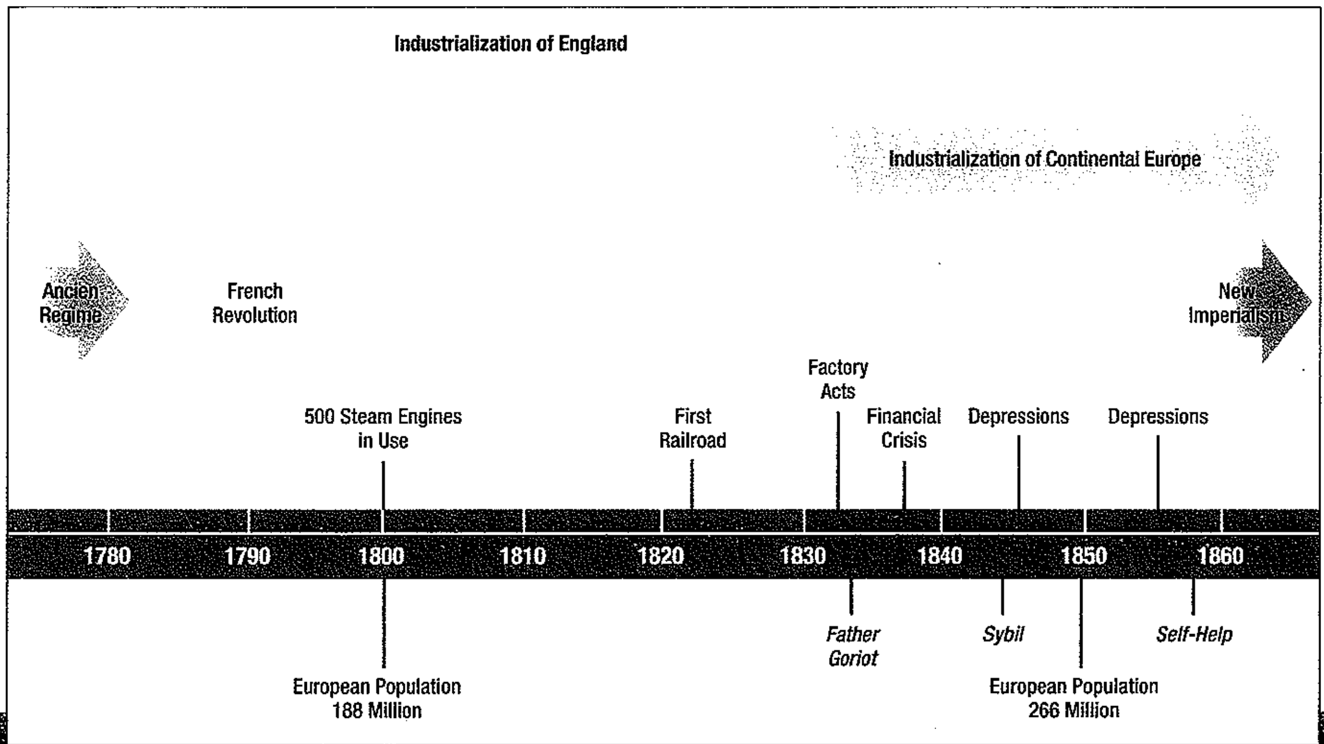


11 Industrialization and Social Change

The Industrial Revolution, which transformed economic life in the West, began in England in the eighteenth century. After the Napoleonic period it spread to Western Europe, and by the end of the nineteenth century it had touched most of Western civilization. The Industrial Revolution was characterized by unprecedented economic growth, the factory system of production, and the use of new, artificially powered machines for transportation and mechanical operations. The potential was tremendous; for the first time, human beings had the ability to produce far more than was needed to sustain a large percentage of the population. Whether that potential would be realized, and at what cost, remained to be seen.

In the wake of industrialization came great social changes. The middle and working classes were most affected by industrialization, and both grew in number and social influence as did the urban areas in which they worked and lived. But it was the middle class that benefited most, enjoying a rising standard of living, increased prestige, and growing political influence. Whether the working class benefited from industrialization during the early decades is a matter for debate among historians. Clearly it was this class that bore the burdens of urban social problems: overcrowded slums, poor sanitation, insufficient social services, and a host of related problems. The aristocracy, the peasantry, and the artisans—classes tied to the traditional agricultural economy and older means of

production—slowly diminished in numbers and social importance as industrialization spread.

