

## **RULES FOR FOUNDRY WORKERS**

(GERMANY, 1844)

Every man employed in the concern named below shall receive a copy of these rules, so that no one can plead ignorance....

**(1)** The normal working day begins at all seasons at 6 A.M. precisely and ends, after the usual break of half an hour for breakfast, an hour for dinner and half an hour for tea, at 7 P.M., and it shall be strictly observed. Five minutes before the beginning of the stated hours of work until their actual commencement, a bell shall ring and indicate that every worker employed in the concern has to proceed to his place of work in order to start as soon as the bell stops.

. . . Workers arriving 2 minutes late shall lose half an hour's wages; whoever is more than 2 minutes late may not start work until after the next break, or at least shall lose his wages until then....

**(7)** All conversation with fellow-workers is prohibited; if any worker requires information about his work, he must turn to the overseer, or to the particular fellow worker designated for the purpose.

## **APPRENTICESHIP CONTRACT, SILK MILLS (FRANCE, 1850s)**

**(Article 1)** To be admitted, young women must be between the ages of thirteen and fifteen, of good character and in good health, intelligent and industrious, and must have been vaccinated. They must present their birth certificate, a certificate of vaccination, and a trousseau....

**(Article 3)** During the apprenticeship period, the pupil will be paid wages, fed, lodged, given heat and light, and laundry for her body linen only; she will also be furnished with aprons.

**(Article 10)** The effective work time is twelve hours. Summer and winter, the day begins at 5 o'clock and ends at 7:15. Breakfast is from 7:30 to 8:15; lunch is from 12:00 to 1:00; snack is from 5:00 to 5:30; supper is at 7:15. After the second year, pupils will receive lessons in reading, writing, and arithmetic. They will be taught to sew and to do a little cooking....

**(Article 12)** Wages are not due until the end of the year....Gifts, incentive pay, and compensation for extra work will be paid each month.

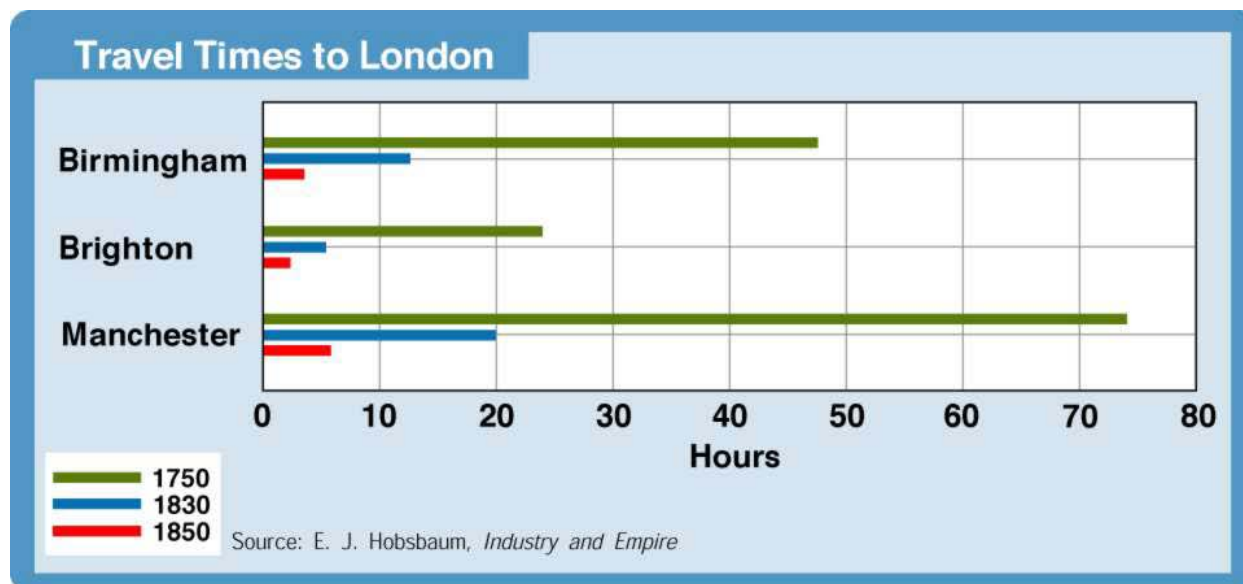
## **Observations on the Filth of the Thames**

a letter to the Editor of the Times of London (July 7, 1855)

by Professor Michael Faraday

I traversed this day by steam-boat the space between London and Hangerford Bridges between half-past one and two o'clock; it was low water, and I think the tide must have been near the turn. The appearance and the smell of the water forced themselves at once on my attention. The whole of the river was an opaque pale brown fluid. In order to test the degree of opacity, I tore up some white cards into pieces, moistened them so as to make them sink easily below the surface, and then dropped some of these pieces into the water at every pier the boat came to; before they had sunk an inch below the surface they were indistinguishable, though the sun shone brightly at the time; and when the pieces fell edgeways the lower part was hidden from sight before the upper part was under water. This happened at St. Paul's Wharf, Blackfriars Bridge, Temple Wharf, Southwark Bridge, and Hungerford; and I have no doubt would have occurred further up and down the river. Near the bridges the feculence rolled up in clouds so dense that they were visible at the surface, even in water of this kind.

The smell was very bad, and common to the whole of the water; it was the same as that which now comes up from the gully-holes in the streets; the whole river was for the time a real sewer. Having just returned from out of the country air, I was, perhaps, more affected by it than others; but I do not think I could have gone on to Lambeth or Chelsea, and I was glad to enter the streets for an atmosphere which, except near the sink-holes, I found much sweeter than that on the river.



### Spread of Railways in Ten Selected Countries (Length of line open [in kilometers [1 km = 5/8 mile]])

	1840	1860	1880	1900
<b>Austria-Hungary</b>	144	4,543	18,507	36,330
<b>Belgium</b>	334	1,730	4,112	4,591
<b>France</b>	496	9,167	23,089	38,109
<b>Germany</b>	469	11,089	33,838	51,678
<b>Great Britain</b>	2,390	14,603	25,060	30,079
<b>Italy</b>	20	2,404	9,290	16,429
<b>Netherlands</b>	17	335	1,846	2,776
<b>Russia</b>	27	1,626	22,865	53,234
<b>Spain</b>	-	1,917	7,490	13,214
<b>Sweden</b>	-	527	5,876	11,303

### Miners in the English Coal Pits - From *Great Britain, Parliamentary Papers, 1842, Vol. XVI, pp. 24, 196.*

In England, exclusive of Wales, it is only in some of the colliery districts of Yorkshire and Lancashire that female Children of tender age and young and adult women are allowed to descend into the coal mines and regularly to perform the same kinds of underground work, and to work for the same number of hours, as boys and men; but in the East of Scotland their employment in the pits is general; and in South Wales it is not uncommon...

When I arrived at the board or workings of the pit I found at one of the sideboards down a narrow passage a girl of fourteen years of age in boy's clothes, picking down the coal with the regular pick used by the men. She was half sitting half lying at her work, and said she found it tired her very much, and "of course she didn't like it." The place where she was at work was not 2 feet high with little breathable air and was as dark as pitch. No less than six girls with eighteen children are employed in this pit working within the same conditions.