. The *Rules of Discipline* advised "the seasonable performance of this necessary duty," with the assistance of "persons skilful [sic] in the law," in order to avoid "animosities in families," and "great inconvenience and loss and sometimes the ruin of families. . . ."106 The great respect, trust, and love she must have felt for Gibbons and Huston is evident in the provisions of Rebecca Lukens' will. Together with her brother-in-law, James Penrose, they are executors of her estate. In addition, Lukens left a trust fund of \$20,000 each to daughters Martha and Isabella, with Gibbons and Penrose as trustees for Martha Gibbons, and Huston and Penrose as trustees for Isabella Huston. The will specified that payments to each daughter must be made "into her own hands for her separate use, so that the same or any part thereof, shall not be liable for the debts, contracts or engagements of her said present or any future Husband, and for which the receipts of the said Martha [Isabella], under her own hand, notwithstanding her coverture, and whether covert or sole, shall be taken and deemed to be good and valid discharges in the law . . ."107 Such stipulations protecting married women were not uncommon before Pennsylvania's married women's property act of 1848.¹⁰⁸ This act theoretically would have made it unnecessary to continue such precautions, but Lukens was a realistic businesswoman who knew how to protect her daughters' interests. Questions about the retroactive application of the act to women already married at the time of the act could have jeopardized the inheritance of Martha Gibbons (married in 1841). Isabella Huston, however, married on April 27, 1848, just over two weeks following the April 11 passage of the act. Elizabeth Warbasse has documented the tendency of Pennsylvania courts to interpret the law restrictively following its passage in 1848. She writes, "Thus, only ten years after the passage of the married women's property act, the Pennsylvania Supreme Court had rendered it practically useless."¹⁰⁹ Rebecca Lukens had died long before this ten-year period ended, but she was foresighted in

anticipating the need to use conservative language to ensure her daughters' financial independence and security.

The fact that each daughter's husband served as trustee of his wife's inheritance indicates that Lukens trusted her sons-in-law. Nevertheless, her business acumen and the harsh lessons learned in the Panic of 1837 must have made her cautious about insulating the firm itself against possible calamity. Long before the 1848 passage of Pennsylvania's married women's property act, women had enjoyed the right to own real property. Lukens could thus confidently bequeath the mill property outright to her daughters: "I give, devise, and bequeath all the rest, residue and remainder of my estate, real and personal, and wheresoever the same may be, unto my aforesaid two daughters, Martha P. Gibbons and Isabella P. Huston, their respective heirs, executors, and administrators and assigns forever, equally to be divided between them."¹¹⁰ This provision was doubtless safer than bequeathing the mill property to their husbands, who ran the mill as partners and who, as men, could more readily be held financially responsible for major losses. Moreover, the daughters' ownership of the mill protected it, in the event of their husbands' deaths, against the claims of creditors under Pennsylvania's unusually strict inheritance law.¹¹¹ If her sons-in-law had died owning the property, all creditors' claims would have had to be satisfied before Isabella and Martha could inherit the property, because in Pennsylvania creditors' claims on an estate took precedence over those of widows.

The contrast between Rebecca Lukens' legacy to her daughters and the treatment she herself received in her own mother's will is inescapable. When the young, widowed Lukens faced the formidable task of supporting her children from the proceeds of a very tenuous business, she felt that Martha Pennock created further practical and financial obstacles rather than providing much needed support. Clearly Lukens regretted what she considered to be a lost opportunity for a relationship with her mother.

The financial and especially the emotional cost of the Pennock will dispute informed Rebecca Lukens' own will. She took care to treat her own daughters with love and respect. Her will's provisions go far beyond what is necessary to provide for her heirs. In a complete reversal of her treatment by her own mother, Lukens empowered Martha Gibbons and Isabella Huston through her bequest of both personal and real property, including the mill. This act was not a statement of distrust for their husbands; it was rather a clear, loving testimony to Lukens' respect for her daughters' good judgment and her confidence in the ability of a woman to own a business successfully. Her treatment of her daughters is witness to her enlightened respect for women's abilities.¹¹²

In 1855 Abraham Gibbons left the mill partnership to enter banking, and Charles Huston ran the mill. Martha Gibbons sold her interest in the property to Isabella Huston in 1881, and the Huston family became sole owners

of the firm.¹¹³ Following her mother's example, Isabella took an active interest in the finances of the family as well as of the firm. Clara Huston Miller describes the unusually well-balanced financial arrangement that arose between her parents, Isabella and Charles Huston:

Father and Mother had been in the habit of dividing running expenses; the original real estate was hers, but Father assumed the outside expenses of house, stables, barn, horses and carriages, work and wages on the land, hot-houses, outbuildings, and all exterior upkeep and repairs—while Mother did what was required inside, refurbishing, decoration and alterations, wages to the maids, clothing for the children, etc. Father had also paid, in addition to educational expenses, doctors and dentist bills, the large accounts for fuel, meats, groceries and food supplies.¹¹⁴

But when Charles Huston lost money on an investment, Isabella “stretched her income to cover as much as possible of these latter, until more prosperous days should return.”¹¹⁵

Writing in 1960, Isabella's grandson Stewart Huston described her business ability and strength of character:

She had a very strong personality, and it was undoubtedly her determination and good business sense that kept the business going through its various vicissitudes. She was largely responsible for starting a labor relations policy that stood for many years, and her influence on her children—particularly my father, Charles Lukens Huston, their younger son who adored her—lasted during his entire life, and is a deciding factor in many crises.¹¹⁶

Isabella appears to have been a successor worthy of her mother, but her circumstances did not put her in a direct leadership position in family or business. As was customary in iron families, however, Isabella Huston, by her marriage and motherhood, maintained family control of the mill through the next generation. Moreover, family sources indicate that, like her mother, she took an active role in family and business financial dealings. Her concern for employees, noted by Stewart Huston, is echoed in obituaries, which praise her interest in civic causes, particularly in the welfare of employees' children.¹¹⁷ The firm had entered a period of growth following 1870, making the mill less an intimate, paternalistic community. Isabella's role thus took on more of the character of genteel benefactor to the surrounding community of Coatesville.