The selections in this chapter deal with the economic and social aspects of industrialization. Much-debated questions of economic history are addressed. Why did industrialization occur first in England? How did England differ from other areas that were relatively advanced economically? Most of the documents concern the human consequences of industrialization, questions of social history. The most popular area of interest, the effect of industrialization on the workers directly involved, is explored. What were the working conditions in the factories? How did industrialization affect the overall lifestyle of these people? Did their standard of living improve or diminish as a result of industrialization? The middle class is also examined, especially middle-class attitudes and values. How did the middle class view industrialization? What were its attitudes toward money? How did the attitudes of and toward women change?

This chapter centers on industrialization in the first half of the nineteenth century. It should be recognized that industrialization spread unevenly, and it was not until the second half of the nineteenth century and even the beginning of the twentieth century that industrialization spread to many areas in Southern and Eastern Europe.

Primary Sources

Testimony for the Factory Act of 1833: Working Conditions in England

Industrialization carried with it broad social and economic changes that were quickly felt by those involved. The most striking changes were in the working conditions in the new factories and mines. During the first decades of industrialization, there was little government control over working conditions and few effective labor organizations; laborers were thus at the mercy of factory owners who were pursuing profit in a competitive world. Investigations into conditions in factories and mines conducted by the British Parliament in the 1830s and 1840s led eventually to the enactment of legislation, such as the Factory Act of 1833. These parliamentary investigations provide us with extensive information about working conditions and attitudes toward them. The following selection contains three excerpts from a parliamentary commission's investigations into child labor in factories. The first is a summary by the commission of medical examiners from northeastern England. The second is the testimony of John Wright, a steward in a silk factory. The third is the testimony of William Harter, a silk manufacturer.

CONSIDER: *What these people perceived as the worst abuses of factory labor; the causes of the poor working conditions; how Harter might defend himself against the charges that he was abusing the working class; what biases the witnesses might hold.*

SOURCE: Commission for Inquiry into the Employment of Children in Factories, *Second Report, with Minutes of Evidence and Reports by the Medical Commissioners,* vol. V, Session 29 January–20 August, 1833 (London: His Majesty's Printing Office, 1833), pp. 5, 26–28.

TESTIMONY OF THE COMMISSION OF MEDICAL EXAMINERS

The account of the physical condition of the manufacturing population in the large towns in the North-eastern District of England is less favourable. It is of this district that the Commissioners state, "We have found undoubted instances of children five years old sent to work thirteen hours a day; and frequently of children nine, ten, and eleven consigned to labour for fourteen and fifteen hours." The effects ascertained by the Commissioners in many cases are, "deformity," and in still more "stunted growth, relaxed muscles, and slender conformation:" "twisting of the ends of the long bones, relaxation of the ligaments of the knees, ankles, and the like." "The representation that these effects are so common and universal as to enable some persons invariably to distinguish factory children from other children is, I have no hesitation in saying, an exaggerated and unfaithful picture of their general condition; at the same time it must be said, that the individual instances in which some one or other of those effects of severe labour are discernible are rather frequent than rare. . . .

"Upon the whole, there remains no doubt upon my mind, that under the system pursued in many of the factories, the children of the labouring classes stand in need of, and ought to have, legislative protection against the conspiracy insensibly formed between their masters and parents, to tax them to a degree of toil beyond their strength.

"In conclusion, I think it has been clearly proved that children have been worked a most unreasonable and cruel length of time daily, and that even adults have been expected to do a certain quantity of labour which scarcely any human being is able to endure. I am of opinion no child under fourteen years of age should work in a factory of any description for more than eight hours a day.

From fourteen upwards I would recommend that no individual should, under any circumstances, work more than twelve hours a day; although if practicable, as a physician, I would prefer the limitation of ten hours, for all persons who earn their bread by their industry."

TESTIMONY OF JOHN WRIGHT

How long have you been employed in a silk-mill?—More than thirty years.

Did you enter it as a child?—Yes, betwixt five and six.

How many hours a day did you work then?—The same thirty years ago as now.

What are those hours?—Eleven hours per day and two over-hours: over-hours are working after six in the evening till eight. The regular hours are from six in the morning to six in the evening, and two others are two over-hours: about fifty years ago they began working over-hours. . . .

Why, then, are those employed in them said to be in such a wretched condition?—In the first place, the great number of hands congregated together, in some rooms forty, in some fifty, in some sixty, and I have known some as many as 100, which must be injurious to both health and growing. In the second place, the privy is in the factory, which frequently emits an unwholesome smell; and it would be worth while to notice in the future erection of mills, that there be betwixt the privy door and the factory wall a kind of a lobby of cage-work. 3rdly, The tediousness and the everlasting sameness in the first process preys much on the spirits, and makes the hands spiritless. 4thly, The extravagant number of hours a child is compelled to labour and confinement, which for one week is seventy-six hours. . . . 5thly, About six months in the year we are obliged to use either gas, candles, or lamps, for the longest portion of that time, nearly six hours a day, being obliged to work amid the smoke and soot of the same; and also a large portion of oil and grease is used in the mills.

