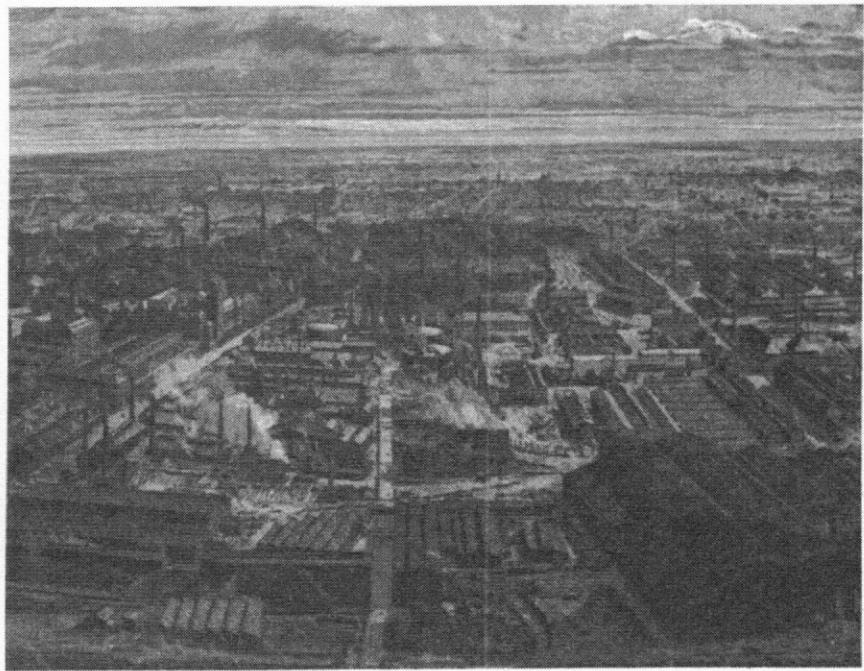




# The Industrial Revolution

## *A History in Documents*



*Laura L. Frader*

**OXFORD**  
UNIVERSITY PRESS

# Contents

6	WHAT IS A DOCUMENT?	
8	HOW TO READ A DOCUMENT	
11	INTRODUCTION	
	<i>Chapter One</i>	
19	BEFORE THE INDUSTRIAL REVOLUTION	
22	Hard Work in the Countryside	
27	The Power of Guilds	
32	Labor Bondage	
35	Rural Revolution	
	<i>Chapter Two</i>	
41	THE AGE OF MACHINES	
43	The New Spirit of Enterprise	
48	The Force of Steam	
53	Race and Gender	
58	Harsh Discipline and Awful Conditions	
	<i>Chapter Three: Picture Essay</i>	
65	A CHILDHOOD AT WORK	
	<i>Chapter Four</i>	
73	THE FAMILY AND PRIVATE LIFE IN THE INDUSTRIAL AGE	
76	Middle-Class Ideals	
83	Working-Class Realities	
86	Juggling Work and Family	
92	The Endless Day	
	<i>Chapter Five</i>	
97	GLOBAL REPERCUSSIONS	
100	World Trade in Slaves	
104	Empire Building	
107	Global Industrialization	
	<i>Chapter Six</i>	
113	PROTEST AND RESISTANCE	
116	From Violence to Organization	
122	Socialism and Revolution	
125	International Movements	
128	Women's Place: Home or Factory?	
132	Strike!	
135	Governments Take Action	
143	AFTERWORD	
146	TIMELINE	
148	FURTHER READING	
150	WEBSITES	
151	TEXT CREDITS	
153	PICTURE CREDITS	
155	INDEX	

Picking cotton in the American South was backbreaking work that employed African American women and children for decades after the Civil War. Their labor fueled the textile industries of Britain and New England.



When a new hand . . . is sent for the first time into the field, he is whipped up smartly, and made for that day to pick as fast as he can possibly. At night it is weighed, so that his capability in cotton picking is known. He must bring in the same weight each night following. If it falls short, it is considered evidence that he has been laggard, and a greater or less number of lashes is the penalty. . . .