But what of Charlesanna, the third daughter who survived to adulthood? She had been born after the death of Lukens' husband and was reportedly the most beautiful and the most spoiled. Her story illustrates Lukens' lifelong commitment to provide for the physical and emotional needs of her

family. Charlesanna had determined to marry William Tingley, an Episcopalian and "a young man of good family but a clubman of dissipated life," according to Clara Huston Miller.¹¹⁸ Lukens tried to prevent the marriage by offering her daughter the opportunity to travel in Europe, but Charlesanna held firm and married in 1848 despite her mother's misgivings. She immediately became pregnant, but she had never been physically strong and her difficult pregnancy ended in her death from childbed fever in 1849. Rebecca Lukens, then nearly sixty years old and retired from her business, mourned as she had mourned for none of her many other losses of children, husband, or parents. She began a journal following this death, and the entries show her rather unsuccessfully attempting to deal with the devastating loss.¹¹⁹

Charlesanna, on her deathbed, had requested that her mother raise the baby as her own child: "She gave to my care the darling babe whose life was purchased by her own," wrote Lukens in her journal, "and dearly as I prize my little treasure—I love this child more than I can express—Its beautiful intelligence [sic]. Its sweet smile go directly to my heart. . . ."¹²⁰ The baby was named Charlesanna in honor of her mother, and Lukens did, in fact, take her home. Her daughter Martha had recently had a son of her own, Charlie, whom she quickly weaned so that she could nurse the motherless infant. The family felt that a price was paid for this act of sisterly love. In 1815 Rebecca Lukens noted in her journal the death of Charlie from scarlet fever and Martha's deep grief. The boy's early weaning, they believed, had contributed to his fragile health.¹²¹

Lukens thus began a second period of motherhood. Her journal indicates that it was not, however, blissful, for she remained deeply depressed over the loss of Charlesanna. Contact with Tingley, the baby's father, served only to worsen her distress. When the baby was six months old she wrote, "Her Father also has been here, but his presence is distressing to me. It brings the image of my dear Annie ever before me, and the thought will come 'but for him my child might still be here to bless me—with her sweet presence.'"¹²²

Six weeks later, Rebecca Lukens received a letter from her attorney on the subject of baby Charlesanna's legal affairs. He explained that the baby's father had just petitioned the court to be appointed guardian "of [Charlesanna's] person and estate."¹²³ The attorney continued, "What the object can be I know not.—I do know however, that such an appointment cannot & will not interfere with a Testamentary Guardian so far as may concern any Estate real or personal which may be bequeathed by will to or for the use and benefit of the Child." . . . "The death of Lukens' daughter had occurred only one year after the passage of Pennsylvania's married women's property act, which secured her right to a separate estate. The property of a married woman who died intestate went equally to her husband and children. Lukens' attorney assured her that there must be administration of her daughter's estate, and then concluded,

"The matter of Guardianship does not therefore give him [Wm. Tingley] any additional power or right in regard to the person of the child, nor in regard to the personal Estate of his deceased wife without administration first had—."¹²⁴

But this event must have increased Lukens' unrest over her granddaughter's future. According to Clara Huston Miller, "Grandmother's greatest preoccupation and anxiety was to retain control over and possession of the child, without interference from her father. One day she mentioned this matter to uncle James Penrose, who had much of what is called 'horse-sense.' He answered, 'I can tell you how to do it, Rebecca; offer Bill Tingley a lump-sum of money in exchange for his legal renunciation of all rights in his child, and he will accept; it need not be a very large sum, either, for he is always out of pocket.' So it was done, and it is my recollection that Dr. Tingley sold his little girl for \$500—cash down."¹²⁵ Lukens must have taken immediate action after learning from her attorney about Tingley's petition, since her "Memorandum of agreement and arrangement" with Tingley is dated only nineteen days later. It states that Tingley "commits his said infant child to the exclusive, care, control and management of her said maternal Grandparent free from any right of interference therein from any person whomsoever until her arrival at mature age if she shall so long live."¹²⁶ The agreement states that Lukens "adopts and agrees to treat the said infant in all respects as her own child. . . ." She agreed to unrestricted visitation rights, but no mention was made of an exchange of money. The document does, however, clarify that baby Charlesanna's inheritance of "articles and effects" from her deceased mother's estate was to be inventoried and secured as the infant's separate estate.

In her will, Lukens named Abraham Gibbons, Jr. and James Penrose as "guardians of the person of my granddaughter Charlesanna Lukens Tingley during her minority," and trustees of her separate estate. Lukens bequeathed \$30,000 to be applied to her education and support, and provided that her trustees make payments to her after age twenty-one. As she had for daughters Martha and Isabella, Lukens took care to establish a separate estate for her granddaughter. She was sensitive to the need to circumvent the possible restrictions of coverture in any future marriage of Charlesanna, notwithstanding the rights supposedly guaranteed by the married women's property act.¹²⁷

Lukens' will guaranteed the financial security of her granddaughter, but it was the strong family system she had fostered that ensured the continuation of her loving treatment of baby Charlesanna, who was only five years old when the matriarch died. The adoption was truly an action undertaken by the extended Lukens family: Rebecca, her two surviving daughters, Martha and Isabella, their husbands, and children. Periodic financial accounts made by Charlesanna's trustees show that following Lukens' death the child lived alternately with the Gibbons and the Huston families until her own untimely

death of typhoid fever at age twelve in 1861.¹²⁸ Clara Huston Miller recalled with fondness the welcome addition her cousin had made to both families.¹²⁹