What are the effects of the present system of labour?—From my earliest recollections, I have found the effects to be awfully detrimental to the well-being of the operative; I have observed frequently children carried to factories, unable to walk, and that entirely owing to excessive labour and confinement. The degradation of the workpeople baffles all description: frequently have two of my sisters been obliged to be assisted to the factory and home again, until by-and-by they could go no longer, being totally crippled in their legs. And in the next place, I remember some ten or twelve years ago working in one of the largest firms in Macclesfield, (Messrs. Baker and Pearson,) with about twenty-five men, where they were scarce one half fit for His Majesty's service. Those that are straight in their limbs are stunted in their growth; much inferior to their fathers in point of strength. 3dly, Through excessive labour and confinement there is often a total loss of appetite; a kind of langour steals over the whole frame—enters to the very core—saps the foundation of the best constitution—and lays our strength prostrate in the dust. In the 4th place, by protracted labour there is an alarming increase of cripples in various parts of this town, which has come under my own observation and knowledge. . . .

Are all these cripples made in the silk factories?—Yes, they are, I believe. . . .

TESTIMONY OF WILLIAM HARTER

What effect would it have on your manufacture to reduce the hours of labour to ten?—It would instantly much reduce the value of my mill and machinery, and consequently of far prejudice my manufacture.

How so?—They are calculated to produce a certain quantity of work in a given time. Every machine is valuable in proportion to the quantity of work which it will turn off in a given time. It is impossible that the machinery could produce as much work in ten hours as in twelve. If the tending of the machines were a laborious occupation, the difference in the quantity of work might not always be in exact proportion to the difference of working time; but in my mill, and silk-mills in general, the work requires the least imaginable labour; therefore it is perfectly impossible that the machines could produce as much work in ten hours as in twelve. The produce would vary in about the same ratio as the working time.

Sybil, or the Two Nations: Mining Towns

Benjamin Disraeli

Nineteenth-century novels contain some of the most effective descriptions of industrial life. In addition to providing such description, Sybil, or the Two Nations *(1845), written by Benjamin Disraeli (1804–1881), a novelist and politician who also served as prime minister of England (1867–1868, 1874–1880), illustrates the thinking of a group of reforming Tory aristocrats, sometimes referred to as Young England. They hoped to gain working-class support against their political competitors, the liberal Whigs. In the following selection from this novel, Disraeli describes Marney, a rural mining town.*

CONSIDER: *The physical consequences of industrialization for the land and the town; the worst aspects of industrial labor, according to Disraeli; how this description compares with Engels' views in the following excerpt; who, if anyone, Disraeli would blame for all this.*

SOURCE: Benjamin Disraeli, *Sybil, or the Two Nations* (New York: M. Walter Dunne, 1904), pp. 198–200.

The last rays of the sun contending with clouds of smoke that drifted across the country, partially illumined a peculiar landscape. Far as the eye could reach, and the region was level, except where a range of limestone hills formed its distant limit, a wilderness of cottages, or tenements that were hardly entitled to a higher name, were scattered for many miles over the land; some detached, some connected in little rows, some clustering in groups, yet rarely forming continuous streets, but interspersed with blazing furnaces, heaps of burning coal, and piles of smouldering ironstone; while forges and engine chimneys roared and puffed in all directions, and indicated the frequent presence of the mouth of the mine, and the bank of the coal-pit. Notwithstanding the whole country might be compared to a vast rabbit warren, it was nevertheless intersected with canals, crossing each other at various levels; and though the subterranean operations were prosecuted with so much avidity that it was not uncommon to observe whole rows of houses awry, from the shifting and hollow nature of the land, still, intermingled with heaps of mineral refuse, or of metallic dross, patches of the surface might here and there be recognised, covered, as if in mockery, with grass and corn, looking very much like those gentlemen's sons that we used to read of in our youth, stolen by the chimneysweeps, and giving some intimations of their breeding beneath their grimy livery. But a tree or a shrub, such an existence was unknown in this dingy rather than dreary region.

It was the twilight hour; the hour at which in southern climes the peasant kneels before the sunset image of the blessed Hebrew maiden; when caravans halt in their long course over vast deserts, and the turbaned traveller, bending in the sand, pays his homage to the sacred stone and the sacred city; the hour, not less holy, that announces the cessation of English toil, and sends forth the miner and the collier to breathe the air of earth, and gaze on the light of heaven.