The hands are required to be in the cotton fields as soon as it is light in the morning, and, with the exception of ten or fifteen minutes which is given them at noon to swallow their allowance of cold bacon, they are not permitted to be a moment idle until it is too dark to see. . . .

The day's work over in the field, the baskets are "toted" . . . to the gin-house, where the cotton is weighed. . . . A slave never approaches the gin-house with his basket of cotton but with fear. If it falls short in weight . . . he knows that he must suffer. And if he has exceeded it by ten or twenty pounds, in all probability his master will measure the next day's task, accordingly. . . . After weighing, follow the whippings; and then the baskets are carried to the cotton house and their contents stored away like hay, all hands being sent in to tramp it down. . . .

This done, the labor of the day is not yet ended, by any means. Each one must then attend to his respective chores. One feeds the mules, another the swine, another cuts the wood and so forth. . . . Finally, at a late hour, they reach the quarters, sleepy and overcome with the long day's toil. Then a fire must be kindled in the cabin,

the corn ground in the small hand-mill, and supper, and dinner for the next day in the field, prepared. All that is allowed them is corn and bacon, which is given out at the corncrib and smokehouse every Sunday morning. Each one receives, as his weekly allowance, three and a half pounds of bacon, and corn enough to make a peck of meal. That is all. . . .

The same fear of punishment with which [the slaves] approach the gin-house, possesses them again on lying down to get a snatch of rest. It is the fear of oversleeping in the morning. Such an offence would certainly be attended with not less than twenty lashes. With a prayer that he may be on his feet and wide awake at the first sound of the horn, he sinks to his slumbers nightly.

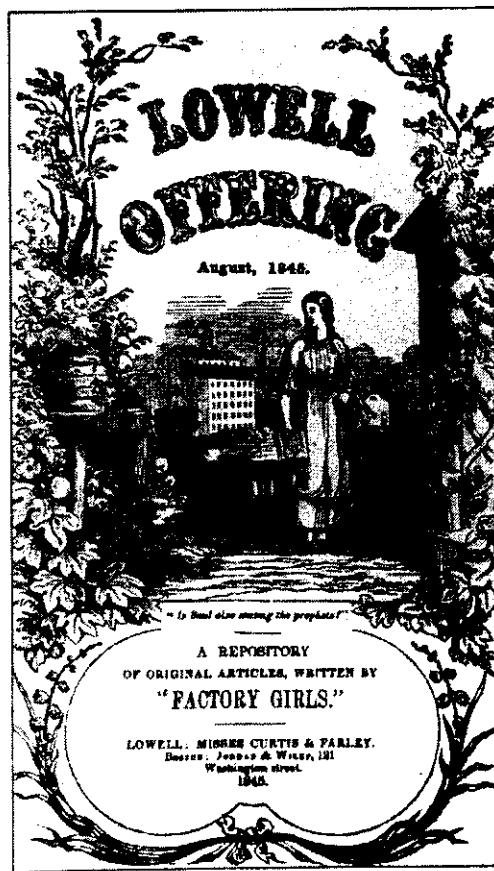
**Cotton grown by slaves in the American South fueled the industrial revolution. In the United States, beginning in the last decade of the eighteenth century, textile factories sprang up along rivers throughout New England. In 1790, Samuel Slater opened a small mill in Pawtucket, Rhode Island. In the early 1800s, Francis Cabot Lowell's large factory on the banks of the Merrimack River in Massachusetts employed young women and girls from the surrounding countryside. Employers believed that young women would be obedient workers and that they could pay them less than men. The young girls who worked in the Lowell mills wrote letters home to friends and family. Written in the 1840s, the letters give historians valuable insights about factory life. This letter, written by a girl named Susan in 1844, described the factory experience as a decidedly mixed one.**

Lowell, April [1844].