In order to measure Rebecca Lukens' achievement fairly, we must consider the challenges of the early Pennsylvania iron industry as well as her position as a woman "ironmaster." Considering the economic, political and social context of the time, Lukens' achievement is all the more impressive. Bining's 1951 descriptions of the qualities that led to the success of early Pennsylvania ironmasters underscores the rigors of this business. He chose Lukens' friend Clement Brooke as an example, who "represents the shrewd, calculating, and trained businessman who emerged in the first part of the nineteenth century . . . The story of the pioneer ironmasters of Pennsylvania is one filled with incidents of interest and tales of success and failure."¹³⁰ Surely one of the most notable of these success stories is the survival and growth of Brandywine Iron Works into the Fortune 500 company Lukens Steel. The absence of Rebecca Lukens from Bining's discussion illustrates the error of the assumption that the iron industry demanded qualities exhibited by "a fearless race of *men* [*italics mine*] who faced tremendous business odds in laying the foundations of a great industry which today makes Pennsylvania one of the greatest iron and steel centers in the world."¹³¹ Rebecca Lukens was a powerful woman, a business and family leader who knew the measure of her own success. She used the courts when she had no other recourse and did not flinch from contests with her own family, and she knew when the goal, even her own granddaughter, was worth the price. Throughout her tenure as head of Brandywine Iron Works, Lukens proceeded ethically, but without compromising the best interests of her business and her family.

In 1858, five years after her death, the firm was renamed Lukens Rolling Mill in Rebecca Lukens' honor.¹³² She left a business poised to move with confidence into the second half of the nineteenth century. The Huston descendants remained in control of Lukens Steel for 125 years. Rebecca Lukens' long-sought acquisition of legal title to the ironworks ensured that this family control would continue. An early twentieth century history of Pennsylvania expresses the image of continuity and ethical success. "The names of Lukens and Huston are synonymous [with] the best in the moral and religious institutions and traditions, and [with] the lofty ideals of industrial justice and faithful stewardship of the wealth that has been so honorably acquired."¹³³

This image was Rebecca Lukens' legacy and the justification for her fame. Her interest to historians today has less glamour but equal importance. Lukens is atypical of widows at the time only in the degree of her achievement. She was not raised to pursue a career, nor did she consider her success in the context of the early women's movement. Indeed, her death certificate, signed by her son-in-law Dr. Charles Huston, lists her occupation as "Gentlewoman."¹³⁴ As a widow maintaining the family business, she integrated work and domes-

tic functions in a manner consistent with social expectations for women at that time. Her husband's early death opened an opportunity for Lukens to achieve independently, and her business talent and ability, matched by available support structures, enabled her to meet the challenge. Her self-analysis of her situation is honest and perceptive. Aided by "good and firm friends" and "tried and faithful" mill workers, she explained, "with some fear but more courage I began to struggle for a livelihood. I think at this period I must have possessed some energy of character, for now I look back and wonder at my daring. I had such strong, such powerful incentives for exertion that I felt I must succeed."¹³⁵ Support from the legal system, her Quaker faith, some of her family, business associates, and the dynastic structure of the iron industry itself contributed in important ways to her success in surmounting the "difficulty and danger" of her circumstances.

Notes

I am grateful for very generous and professional assistance during this project by the following: Eugene DiOrio of the Graystone Society in Coatesville, Pennsylvania and formerly of Lukens Steel; Nancy Halli of Byrn Mawr College Library; Martin W. Kane, formerly of the Hagley Museum and Library; and Laurie Rofini of Chester County Archives and Records Services.

1. One version of this legend appears in Rebecca Price Janney, *Great Women in American History* (Camp Hill, Pennsylvania: Horizon, 1996), 113-115. This type of romanticized portrait of Rebecca Lukens was broadcast on April 5, 1948 on the Dupont Cavalcade of America radio show. Helen Hayes' performance as Lukens in "Woman of Steel" at the Longacre Theatre in New York was broadcast live on the Dupont Cavalcade over 152 radio stations. The *Coatesville Record's* account of the show on April 6, 1948 refers to Lukens as "mixing petticoats and pig iron."
2. *Daily Local News*, West Chester, Pennsylvania, 29 May 1998.
3. Stewart Huston, "Outline of Speech before the Chester County Historical Society, May 17, 1960," Coatesville Business Houses File: Lukens Chester County Historical Society.

Discussion of the longevity of the family business is found in Eugene DiOrio, *Lukens. Remarkable Past—Promising Future: A Historical Review* (Coatesville: Lukens' Corporate Division, 1990).

4. Peter Nulty, "The National Business Hall of Fame," *Fortune*, 4 April 1994, 118, 126, 128; *Philadelphia Inquirer*, 6 January 1994, C1-2.

5. An example of the use of such descriptive terms to refer to Lukens' achievement is Robert W. Wolcott, *A Woman in Steel—Rebecca Lukens (1794-11854)*. A Newcomen Address (Princeton: Printed at the Princeton University Press, 1940).

6. In her discussion of domesticity in the antebellum United States, Lora Romero, *Home Fronts: Domesticity and Its Critics in the Antebellum United States* (Durham: Duke University Press, 1997), 108, argues against the concept of a "women's culture marching across the antebellum period in a single formation. . . ." Instead, she posits a "plurality of traditions" and possible ways in which domesticity operated. Lisa Wilson, *Life after Death: Widows in Pennsylvania 1750-1850* (Philadelphia: Temple University Press, 1992) presents evidence against the concept of separate spheres through her study of the lives of widows who

supported their families. Claudia Goldin, "The Economic Status of Women in the Early Republic: Quantitative Evidence," *Journal of Interdisciplinary History* 16, no. 3 (Winter 1986): 375-404, rejects the theory that between 1800 and 1840 women's status declined from a previous "golden age" and that separate spheres became established, rendering women less active in business affairs.

7. See Martin W. Kane and Christopher T. Baer, *Works: Photographs of Enterprise*, Hagley Museum and Library (Philadelphia: University of Pennsylvania Press, 1992). Baer, 93, cites the role of chance in the business entrepreneur's success: "Whatever the measure, success for the entrepreneur is often a matter of chance, not just the random luck of the draw, but the ability to recognize opportunity when it knocks. . . ."

8. See Wilson, 101-131, on widows' knowledge of their husbands' businesses. See also Goldin on the practice of widows' taking over their husbands' businesses.

