# Introduction

Early in the morning of Friday, January 28, 1820, a night watchman at the Broomward Cotton Mill in Glasgow discovered a fire in the carding room. He:

> gave the alarm, and, on going to the spot, found that some Person or Persons had, by getting up on a tree opposite to, and within three feet of the east side of the Mill, thrown in, through the opening pane of one of the windows, a Paper Bundle or Package, filled with Pitch and Gunpowder, and dipped in Oil, which had exploded, and set Fire to a Basket full of loose Cotton, which communicated to one of the Carding Engines, and which, unless it had instantly and providentially been discovered and got under, must have consumed the whole Building.[1]

James Dunlop, the owner of the mill, was probably not surprised. The motives of the arsonists were no mystery. On January 31 the *Glasgow Herald* reported:

> This fire, there is good ground to believe, has been occasioned by a gang of miscreants who, for some time past, have waylaid, and repeatedly assaulted and severely wounded, the persons employed at the Broomward Cotton Mill, who are all women, with the view of putting the mill to a stand, and throwing the workers out of employment.[2]

A few years later twenty-five mill owners from Glasgow petitioned the Home Secretary Robert Peel to extend the anti-union Combination Laws to Scotland. Their petition describes this case in more detail.

> Messrs James Dunlop and Sons, some years ago, erected cotton mills in Calton of Glasgow, on which they expended upwards of 27,000l. forming their spinning machines (chiefly with the view of ridding themselves of the combination) of such reduced size as could easily be wrought by women. They employed women alone, as not being parties to the combination, and thus more easily managed, and less insubordinate than male spinners. These they paid at the same rate of wages, as were paid at other works to men. But they were waylaid and attacked, in going to, and returning from their work; the houses in which they resided,

[1] *The Glasgow Herald*, Monday, January 31, 1820, p. 3, col. 2. [2] *Ibid.*, p. 2, col. 4.

were broken open in the night. The women themselves were cruelly beaten and abused; and the mother of one of them killed; in fine, the works were set on fire in the night, by combustibles thrown into them from without; and the flames were with difficulty extinguished; only in consequence of the exertions of the body of watchmen, employed by the proprietors, for their protection. And these nefarious attempts were persevered in so systematically, and so long, that Messrs. Dunlop and Sons, found it necessary to dismiss all female spinners from their works, and to employ only male spinners, most probably the very men who had attempted their ruin.[3]

The women spinners employed by Dunlop lost their jobs as a direct result of the male workers' opposition.

The attempt to burn Dunlop's mill was just one battle in a war between the cotton spinners' union and their employers. Other mills were attacked, and one employer was even shot at in the doorway of his father-in-law's house on his wedding night.[4] The dispute included, among other points, an objection to the employment of women. On November 27, 1822, Patrick McNaught, manager of the Anderston Cotton Mill in Glasgow, received the following note from the spinners' union, which emphasized the employment of women:

Sir,
I am authorized to intimate jeoperdy and hazardious prediciment you stand in at the present time, by the operative cotton spinners, and lower class of mankind, in and about Glasgow, by keeping them weomen officiating in mens places as cotton spinners, and plenty of men going idle out of employ, which would I accept of them for the same price omiting the list which you know is triffling. So they present this proposal as the last, in corresponding terms, so from this date they give you a fortnight to consider the alternative, whether to accept the first or the latter, which will be assassination of body; which you may relie upon no other thing after the specified time is run, for you will be watched and dogged by night and by day, till their ends are accomplished; for you well deserve the torturings death that man could invent, being so obstinate, more so than any other master round the town, and seeing poor men going about the street, with familys starving, and keeping a set of whores, as I may call them, spending their money, drinking with young fellows, and keeping them up. So mark this warning well, and do not vaunt over it like you foolish neighbour, Mr. Simpson, in Calton, with his, for he was soon brought to the test, and you will be the same with murder.[5]

The writer of this note, identified only as "Bloodthirst void of fear," draws on gender ideology to create a sense of outrage. He calls the women whores for the offenses of "spending their money" and "drinking with young fellows," activities which do not seem to us worthy of condemnation

[3] *Fifth Report from the Select Committee on Artizans and Machinery*, BPP 1824 (51) V, p. 525.
[4] *Ibid.*, p. 527. [5] *Ibid.*, p. 531.