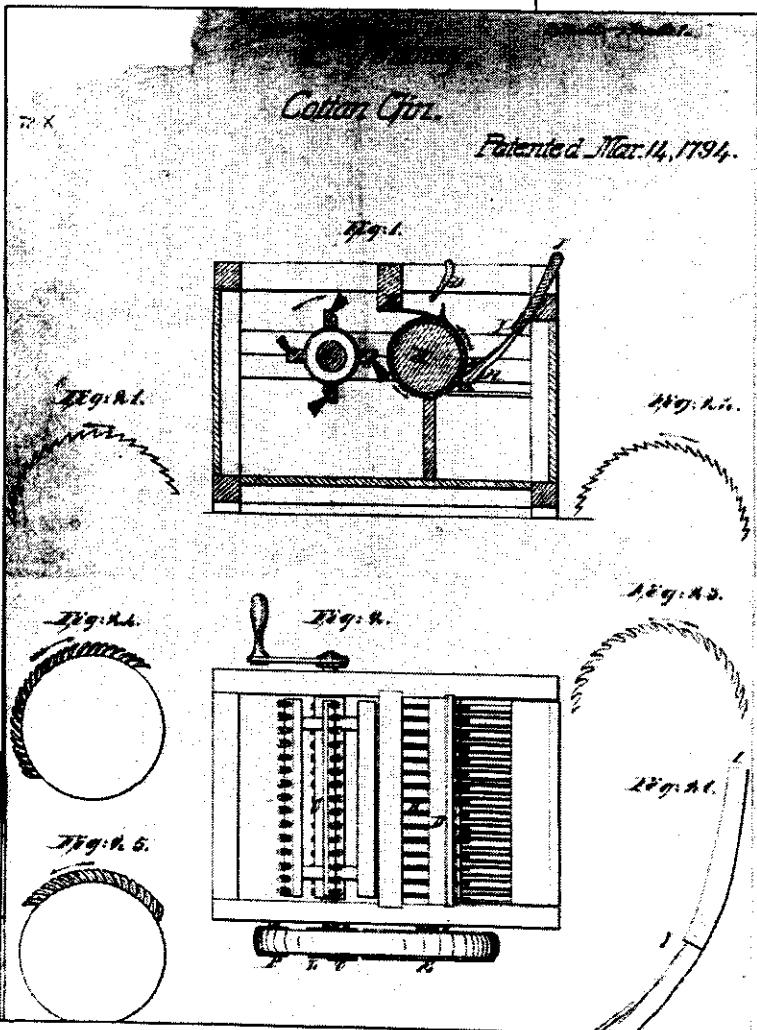
Dear Mary: In my last I told you I would write again, and say more of my life here; and this I will now attempt to do.

I went into the mill to work a few days after I wrote to you. It looked very pleasant at first, the rooms were so light, spacious, and clean, the girls so pretty and neatly dressed, and the machinery so brightly polished or nicely painted. The plants in the windows, or on the overseer's bench or desk, gave a pleasant aspect to things. You will wish to know what work I am doing. I will tell you of the different kinds of work.

There is, first, the carding-room, where the cotton flies most, and the girls get the dirtiest. But this is easy, and the females are allowed time to go out at night before the bell rings—on Saturday night at least, if not on all other nights. Then there is the spinning



Factory owners subsidized the publication of the Lowell Offering, a monthly magazine written by the women working in the textile mills of Lowell, Massachusetts. On the cover of this issue, a young girl carries a book as a reminder that the mill owners encouraged factory girls to improve themselves by reading. The beehive on her left is a symbol of industrious activity.



American inventor Eli Whitney patented his cotton gin in March 1794. The "gin," short for engine, used a system of spiked rollers, turned by a hand crank, to remove the seeds from cotton. It revolutionized cotton production by speeding up the preparation of cotton for spinning.

room, which is very neat and pretty. In this room are the spinners and doffers. The spinners watch the frames; keep them clean, and the threads mended if they break. The doffers take off the full bobbins, and put on the empty ones . . . [Weavers] have the hardest time of all—or can have, if they choose to take charge of three or four looms, instead of the one pair which is the allotment. . . .