9. Wilson, 2, refers to Susan Klepp's research finding that over 80 percent of widows in early nineteenth-century Philadelphia never remarried.

10. See Carroll Smith-Rosenberg, "Puberty to Menopause: The Cycle of Femininity in Nineteenth-Century America," *Disorderly Conduct: Visions of Gender in Victorian America* (New York: Knopf, 1985), 194-195, on nineteenth-century women's secret joy in aging and menopause as means of pregnancy prevention.

11. Paul F. Paskoff, *Industrial Evolution: Organization, Structure, and Growth of the Pennsylvania Iron Industry, 1750-1860* (Baltimore: Johns Hopkins University Press, 1983), 132. Also see Joseph E. Walker, "The End of Colonialism in the Middle Atlantic Iron Industry," *Pennsylvania History* 41 (1974): 5-26, on growth of the iron industry in America in the nineteenth century, and Gerald G. Eggert, *The Iron Industry in Pennsylvania*, Pennsylvania History Studies No. 25 (Middletown, Pennsylvania: The Pennsylvania Historical Association, 1994), 44-45, 63, 73. See Peter Temin, *Iron and Steel in Nineteenth-Century America: An Economic Inquiry* (Cambridge: M.I.T. Press, 1964) for discussion of technological changes in the iron industry.

12. Paskoff, 91, states that such traditional forms of business organization were compatible with and did not inhibit technological change.

13. Paskoff, 83-85, discusses the high rate of failure of small iron mills in the 1830s and 1840s.

14. Eggert, 62, notes that Dr. Charles Huston, Rebecca Lukens' son-in-law who came to own the ironworks, was one of several ironmasters between 1840 and 1850 who became interested in the chemistry involved in the manufacture of iron. Christopher T. Baer, *A Guide to the History and Records of the Lukens Steel Company*, (Wilmington: Hagley Museum and Library, 1994), 2 states that under his management and that of his sons, Abram F. Huston and Charles Lukens Huston, many technological advances were introduced at the firm.

15. Rebecca Lukens, Brandywine House Account Books, 1839-1848. Chester County Historical Society. In her accounts, Lukens refers to Brandywine Iron Works as "the firm."

16. Another example of a Chester County widow who successfully integrated work and family responsibilities is given by Joan M. Jensen, *Loosening the Bonds: Mid-Atlantic Farm Women, 1750-1850* (New Haven: Yale, 1986), 128-141. Esther Lewis, a Hicksite Quaker widow from Vincent Township, was widowed at age 42 in 1824, and died in 1848. In several ways her story bears comparison with Lukens'. Lewis was a farm widow who raised four daughters, but, unlike Lukens, Lewis and her daughters were actively interested in abolition and women's rights. Lewis successfully maintained the economic security of her family through farming, marketing of some farm products, mining a small amount of iron ore on her property, and renting property to tenants. Perhaps because of class differences, Lukens and her daughters seem more urban in their tastes, material culture, and social practices. But Jensen's analysis, 141, of the significance of Lewis' life for historians applies to Lukens as well: "Although it was not ordinary, the life of Esther Lewis gives us a prototype of what the everyday life of women might have been. Lewis was able to adjust herself to the available options, to develop skills and resources that made it possible to function successfully even without a principal male in the family. Drawing on kin and religious community, she reknit the family after the deaths of several central members and successfully reproduced the farm family through her labor and the organization of a complex web of social and economic ties."

17. For a Pennock genealogy, see George Val-

entine Massey II, *The Pennocks of Primitive Hall* (West Chester County Historical Society, 1951).

18. Rebecca Lukens, Unpublished Autobiography in her own hand. ca. 1825. Typescript: Chester County Historical Society. Original: Accession 50, Lukens Steel Co. Papers, History File, B-2217, Hagley Museum and Library; Susanna Smedley, *Catalog of Westtown through the Years: Officers, Students, and Others* (Westtown: Westtown Alumni Association, 1945). Madeleine B. Stern, *We the Women: Career Firsts of Nineteenth-Century America* (New York: Shulte, 1962; University of Nebraska Press, 1994) includes a chapter on Lukens with the most extensive biographical discussion in print. See Frederick B. Tolles, *Meeting House and Counting House: The Quaker Merchants of Colonial Philadelphia 1682-1763* (Chapel Hill: University of North Carolina Press, 1948), 151-152, on Quaker girls' education in the French language.

19. Rebecca Lukens, "Unpublished Statement . . . In connection with adjustment of her interest in her Father's estate, and a History of her Labors in conducting her business affairs, Brandywine, 10 September 1850. Typescript: Chester County Historical Society.

20. For discussion of rolling and slitting mills and the use of charcoal blooms, see Eggert, 5, 14; Arthur Cecil Bining, *Pennsylvania Iron Manufacture in the Eighteenth Century* (Harrisburg: Pennsylvania Historical and Museum Commission, 1973), 55-81; Arthur Raistrick, *Quakers in Science and Industry* (New York: Philosophical Library, 1950), 91; *Hopewell Furnace: A Guide to Hopewell Furnace National Historic Site*. National Park Handbook 124. (National Park Service, Division of Publications, 1983). DiOrio, 3, describes the operation at Brandywine Iron Works: "The Mill which Dr. Lukens undertook to operate would appear quite primitive to modern eyes. Sheltered in a barn-like wooden structure, the mill had rolls of about 16 inches in diameter, and from 3 feet to 4 feet in length between the housing. Charcoal blooms were first heated over grates before being passed through the rolls with the aid of tongs. The rolls were non-reversing, which meant the workpiece had to be manually passed back across the mill for each successive rolling. A set of bellows to fan the fire, an anvil to hammer the plates flat and a crude shear to trim the plates completed the equipment. An overshot water wheel con-

nected directly to the roll mechanism provided power. The efficiency of the rolls was accordingly determined by the flow of water over the wheel. In dry periods, the wheel would become sluggish, and occasionally would simply stop. If this occurred while a bloom was in the rolls, the men would rush to climb on the wheel and, with their weight, help complete the pass. Allowing a bloom to remain stuck could easily result in firecracked and broken rolls. The replacement of the overshot wheel with a breast wheel, which concentrates the force of the water near the middle of the wheel, and the installation of a fly wheel geared to a high speed to store power, improved matters somewhat. Rolls were enlarged over the years, eventually reaching 66 inches in length."