but clearly fall outside what the writer considers to be proper feminine behavior. One suspects, though, that the real reason for the opposition to female employment is that the women are working "in men's places." If women were employed, men would be unemployed, or at least would have to work for lower wages. Employers were somehow immune to these concerns about proper feminine behavior, and actively sought to hire women because they could benefit economically from doing so. It was the male workers, who would lose economically from their employment, who expressed such concerns about proper female behavior. Thus a man's opinions on whether women should work in the factory seem to have been determined by whether he would win or lose economically from the employment of women. The union's grievances were not directed only at women spinners, but also at other forms of competition; the employment of male workers not approved by the union was also violently opposed. The violence was economic warfare, aimed at protecting the spinners' wages and working conditions. The actions of the Glasgow mule spinners are just one example of barriers to women's employment that were erected because of economic motivations; men excluded women to reduce competition and raise their own wages.

In the late eighteenth and early nineteenth centuries women and men generally did not work at the same jobs, and they did not receive the same wages. These differences are widely known, and the most common explanation is that they resulted from discrimination or gender ideology. This book will argue that economic motivations explain the patterns we observe. In some cases, the occupational sorting was required for economic efficiency. Since strength was a scarce resource, the market paid a premium for it. In other cases occupational sorting was the result of a powerful group seeking to limit women's opportunities in order to improve its own economic position, at the expense of women, and at the expense of economic efficiency. The case of the Glasgow cotton spinners illustrates the second case. Women were excluded from the highly paid occupation of cotton spinning, not because they were incapable of doing the job, or because employers refused to hire them, or because social disapproval, combined with violence, kept them at home, but because the male cotton spinners' union was effective in excluding them, thus reducing the supply and increasing the equilibrium wage of cotton spinners.

In seeking to understand the causes of gender differences in wages and occupations, this book will focus on actuality rather than ideology. I am mainly interested in what work women actually did, rather than how people thought or spoke about this work. Both ideology and actuality are important topics of study, and one may influence the other, but we must

not confuse the two. Many researchers are primarily interested in the ideology of the period. For example, Davidoff and Hall note, "The suitability of field work, indeed any outdoor work for women, was almost always discussed in moral terms."[6] This statement provides some insight into how people in the Industrial Revolution *discussed* women's work. By contrast, I am primarily interested in what people *did*. Which jobs did women do, and what were they paid?

We can ask two related but different questions about women's work: "What did people think women should do?" and "What work did women actually do?" What people *say* does not always match what they actually do, so evidence on the first question will not answer the second question. While social expectations influence behavior, they are not the whole story. People have an amazing ability to say one thing and do another, particularly when they can benefit from doing so. Nineteenth-century employers could hire married women at the same time they claimed to be opposed to the employment of married women. For example, in 1876 Frederick Carver, the owner of a lace warehouse, told a parliamentary committee: "we have as a rule an objection to employing married women, because we think that every man ought to maintain his wife without the necessity of her going to work." However, he seems to have been willing to break this rule without too much difficulty. Carver admitted that "As to married women, in one particular department of our establishment we have forty-nine married women and we wish that the present state of things as regards married women should not be disturbed."[7] Because preconceived notions of women's work and actual employment often conflicted, we must make a clear distinction between the two when trying to analyze women's employment opportunities.

Amanda Vickery has warned us against taking Victorian ideology at face value. She asks:

> Did the sermonizers have any personal experience of marriage? Did men and women actually conform to prescribed models of authority? Did prescriptive literature contain more than one ideological message? Did women deploy the rhetoric of submission selectively, with irony, or quite critically? ... Just because a volume of domestic advice sat on a woman's desk, it does not follow that she took its strictures to heart or whatever her intentions managed to live her life according to its precepts.[8]

[6] Leonore Davidoff and Catherine Hall, *Family Fortunes: Men and Women of the English Middle Class, 1780–1850* (Chicago: University of Chicago Press, 1987), p. 274.
[7] BPP 1876, XIX, p. 258, quoted in Sonya Rose, *Limited Livelihoods: Gender and Class in Nineteenth-Century England* (Berkeley: University of California Press, 1992), p. 32.
[8] Amanda Vickery, "Golden Age to Separate Spheres? A Review of the Categories and Chronology of English Women's History," *Historical Journal* 36 (1993), pp. 385, 391.

This study will heed Vickery's warning, and will not assume that statements of gender ideology are evidence of how employers actually made economic decisions. The fact that some jobs were labeled "men's work" is not proof that women were excluded because the gender label attached to a job and the sex of the person who filled the job did not necessarily match. An 1833 parliamentary investigation finds that "In the Northern Counties, the Women engage in Men's work much more than in the Southern Districts."[9] While there was a clear category of jobs designated "men's work," it was not true that men always filled those jobs.