I could have had work in the dressing-room, but chose to be a weaver, and I will tell you why. I disliked the closer air of the dressing-room, though I might have become accustomed to that. I could not learn to dress so quickly as I could to weave, nor have work of my own so soon, and should have had to stay with Mrs. C. two or three weeks before I could go in at all, and I did not like to be "lying on my oars" so long. And, more than this, when I get well learned I can have extra work, and make double wages, which you know is quite an inducement with some.

[When] I went into the mill . . . [at] first the hours seemed very long, but I was so interested in learning that I endured it very well, and when I went out at night the sound of the mill was in my ears, as of crickets, frogs, and jewsharps, all mingled together in strange discord. After that it seemed as though cotton-wool was in my ears, but now I do not mind at all. You know that people learn to sleep with the thunder of Niagara in their ears and a cotton mill is no worse, though you wonder that we do not have to hold our breath in such a noise.

It makes my feet ache and swell to stand so much . . . The girls generally wear old shoes about their work . . . but they almost all say that when they have worked here a year or two they have to procure shoes a size or two larger than before they came. The right hand, which is the one used in stopping and starting the loom becomes larger than the left; but in other respects the factory is not detrimental to a young girl's appearance. . . .

You wish to know . . . of our hours of labor. We go in at five o'clock; at seven we come out to breakfast; at half-past seven we return to our work, and stay until half-past twelve. At one, or quarter-past one four months in the year, we return to our work, and

stay until seven at night. Then the evening is all our own, which is more than some laboring girls can say, who think nothing is more tedious.

In 1859, French writer Louis Reybaud published a study of the conditions of workers in the silk industry. Reybaud was struck by the predominating role of women, who made up the majority of workers in silk production. His account suggests that although employers valued certain qualities in women, they also believed in stereotypical views of the differences between the sexes. They viewed women as more docile, more easily disciplined, and willing to work for lower wages than men. Reybaud's observations also show that, as late as the 1850s, many European families combined agricultural and industrial activities.

Even [in rural areas] where large farms prevail, industrial activity persists; there is always room somewhere for two or three looms. Not a single rural family would deprive itself of this supplement to income. Tasks are merely distributed according to strength and aptitude. Strong and vigorous men go out to the fields to plant and cultivate, while women and adolescents remain at home to weave velvet and taffeta. Nor is this division of labor a local or circumscribed phenomenon; I have found the same thing in all areas of rural manufacture: in Prussia as in Switzerland . . . [in France] in the areas around Saint Etienne and Lyon. Except for work that requires physical strength, silk weaving tends to pass out of the hands of men into the hands of women. Women are employed in the vast majority of mechanized establishments; in towns and cities as well, there is a growing trend in this direction.

[As for the motives,] the main one is in the real economic advantage that results from this substitution [of women for men]; a man would never be happy with the wages that suffice for a woman. But this is not the only advantage. One finds qualities in the woman worker that are increasingly rare in the male worker: sedentary habits, the spirit of discipline, exactitude at work, loyalty. Beyond that, a preference which was at first limited to simple fabrics has extended to the more complicated fabrics, without any noticeable inferiority in execution. What is lacking, in effect, in women, is neither intelligence, nor dexterity, on the contrary these are the best qualities of the [female] labor force. As for muscular strength, this is necessary only on the really wide looms and for special fabrics.

*"If to exist, to procure a pittance of food and decent clothing, a young woman must toil incessantly at some handicraft from five years old and upwards, where and how is she to learn needlework, cookery, economy, cleanliness, and all the "arts of home?"*

—Anna Jameson, *Memoirs and Essays Illustrative of Art, Literature, and Social Morals*, 1846.

(8) Smoking in the workshops or in the yard is prohibited during working hours; anyone caught smoking shall be fined . . . for every such offence.

(9) Every worker is responsible for cleaning up his space in the workshop, and if in doubt, he is to turn to his overseer. All tools must always be kept in good condition, and must be cleaned after use. This applies particularly to the turner, regarding his lathe.

(10) Natural functions must be performed at the appropriate places, and whoever is found soiling walls, fences, squares, etc., and similarly, whoever is found washing his face and hands in the workshop and not in the places assigned for the purpose, shall be fined . . .