21. DiOrio; Baer, *A Guide to the History and Records of the Lukens Steel Company*. For a discussion of the *Codorus*, with reference to Brandywine Iron Works' role in its construction, see Alexander C. Brown, "America's First Iron Ship," *Steelways* (Sept./Oct. 1966); Alexander Crosby Brown, *The Sheet Iron Steamboat Codorus: John Elgar and the First Metal Hull Vessel Built in the United States* (Newport News: The Mariners' Museum, 1950).

22. Rebecca Lukens described her promise to Charles Lukens in her "Statement." Wilson, 172, refers to Susan Klepp's finding that, in Philadelphia between 1750 and 1830, the average age at which women were widowed was 48. Lukens was widowed at age 31.

23. Wilson, 5. See also Wilson, 149, for reference to Susan Klepp's study of eighteenth and nineteenth-century Philadelphia church records, in which data indicated that 70 percent of women had minor children at the time they were widowed.

24. Julie Berebitsky, "Women at Hopewell Furnace in the 1830s," Paper delivered at Hopewell Furnace, Spring 1996.

25. Clara Huston Miller, *Reminiscences*, For Private Circulation, (London: Printed by E. Couchman, 1929?), 33.

26. Goldin, 401, 403. In her research of female household heads in Philadelphia, Goldin, 398, found that "widows in 1796 had a high probability of assuming their deceased husbands' businesses and craft positions."

27. Rebecca Lukens, "Statement."

28. Rebecca Lukens is listed as administratrix of Charles Lukens' estate: Orphan's Court Decedent's Estate, Charles Lukens, No. 7700,

June 30, 1825, Chester County Archives and Records Services. See Wilson, 102, for a discussion of widows' competence as executors. 29. Rebecca Lukens, Brandywine House Account Books. See Wilson, 115-118, for a discussion of evidence of wealthy widows' knowledge of business affairs and management of their own assets.

30. Rebecca Lukens, "Statement." Baer, *Works: Photographs of Enterprise*, 29, discusses the absence of women from the iron and steel industry over the years: "The work traditionally has required a combination of physical strength and the ability to gauge the quality of metal by its color and 'feel.' The less skilled jobs involved handling the heavy raw materials, stoking furnaces, and manipulating the plates at the end of the rolling process. As a result, this was unashamedly 'man's work,' until relatively recently as chemical and metallurgical analysis have replaced the ironmaster's intuition, and electrification and automation have reduced the need for raw muscle power on the mill floor. Women first entered the mills as a temporary measure during World War II, but have been employed regularly since the 1970s."

31. On the division between Hicksite and Orthodox Quakers, see H. Larry Ingle, *Quakers in Conflict: The Hicksite Reformation* (Knoxville: The University of Tennessee Press, 1986). For a discussion of forces that motivated individual Quakers to choose either side, see Robert W. Doherty, *The Hicksite Separation: A Sociological Analysis of Religious Schism in Early Nineteenth Century America* (New Brunswick: Rutgers University Press, 1967), 62-65, 69, 72, 92; E. Digby Baltzell, *Puritan Boston and Quaker Philadelphia* (New York: Free Press 1979), 436. Hugh Barbour and J. William Frost, *The Quakers* (New York: Greenwood, 1988), 171, explain the decision to side with the Orthodox branch in this way: "Theology and Church government were the immediate causes of the schism among American Friends, but geography, economic status, and kinship influenced the patterns of division. The Orthodox within the city of Philadelphia comprised a socially cohesive business oriented, small community. Those in the country who joined them had close contacts with Orthodox leaders, family connections being very important."

32. *Rules of Discipline of the Yearly Meeting of Friends, for Pennsylvania, New Jersey, Delaware,*

and the Eastern Parts of Maryland (Philadelphia: Joseph Rakestraw, 1834), 136-137. Also see Raistrick, 47, concerning Quaker advices on trade.

33. Raistrick, 43. Also see Tolles, 80, on the Quaker value of anti-acquisitiveness.

34. Raistrick, 48.

35. *Ibid.*, 45.

36. *Rules of Discipline*, 136-142.

37. Anthony Wallace, *The Social Context of Innovation* (Princeton University Press, 1982), 67, 73, 76. Also see Raistrick, chapter 4, for discussion of Quaker iron families and genealogies. Mary Poovey, *The Proper Lady and the Woman Writer* (Chicago: University of Chicago Press, 1984), 6, discusses the importance of women in eighteenth-century English society in forming economic alliances between families through marriage.

38. Arthur C. Bining, "Early Ironmasters of Pennsylvania," *Pennsylvania History* 18, no. 2 (April 1951): 95. Also see Bining, *Pennsylvania Iron Manufacture in the Eighteenth Century* (Harrisburg: Pennsylvania Historical and Museum Commission, 1973), 130-131, on matrimonial alliances.

39. See M. W. Flinn, *Men of Iron: The Crowleys in the Early Iron Industry* (Edinburgh: The University Press, 1962), for an extensive discussion of the Crowley family business and genealogy. Wallace, 72, 74-75, also refers to the Crowleys.

40. See Daniel A. Graham, *Thomas Rutter I (c. 1660-1730) of Germantown, Pennsylvania and the Birth of the Pennsylvania Iron Industry* (August 1996) and Daniel Graham, *Good Business Practices and Astute Matchmaking: The Ascendancy of Thomas Potts (c. 1680-1752) of Berks County, Pennsylvania in the Early Charcoal Iron Industry of Pennsylvania* (November 1997), Chester County Historical Society, for extensive discussion of the Savage/Nutt/Potts families and their ironworks. Bining, "Early Ironmasters of Pennsylvania," discusses the Nutt and Potts ironworks. J. Smith Futhey and Gilbert Cope, *History of Chester County, Pennsylvania* (Philadelphia: Louis H. Everts, 1881), 344-345, also discuss these ironworks.