Of course, customary expectations often did accurately describe the gender division of labor. Michael Roberts has suggested that the debate between custom and market is not productive because the two are compatible.[10] It is true that market efficiency and custom usually prescribed the same outcomes, and I believe that this was no accident, but the result of the close relationship between the two. In theory the relationship between custom and market could run in either direction. Custom could determine the work that people did, or the work that people did could determine which customs would emerge, or both. Most historians believe that custom shaped economic outcomes. Some believe that economic outcomes shaped custom. Heidi Hartmann, for example, claims that women's low social status has its roots in the gender division of labor and can only be ended by ending occupational segregation.[11] I believe that economic outcomes matched custom so closely because custom was created to explain and justify the existing patterns of work and pay. In some cases the gender division of labor resulted from economic forces that promoted the most efficient outcome. However, since most people did not understand those economic forces, they relied on gender ideology to explain the patterns they observed. In other cases the gender division of labor was not efficient but benefited a particular group; in these cases the group benefiting from occupational segregation created and used gender ideology to promote their own economic interests.

By emphasizing the economic motivations for gender differences, I am providing a materialist explanation for the gender division of labor. This is meant to be an alternative to the prevailing ideological explanation, which gives priority to ideas about gender roles. I do believe that such

[9] BPP 1834 (44) XXX, Whitburn, Durham, p. 169.
[10] Michael Roberts, "Sickles and Scythes Revisited: Harvest Work, Wages and Symbolic Meanings," in P. Lane, N. Raven, and K. D. M. Snell, eds., *Women, Work and Wages in England, 1600–1850* (Woodbridge: Boydell Press, 2004), p. 89.
[11] Heidi Hartmann, "Capitalism, Patriarchy, and Job Segregation by Sex," *Signs* 1 (1976), pp. 137–69.

ideologies were present, but I don't think they were the driving cause of the differences we observe. Distributional coalitions could take advantage of such ideologies, and even expand them, in order to justify their inefficient policies. The Glasgow cotton spinners called the women spinners whores, not because they were driven by a concern for sexual purity, but because, by generating outrage, they could increase public support for their campaign to remove the women from their jobs. The question is not whether gender ideology existed, but whether it was the engine driving the train or just the caboose. Most research on the subject makes ideology the engine; I think it was the caboose.[12]

Even if patterns of work and pay were determined by economic forces, that does not mean that people understood them that way. Customary explanations are created partly because people do not understand economic forces. During the Industrial Revolution sudden changes in technology caused custom and the market to diverge, creating discomfort for the people involved when new realities did not match the customary explanations that had been created for a different reality. We can see an example of this discomfort in a passage by Friedrich Engels describing the husband of a factory worker:

> [a] working-man, being on tramp, came to St. Helens, in Lancashire, and there looked up an old friend. He found him in a miserable, damp cellar, scarcely furnished; and when my poor friend went in, there sat Jack near the fire, and what did he, think you? why he sat and mended his wife's stockings with the bodkin; as soon as he saw his old friend at the door-post, he tried to hide them. But Joe, that is my friend's name, had seen it, and said: "Jack, what the devil art thou doing? Where is the missus? Why, is that thy work?" and poor Jack was ashamed and said: "No, I know that this is not my work, but my poor missus is i' th' factory; she has to leave at half-past five and works till eight at night, and then she is so knocked up that she cannot do aught when she gets home, so I have to do everything for her what I can, for I have no work, nor had any for more nor three years ... There is work enough for women folks and childer hereabouts, but none for men; thou mayest sooner find a hundred pound in the road than work for men ... when I got married I had work plenty ... and Mary need not go out to work. I could work for the two of us; but now the world is upside down. Mary has to work and I have to stop at home, mind the childer, sweep and wash, bake and mend." ... And then Jack began to cry again, and he wished he had never married.[13]

Both gender ideology and market forces were very real for Jack. Gender ideology told him that he should earn the income while his wife worked

[12] For an alternative view, see Rose, *Limited Livelihoods*, pp. 12–13.
[13] Frederick Engels, *Condition of the Working Class in England in 1844* (London: George Allen and Unwin, [1845] 1926), pp. 145–6.

in the home, and the fact that this ideology did not match his situation made him miserable. Market forces, however, determined the actual pattern of work; his wife worked at the factory while Jack worked in the home.