(12) It goes without saying that all overseers and officials of the firm shall be obeyed without question, and shall be treated with due deference. Disobedience will be punished by dismissal.

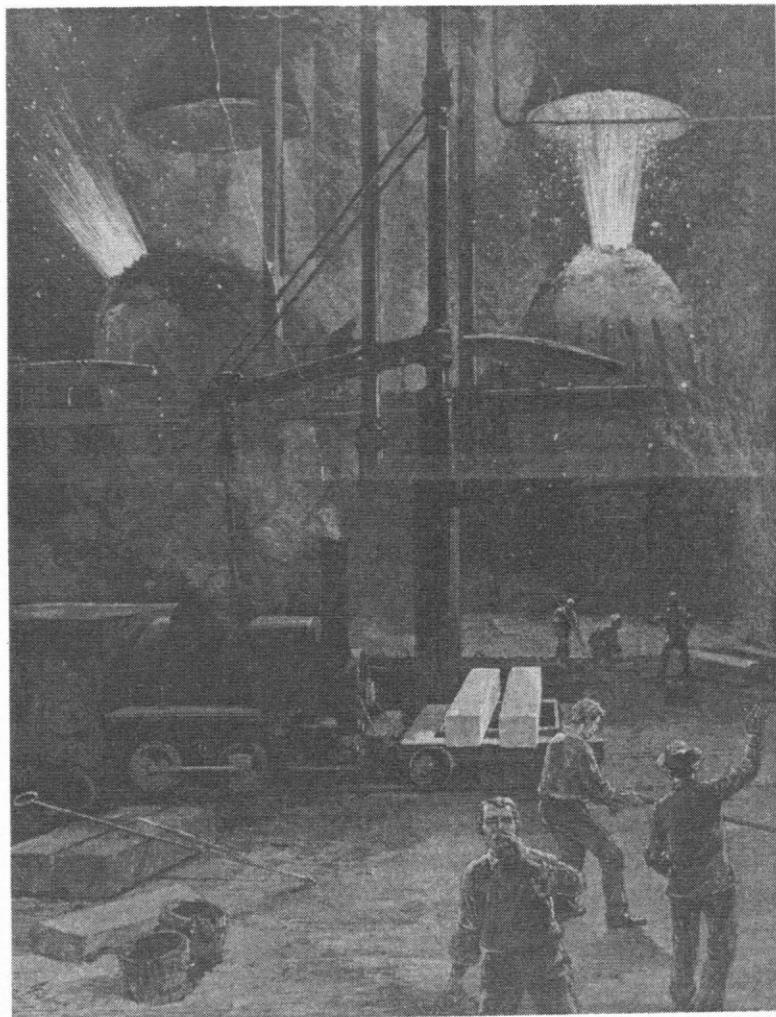
(13) Immediate dismissal shall also be the fate of anyone found drunk in any of the workshops. . . .

(15) Every workman is obliged to report to his superiors any acts of dishonesty or embezzlement on the part of his fellow workmen.

**Most factory conditions were terrible. Metalworkers worked with toxic materials; in spinning, the air was so damp that workers easily contracted respiratory infections. Until the end of the nineteenth century, workers toiled for a grueling thirteen to fourteen hours a day with only short periods for rest and meals. Such conditions were strikingly similar all over Europe and America. British journalist and politician William Cobbett published these observations in his journal the *Political Register* in November 1824. Cobbett compared factory workers in Britain to the condition of enslaved workers in the United States, but he believed that the conditions of industrial labor were even worse than the conditions of plantation slavery.**

Some of these lords of the loom have in their employ thousands of miserable creatures. In the cotton-spinning work these creatures are kept, fourteen hours in each day, locked up, summer and winter, in a heat of from EIGHTY TO EIGHTY-FOUR DEGREES. . . .