41. Samuel Nutt, Copy of Will, 25 September 1737. MS 1858. Chester County Historical Society.

42. Through further marriage alliances, the Savage-Nutt holdings eventually became part of the extensive Potts family ironworks. Rebecca (Savage) Nutt's daughter Anna mar-

- ried Thomas Potts, son of John Potts and Ruth Savage (sister of Rebecca and daughter of Anna (Rutter Savage) Nutt. Nutt family papers, Chester County Historical Society.
43. Rebecca Lukens, "Statement."
44. Baer, *A Guide to the History and Records of the Lukens Steel Company*, 1; DiOrio.
45. Rebecca Lukens, Inventory of Goods, Will #12628, December 20, 1854, Chester County Archives and Records Services; Miller, 43-45, describes Lukens and her family as "gay" vs. plain Quakers. See Tolles, 130-132, on eighteenth-century Quaker "grandees" wide use of coaches and their departure from plain living. Raistrick, 341-343, discusses the precedent for successful eighteenth and nineteenth-century English Quaker businessmen to become materialistic.
46. See DiOrio, 6: "The building of the Philadelphia & Columbia Railroad in the 1830s brought new marketing opportunities for her mill. It passed directly through the valley, linking Coatesville with Philadelphia and Pittsburgh. The railroad crossed the Brandywine gorge on a high bridge—a project Rebecca Lukens had predicted when it was regarded as an engineering impossibility."
47. Accession 50, Lukens Steel Co. Papers, Hagley Museum and Library. For a discussion of the use of commission agents by ironmasters, see Harold C. Livesay, "Marketing Patterns in the Antebellum American Iron Industry," *Business History Review* 45, no. 3 (Autumn 1971): 269-295.
48. Wilson, 124, argues that some widows became wealthier after their husbands' deaths because they were successful in business and "because they were *better* entrepreneurs than their husbands."
49. *Rules of Discipline*, 65, 18, 15. See Tolles, 75-76, 251-252, for discussion of colonial Friends' prohibition against members' use of the courts to settle disputes and their preference for arbitration.
50. Barbour and Frost, 111-112.
51. Orthodox and Hicksite monthly meeting minutes of the Philadelphia Yearly Meeting are included in the collection of the Friends Historical Library of Swarthmore College.
52. Rebecca Lukens, letter to Hannah Pennock Steel, Brandywine, 22 May 1837, Chester County Historical Society.
53. *The Village Record*, West Chester, Pennsylvania. 12 July 1837, 3.
54. Lukens, letter to Steel.
55. Baer, *A Guide to the History and Records of the Lukens Steel Company*, 184.
56. Triadelphia Iron Works Records. Accession 50. Folder 16, Box 2217. Hagley Museum and Library; Forsythe and Yearsley vs. Lukens. Court of Common Pleas, Appearance Papers. Case no. 72. February Term, 1838. Chester County Archives and Records Services.
57. *Ibid.*
58. Rebecca Lukens, "Statement."
59. *Ibid.*
60. Miller, 45.
61. Coleman, Edward & Lewis Hurford, Executors of William Coleman deceased for the use of Harriet Coleman guardian of the minor children of James Coleman deceased vs. Rebecca W. Lukens. Court of Common Pleas, Appearance Papers. Case no. 17, February Term, 1938. Chester County Archives and Records Services.
62. T. and E. George, letter to R. W. Lukens and Co., Philadelphia, 21 May 1843. Accession 50, Lukens Steel Co. Papers. Inbound Letters, Box 1840-50. Hagley Museum and Library.
63. Rebecca Lukens, letter to William Kemble, 1 May 1848; 5 September 1848. Accession 50. Lukens Steel Co. Papers. Outbound Letters. B-1189. Hagley Museum and Library.
64. Henry Campbell Black, *Black's Law Dictionary*, 6th ed. (St. Paul: West Publishing Co., 1990), 82.
65. Coleman papers, Chester County Archives and Records Services.
66. Thomas I. Wharton, *Reports of Cases Adjudged in The Supreme Court of Pennsylvania in the Eastern District*. Vol. IV. Containing the Cases Decided at December Term, 1838, and March Term, 1839 (Philadelphia: T. & J. Johnson, 1839), 350, 352, 353.
67. Coleman papers, Chester County Archives and Records Services.
68. Dennis C. Kurjack, "Joseph Whitaker of Hopewell Furnace," *Historical Review of Berks County* 14 (January 1949): 49-53; "Joseph Whitaker of Hopewell Furnace-II," *Historical Review of Berks County* 14 (April 1949): 66-73.
69. Frederick Watts and Henry J. Sergeant. *Reports of Cases Adjudged in The Supreme Court of Pennsylvania, in the Eastern District*. Vol. III. Containing the Cases Decided in Part of December Term 1841, in March Term, May Term and Part of July Term 1842. (Philadelphia:

James Kay, 1853): 45.

70. Rebecca Lukens, Brandywine House Account Books, 8 mo. 16 1842.

71. Rebecca Lukens, letter to Campbell Stephens & Co., 5 July 1849. Accession 50. Lukens Steel Co. Papers. Outbound Letters. B-1189. Hagley Museum and Library.

72. Rebecca Lukens, "Statement."

73. Isaac Pennock, Will, 5 April 1824 and Codicil in Will Book P, Vol. 15, p. 60, no. 7484. Chester County Archives and Records Services; Rebecca Lukens, "Statement."

74. Rebecca Lukens, "Statement."

75. Report of the Appraisal and Division of the Residue of the Real Estate of Isaac Pennock, Deceased to & between his Daughters or their Representatives. 13 Nov. 1827. Miscellaneous Deeds 2, p. 79. Chester County Archives and Records Services; Sarah Pennock to Rebecca W. Lukens. Deed of Release. 28 Nov. 1833. Deed Book H4, p. 301. Chester County Archives and Records Services; Jesse Coates & Wife to Rebecca W. Lukens. Deed of Release. 14 Jan. 1834. Deed Book G4. p. 265. Chester County Archives and Records Services; Rebecca Lukens, "Statement."