Many studies of women's work have chosen to focus on ideology, on how people thought and talked about women workers.[14] This focus may arise from an interest in ideology for its own sake, or from a belief that ideology drives action, that what people actually do is determined by the categories of how they think. My focus on actuality comes from a belief that the chain of causation more often runs the other way, that actuality drives ideology. Economic actors respond to economic incentives, and use ideology as a cover for their naked self-interest.

The relative strength of ideological and economic motivations is best seen when the two conflict. Humphries has suggested that occupational segregation was supported because concerns about sexuality required keeping the sexes apart.[15] In spite of this concern, however, men were admitted to the intimate setting of childbirth. Though midwifery had historically been a female activity, men began to enter the profession as man-midwives in the seventeenth century. By the nineteenth century male physicians were favored as birth attendants in spite of the Victorians' prudishness that considered it "indelicate" for a father to be present at the birth of his own child.[16] Men who otherwise would consider it dangerous to allow men and women to work together hired men to attend at the births of their children. The medical profession deflected any concerns about indelicacy by stressing male skill and supposed female incompetence. Where male jobs were at stake, impropriety did not seem to be a problem.

The existence of gender ideology sometimes makes it more difficult to discover the actuality of what work women did. Unfortunately, the ideologies that were present affected the accuracy of the historical records. Because a woman's social status was determined by her relationship to men, the census does not accurately describe the work women did. Many working women were not listed as having any occupation. The 1841 census instructed enumerators to ignore the occupations of a large fraction of women; its instructions state, "The professions &c. of wives, or of sons or daughters living with and assisting

[14] For example, see Deborah Simonton, *A History of European Women's Work* (London: Routledge, 1988) and Pamela Sharpe, "Commentary," in P. Sharpe, ed., *Women's Work: The English Experience 1650–1914* (London: Arnold, 1998), pp. 71–2.

[15] Jane Humphries, "'... The Most Free from Objection ...' The Sexual Division of Labor and Women's Work in Nineteenth-Century England," *Journal of Economic History* 47 (1987), pp. 929–50.

[16] Jean Donnison, *Midwives and Medical Men* (London: Historical Publications, 1988), p. 64.

their parents but not apprenticed or receiving wages, need not be inserted."[17] In practice, census enumerators seem to have ignored women's employment even when they were receiving wages; Miller and Verdon have both found examples of women who were paid wages for agricultural labor but had no occupation listed in the census.[18] Whether an occupation was categorized as "skilled" was also socially determined. Bridget Hill found that census officials were unwilling to categorize occupations employing women and children as skilled.

> Albe Edwards, the man responsible for the reclassification, met with a problem when he found certain occupations which technically were classified as "skilled" had to be down-graded to "semi-skilled," "because the enumerators returned so many children, young persons, and women as pursuing these occupations." Edwards did not hesitate to lower the status of certain occupations when he found women and young people worked in them in large numbers.[19]

In this case the categorization of occupations as skilled or semi-skilled reflects ideology rather than characteristics of the job.

The ability of ideology to alter the historical record is not limited to the nineteenth century. Sanderson finds that in Edinburgh women were actively involved in many skilled occupations, and that historians have devalued their contributions by assuming that women's occupations were "merely extensions of domestic skills" or by failing to recognize that women's occupations were skilled occupations. The most telling example of such devaluation of women's work is from:

> the entry in the printed Marriage Register for eighteenth-century Edinburgh where the advocate John Polson is recorded as married to "Ann Strachan, merchant (sic)". The fact is that Ann Strachan was a merchant, but the modern editor, because he assumed that an advocate was unlikely to have a working wife, recorded this as an error. In a Commissary Court process it was stated during evidence on behalf of the defender, that Polson had married Ann Strachan, the defender's sister-in-law, "who at that time had a great business and served the highest in the land."[20]

We must avoid making the same mistake as the editor of the marriage register, who took the gender ideology so seriously that he assumed Ann

[17] Quoted in Edward Higgs, *Making Sense of the Census* (London: HMSO, 1989), p. 81.
[18] C. Miller, "The Hidden Workforce: Female Fieldworkers in Gloucestershire, 1870–1901," *Southern History* 6 (1984), 139–61, and Nicola Verdon, *Rural Women Workers in Nineteenth-Century England: Gender, Work and Wages* (Woodbridge: Boydell Press, 2002), pp. 117–19.
[19] Bridget Hill, "Women, Work and the Census: A Problem for Historians of Women," *History Workshop Journal* 35 (1993), p. 90.
[20] Elizabeth Sanderson, *Women and Work in Eighteenth-Century Edinburgh* (New York: St. Martin's Press, 1996), p. 105.