Now, then, do you duly consider what a heat of eighty-two is? Very seldom do we feel such a heat as this in England. The 31st of last August, and the 1st, 2nd, and 3rd of last September, were



Steelworkers in a Pittsburgh foundry stand clear of the sparks and flames released into the air as molten metal is converted into steel. This new process of steel production, developed in England in the mid-1850s, made it possible to remove impurities from steel and make a stronger product, but the working conditions remained dangerous.

very hot days. The newspapers told us that men had dropped down dead in the harvest fields and that many horses had fallen dead upon the road; and yet the heat during those days never exceeded eighty-four degrees in the hottest part of the day. We were retreating to the coolest rooms in our houses; we were pulling off our coats, wiping the sweat off our faces, puffing, blowing, and panting; and yet we were living in a heat nothing like eighty degrees. What, then, must be the situation of the poor creatures who are doomed to toil, day after day, for three hundred and thirteen days in the year, fourteen hours in each day, in an average heat of eighty-two degrees? Can any man, with a heart in his body, and a tongue in his head, refrain from cursing a system that produces such slavery and such cruelty?

Observe, too, that these poor creatures have no cool room to retreat to, not a moment to wipe off the sweat, and not a breath of air to come and interpose itself between them and infection.

# DOWN IN ▲ COAL MINE.



London:—H. SUCH, Machine Printer & Publisher, 177, Union Street, Borough. S.E.

**N**ow you see a collier, a simple honest man,  
Who strives to do his very best to help his family  
man;  
We toil away from morn till night where hard work is to  
be found,  
Digging dusty diamonds from underneath the ground.

#### CHORUS.

Down in a coal mine, underneath the ground,  
Where a gleam of sunshine never can be found,  
Digging dusty diamonds all the season round,  
Down in a coal mine, underneath the ground.  
  
In the morning when we go to toil and down the mine  
we go,  
Contented with our lot in life and free from care or  
woe,  
We often think of home and wife, and hearts that's filled  
with mirth,  
While digging up the fuel from the bowels of the earth.  
  
You often read of accidents which happen down the  
mine,  
How hundreds of poor colliers are shorten'd of their  
time;  
Explosions they are numerous, and caused by fire damp,  
Which when the gas escapes it comes in contact with  
our lamps.

But when the winter time comes in the collier's worth is  
found,  
Old England's commerce it is spread to all the nations  
round;  
Let those at home rejoice and sing with hearts and  
voices full  
For what would England do without the boys that dig  
the coal.

22 22 No. 670. 22 22

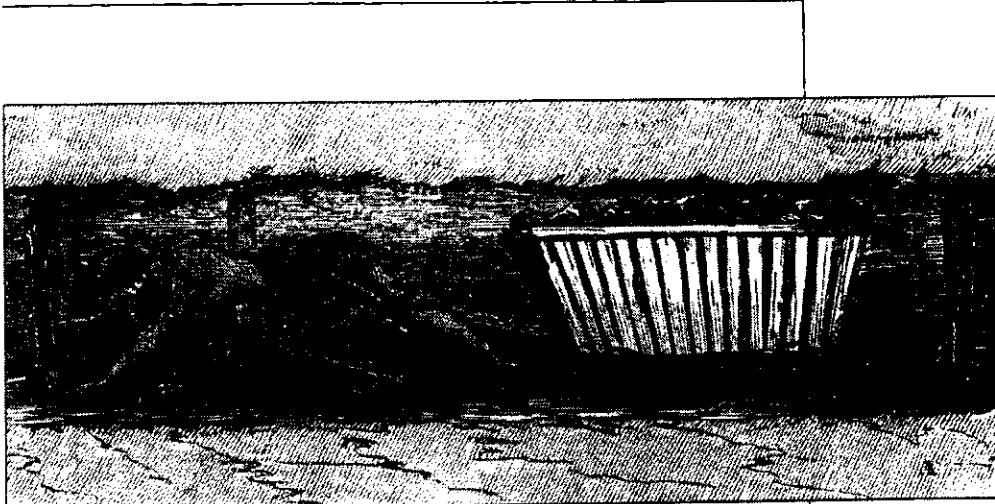
English miners' songs often described the grim dangers that awaited them underground and also served as social and political commentary. The author of this song commented ironically on the fact that miners' dangerous work provided warmth to English homes in winter and boosted England's overseas trade.