76. Martha Webb Pennock. Will, 6 February 1844. Index #W-186-1844. Philadelphia Register of Wills Office; Rebecca Lukens, "Autobiography"; Rebecca Lukens, "Statement."

77. Rebecca Lukens, "Statement."

78. Carole Shammas, Marylynn Salmon, and Michel Dahlin, *Inheritance in America from Colonial Times to the Present*. (New Brunswick: Rutgers University Press, 1987), 68.

79. Rebecca Lukens, "Statement."

80. Rebecca Lukens, Brandywine House Account Book, 1843.

81. Rebecca Lukens, "Statement."

82. Isaac Pennock, Will.

83. Isabella P. Huston, letter to Hannah Steele, 12 February 1837. Chester County Historical Society.

84. Rebecca Lukens, "Statement."

85. Martha Pennock et al., Grantor; Thos. H. Gardner et al., Grantee. 1 May 1837. Deed Book N4, p. 327. Chester County Archives and Records Services.

86. Rebecca Lukens, Brandywine House Account Book, 1842, 1845.

87. Isaac Pennock, Will.

88. Martha Webb Pennock, Will.

89. Miller, 47.

90. Solomon Lukens, letter to William Darlington, 18 September 1844. Chester

County Historical Society.

91. Martha Pennock, Will.

92. *Ibid.*

93. Miller, 47.

94. Robert M. Barr, ed. *Pennsylvania State Reports. Containing Cases Adjudged in the Supreme Court, during Dec. Term, 1845, March Term, and Part of May Term, 1846*. Vol. II. (Philadelphia: George T. Bisel, 1883), 129-138; George W. Harris, ed. *Pennsylvania State Reports. Containing Cases Adjudged in the Supreme Court, during Part of Dec. Term, 18-49, and March and May Terms, 1850*. Vol. XIII. (Philadelphia: George T. Bisel, 1873), 253-259; George W. Harris, ed. *Pennsylvania State Reports. Vol. XX. Containing Cases Adjudged by the Supreme Court of Pennsylvania*. Vol. VIII. (Philadelphia: George T. Bisel, 1854), 268-280. See also Wilson, 54: "Life estates were certainly the norm throughout the period studied, in both Chester County and Philadelphia." Thus the interpretation of Isaac Pennock's will argued by Rebecca Lukens' side would have been standard. Wilson, 112-122, discusses the increasing trend in the early nineteenth century for husbands to leave entire estates to their widows.

95. Rebecca Lukens, "Statement."

96. The more personal writings of Rebecca Lukens include her brief "Autobiography" (1825), written following her husband's death primarily for her children as a remembrance of their parents' courtship and marriage, a small number of family letters, and her journal, which she began keeping several times between 1849 and 1852. Letters and the journal are at the Chester County Historical Society; the original of the "Autobiography" is at the Hagley Museum and Library.

97. Rebecca Lukens, "Statement."

98. Rebecca Lukens, Autobiography.

99. *Ibid.*

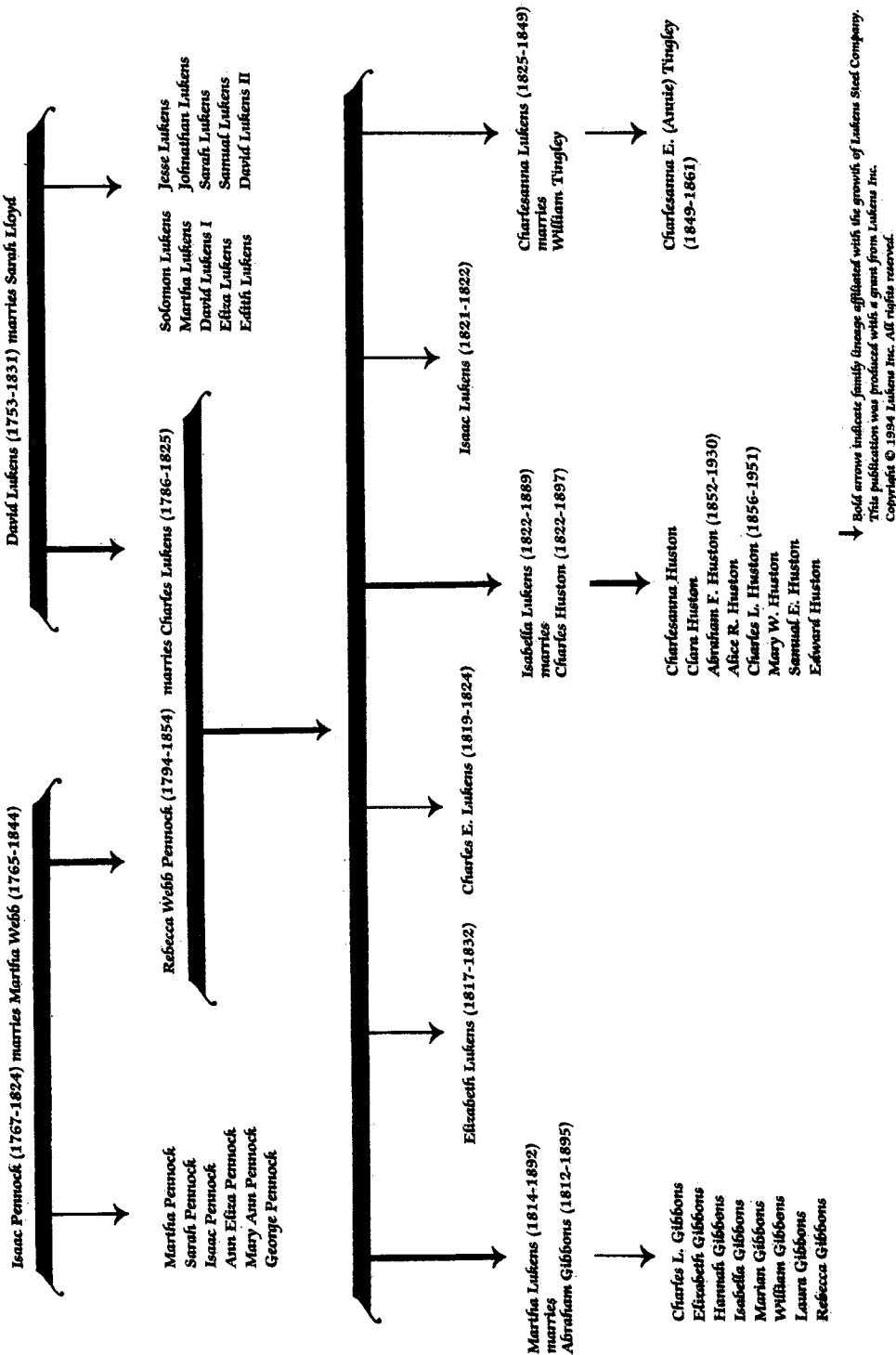
100. Rebecca Lukens, "Statement."