Strachan's occupational title must be a mistake. If Ann Strachan the merchant disappears from history, we have lost any hope of discovering the true place of women in the economy. Because what people *said* about work is liable to be filtered through the lens of ideology, I will try wherever possible to use other types of evidence, such as statistical evidence, to determine what people actually did.

Part of this book will be devoted to documenting the gender differences in wages and occupations. However, the main question I wish to address is not whether differences occurred, but *why* they occurred. What caused the gender differences in wages and occupations that we observe? The question is not new, and many answers have been offered. The most common explanation for gender differences in the labor market is ideology: social institutions enforced socially determined gender roles, and women were confined to low-paid and low-status work. These social constraints could operate even if people were not aware of them.[21] Differences between the genders were socially constructed. Both the gender division of labor and women's lower wages were determined by gender ideology. For example, Deborah Simonton claims that "customary practices and ideas about gender and appropriate roles were instrumental in delineating tasks as male work and female work."[22] Sonya Rose focuses on the expectation that women were not supporting a family, and therefore did not need to be paid as much as a man; she claims that "Women were workers who could be paid low wages because of an ideology which portrayed them as supplementary wage earners dependent on men for subsistence."[23]

The ideological explanation of gender differences has some strengths. People did express ideas about femininity and masculinity that implied women should do certain jobs, and men others. We can observe these ideas being expressed. And we have seen abrupt changes in the gender division of labor that suggest artificial barriers existed in the past. If the percentage of law degrees earned by women increased from 5 percent in 1970 to 30 percent just ten years later, this suggests that women were eager to become lawyers, and some barrier besides interest or inclination kept the number of female lawyers low in 1970.[24] Surely gender ideology

[21] Sonya Rose notes that "Social actors often are unaware that these assumptions are guiding their activities." *Limited Livelihoods*, p. 13.
[22] Simonton, *European Women's Work*, p. 35
[23] Sonya Rose, "'Gender at Work': Sex, Class and Industrial Capitalism," *History Workshop Journal*, 21 (1986), p. 117.
[24] The percentage of law degrees earned by women continued to rise, reaching 42 percent in 1990 and 47 percent in 2001. US Census Bureau, *Statistical Abstract of the United States: 2003* (Washington, DC: Government Printing Office, 2003), p. 194.

played some part in the Church of England's prohibition on the ordination of women, which lasted until 1994. However, while I do think that gender ideology is part of the story, in this book it will be cast as a supporting character rather than as the protagonist.

At the other extreme, Kingsley Browne has embraced biological difference as an explanation for all differences in labor market outcomes between men and women.[25] Evolution, through sexual selection, created differences between men and women. Women, who can have only a few offspring, developed characteristics that led them to nurture these offspring, maximizing the chances of survival. Men, who can father a nearly unlimited number of children, developed strategies for winning competitions that would allow them to have access to more females. Scientific studies have shown that the sex hormones cause differences in aggressiveness, risk-taking, and nurturing behaviors. Kingsley Browne has argued that these differences between the sexes explain why men are more successful in the labor market than women. Men take more risks, are more aggressive, and choose to spend less time with their families. He argues that these are biological traits, against which it is futile to fight, and that they cause the observed differences in wages and occupations.

Even if Browne is right that evolution gives men a more competitive character, his explanation provides at best part of the story. His main focus is the "glass ceiling," the gap in success at the highest levels. He claims that men are more competitive and take more risks, and therefore are more likely to reach the top. However, this explanation doesn't tell us why there is so much occupational segregation farther down the occupational ladder. Also, Browne's explanation cannot account for sudden changes in the occupational structure. If there was something in the female character, created by evolutionary sexual selection, that made women reluctant to be lawyers, the number of women entering law would not have changed so radically in the space of a couple of decades.

Happily, we have recently seen a few authors who neither assume men and women must be biologically identical because they wish it to be so, nor suggest that biological differences make any attempts to change the status quo futile. Steven Pinker notes the emergence of a new left that acknowledges both human nature and the possibility of improving our social institutions.[26] In his chapter on gender differences, Pinker acknowledges biological differences that might lead men and women to choose

[25] Kingsley Browne, *Divided Labours: An Evolutionary View of Women at Work* (New Haven: Yale University Press, 1999).
[26] Steven Pinker, *The Blank Slate: The Modern Denial of Human Nature* (New York: Penguin Books, 2003), pp. 299–300.