The door of the place wherein they work, is *locked*, except *half an hour*, at tea-time; the workpeople are not allowed to send for water to drink, in the hot factory; even the *rain-water* is *locked up*, by the master's order, otherwise they would be happy to drink even that. If any spinner be found with his *window open*, he is to pay a fine of a shilling! Mr. Martin of Galway has procured Acts of Parliament to be passed to prevent *cruelty to animals*. If horses or dogs were shut up in a place like this they would certainly be thought worthy of Mr. Martin's attention.

Not only is there not a breath of sweet air in these truly infernal scenes; but, for a large part of the time, there is the abominable and pernicious stink of the GAS to assist in the murderous effects of the heat. In addition to the heat and the gas; in addition to the noxious effluvia of the gas, mixed with the steam, there are the dust, and what is called the *cotton-flyings* or fuzz, which the unfortunate creatures have to inhale; and the fact is, the notorious fact is, that well-constituted men are rendered old and past labour at forty years of age, and that children are rendered decrepit and deformed, and thousands upon thousands of them slaughtered by consumptions, before they arrive at the age of sixteen. And are these establishments to boast of? If we were to admit the fact they compose an addition to the population of the country; if we were further to admit that they caused an addition to the pecuniary resources of the Government, ought not a government to be ashamed to derive resources from such means?

**The French novelist Emile Zola was outraged by the conditions of French mine workers. Although the French government passed legislation in 1874 forbidding women and children to work underground in mines, many continued to do so. In his novel *Germinal*, published in 1885, Zola described the work of two young mine workers, Etienne and Catherine, who worked in the mine shaft pushing loaded tubs of coal to the surface. Zola based the novel on the Le Creusot coal mines in south central France, where workers struck for higher wages and shorter hours in 1870.**

Etienne, whose eyes were getting used to the darkness, looked at Catherine . . . he was amazed by the strength and speed of the child, which was based more on skill than on muscle. She filled her tub quicker than he could, with short, quick, regular thrusts of her shovel; she then pushed it up to the incline, with one long, smooth movement, slipping effortlessly under the overhanging



A young girl, naked to the waist and strapped by a harness to a coal wagon, pulls it to the surface of the coal pit. This engraving, made for the British Parliament's inquiry into conditions in the mines in 1842, was designed to expose the evils of child labor.

rocks . . . [while] he kept banging and scraping himself, crashing his tub and grinding to a halt.

To tell the truth, it certainly wasn't an easy trip. The distance from the coal face to the incline was fifty or sixty metres; and the passage, which the stonemen had not yet widened, was hardly more than a gully, whose very uneven roof bulged and buckled all over the place: in some places there was only just enough room to get the loaded tub through. [They] had to crouch and push on hands and knees to avoid splitting their heads open. Besides, the props had already started to bend and split. You could see long pale cracks running right up the middle of them, making them look like broken crutches. You had to watch out not to rip your skin on these splinters; and under the relentless pressure, which was slowly crushing these oak posts even though they were as thick as a man's thigh, you had to slip along on your belly, with the secret fear of suddenly hearing your back snap in two.

She had to show him how to walk with his legs apart, bracing his feet against the timbers on either side of the tunnel in order to get some solid leverage. His body should be bent forward, and his arms stretched out straight in front of him so as to use all his muscles, including those of his shoulders and hips. He spent one whole trip following her, watching her run . . . with her hands placed so low she seemed to be trotting on all fours, like some small circus animal. She sweated and panted, and her joints were creaking, but she didn't complain, displaying the dull acceptance acquired by habit, as if it were mankind's common lot to live in this wretched, prostrate condition. But he was unable to follow her example, for his shoes hurt, and his body ached, from walking in that position with his head bent down. After a few minutes, the position became clear torture, an intolerable anguish so painful that he had to stop and kneel down for a moment so as to straighten his back and breathe freely.