101. *Ibid.*

102. Harris, 1854.

103. Hannah P. Steele, "An Appreciation and Description of the Early Life, Marriage and Later Married Life of . . . Martha P. Gibbons. Written by Her Girlhood and Life Long Friend. Hannah P. Wife of Hugh E. Steele" (n.d.), Typescript, Lukens Family Papers, Chester County Historical Society; Smedley, *Catalog of Westtown through the Years*; Huston and Gibbons families, Newspaper Clippings File, Chester County Historical Society.

104. Rebecca Lukens, "Articles of Copartnership" with Abraham Gibbons, Jr., 1 October, 1847. Accession 50. Lukens Steel Co. Papers. Box 2217, folder. Hagley Museum and Library. The "Articles" stated that Lukens was to supply 2/3 of the capital of \$24,000 and Abraham Gibbons, Jr. was to supply 1/3. They would then receive profits in corresponding proportions. In addition, the firm was to pay Lukens \$14,000 per year rent for the mill and Gibbons \$1,000 per year for his services as manager of the mill. See also Baer, *A Guide to the History and Records of the Lukens Steel Company*.
105. Miller, 52.
106. *Rules of Discipline*, 147.
107. Rebecca Lukens, Will, 8 Jan. 1850, and Codicil, 27 Nov. 1854, in Will Book U, Vol. 20, p. 351, no. 12628. Chester County Archives and Records Services.
108. Marylynn Salmon, "Equity or Submerision? Feme Covet Status in Early Pennsylvania." *Women of America: A History*. ed. Carol Ruth Berkin and Mary Beth Norton. (Boston: Houghton Mifflin, 1979), 95.
109. Elizabeth Bowles Warbasse, *The Changing Legal Rights of American Women 1800-1861*. (New York: Garland, 1987), 236, 241-244.
110. Rebecca Lukens, Will, 1850.
111. See Shammas, 73-74, on inheritance law in Pennsylvania. Wilson, 37-40 refers to the increasing trend in the mid nineteenth century for women to set up separate estates for their daughters. She interprets this not as a sign of distrust for sons-in-law, but as an indication of female testators' knowledge of the legal system and how to avoid legal pitfalls. These female testators set up dynasties through the female line by establishing trusts for their daughters. In these trusts, daughters received interest during their own lives and grandchildren inherited the principal.
112. In 1848, two years before Lukens wrote her will, the Seneca Falls "Declaration of Sentiments" of the women's movement was drafted. There is no existing evidence, however, that Rebecca Lukens was involved in this event or the women's movement, or in other social reforms of the time, such as the abolition movement.
113. Abraham Gibbons and Wife to Isabella P. Huston. Deed of Release. 5 August 1881. Deed Book L9, p. 26. Chester County Archives and Records Services. See also Baer, *A Guide to the History and Records of the Lukens Steel Company*.
114. Miller, 111-112.
115. Miller, 112. Wilson, 40 notes that through the practice of setting up separate estates for daughters, widows empowered them to economically assist their families if their husbands' finances became endangered.
116. Stewart Huston.
117. Isabella P. Huston. Obituaries, *Coatesville Weekly Times*, 10 Sept. 1889; *Chester Valley Union*, 24 Aug. 1889, Newspaper Clippings File, Chester County Historical Society.
118. Miller, 51.
119. Rebecca Lukens, Journal, 1849-1852. Chester County Historical Society.
120. *Ibid.*, 14 Aug. 1849.
121. *Ibid.*, 1851.
122. Rebecca Lukens, Journal, 9 mo. 16, 1849.
123. William Tingley, Petition for guardianship of Charlesanna Lukens Tingley, 2 November, 1849. Tingley Papers. Chester County Historical Society.
124. Thomas Williamson, letter to Rebecca Lukens, Philadelphia, 2 November, 1849. Tingley Papers. Chester County Historical Society.
125. Miller, 70.
126. Rebecca Lukens, "Memorandum of agreement and arrangement" with William Tingley, 21 November, 1849. Tingley Papers Chester County Historical Society.
127. Rebecca Lukens, Will, 1854.
128. Charlesanna Tingley. Minor. Orphans Court Docket, 1856, 1858, 1861. Chester County Archives and Records Services.
129. Miller, 72, 123.
130. Bining, "Early Ironmasters of Pennsylvania," 103.
131. *Ibid.*
132. Baer and Kane, 29.
133. George P. Donehoo, *Pennsylvania: A History* (New York: Lewis Historical Publishing Company, 1926), 28.
134. Rebecca Lukens, "Physician's Return of Death," Filed December 18, 1854, Lukens Family Papers, Chester County Historical Society.
135. Rebecca Lukens, "Statement."



↓ Bold arrows indicate family lineage affiliated with the growth of Lukens Steel Company.
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