They come forth: the mine delivers its gang and the pit its bondsmen; the forge is silent and the engine is still. The plain is covered with the swarming multitude: bands of stalwart men, broad-chested and muscular, wet with toil, and black as the children of the tropics; troops of youth, alas! of both sexes, though neither their raiment nor their language indicates the difference; all are clad in male attire; and oaths that men might shudder at issue from lips born to breathe words of sweetness. Yet these are to be, some are, the mothers of England! But can we wonder at the hideous coarseness of their language, when we remember the savage rudeness of their lives? Naked to the waist, an iron chain fastened to a belt of leather runs between their legs clad in canvas trousers, while on hands and feet an English girl, for twelve, sometimes for sixteen hours a day, hauls and hurries tubs of coals up subterranean roads, dark, precipitous, and plashy; circumstances that seem to have escaped the notice of the Society for the Abolition of Negro Slavery. Those worthy gentlemen, too, appear to have been singularly unconscious of the sufferings of the little trappers, which was remarkable, as many of them were in their own employ.

See, too, these emerge from the bowels of the earth! Infants of four and five years of age, many of them girls, pretty and still soft and timid; entrusted with the fulfilment of responsible duties, the very nature of which entails on them the necessity of being the earliest to enter the mine and the latest to leave it. Their labour indeed is not severe, for that would be impossible, but it is passed in darkness and in solitude. They endure that punishment which philosophical philanthropy has invented for the direst criminals, and which those criminals deem more terrible than the death for which it is substituted. Hour after hour elapses, and all that reminds the infant trappers of the world they have quitted, and that which they have joined, is the passage of the coal-waggons for which they open the air-doors of the galleries, and on keeping which doors constantly closed, except at this moment of passage, the safety of the mine and the lives of the persons employed in it entirely depend.

The Condition of the Working Class in England

Friedrich Engels

To many contemporaries, child labor in factories and mines under harsh conditions was the most shocking change in working conditions brought on by industrialization. However, several investigators documented a whole range of problems facing England's industrial working class. One of the most famous of these investigators was Friedrich Engels (1820–1895), the son of a German textile manufacturer. Engels moved to England in the 1840s, where in addition to learning about business he traveled through cities visiting working-class areas and interviewing people. He would soon become a collaborator with his friend, Karl Marx, and one of the founders of modern socialism. The following excerpt is from the book that arose from his studies, The Condition of the Working Class in England, *first published in 1845. Here Engels focuses on worker's living environment in England's industrial cities.*

CONSIDER: *What Engels considers the worst health conditions facing the poor; Engels' analysis of how the environment affects the poor mentally as well as physically; how this description adds to the testimony before the commission on child labor (in a previous excerpt).*

SOURCE: Friedrich Engels, *The Condition of the Working Class in England,* trans. and ed. by W. O. Henderson and W. H. Chaloner. (Stanford, CA: Stanford University Press, 1968), pp. 110–111.

The way in which the vast mass of the poor are treated by modern society is truly scandalous. They are herded into great cities where they breathe a fouler air than in the countryside which they have left. They are housed in the worst ventilated districts of the towns; they are deprived of all means of keeping clean. They are deprived of water because this is only brought to their houses if someone is prepared to defray the cost of laying the pipes. River water is so dirty as to be useless for cleansing purposes. The poor are forced to throw into the streets all their sweepings, garbage, dirty water, and frequently even disgusting filth and excrement. The poor are deprived of all proper means of refuse disposal and so they are forced to pollute the very districts they inhabit. And this is by no means all. There is no end to the sufferings which are heaped on the heads of the poor. It is notorious that general overcrowding is a characteristic feature of the great towns, but in the working-class quarters people are packed together in an exceptionally small area. Not satisfied with permitting the pollution of the air in the streets, society crams as many as a dozen workers into a single room, so that at night the air becomes so foul that they are nearly suffocated. The workers have to live in damp dwellings. When they live in cellars the water seeps through the floor and when they live in attics the rain comes through the roof. The workers' houses are so badly built that the foul air cannot escape from them. The workers have to wear poor and ragged garments and they have to eat food which is bad, indigestible and adulterated. Their mental state is threatened by being subjected alternately to extremes of hope and fear. They are goaded like wild beasts and never have a chance of enjoying a quiet life. They are deprived of all pleasures except sexual indulgence and intoxicating liquors. Every day they have to work until they are physically and mentally exhausted. This forces them to excessive indulgence in the only two pleasures remaining to them. If the workers manage to survive this sort of treatment it is only to fall victims to starvation when a slump occurs and they are deprived of the little that they once had.

How is it possible that the poorer classes can remain healthy and have a reasonable expectation of life under such conditions? What can one expect but that they should suffer from continual outbreaks of epidemics and an excessively low expectation of life? The physical condition of the workers shows a progressive deterioration.

Self-Help: Middle-Class Attitudes

Samuel Smiles

Middle-class liberals were not totally unaware of the consequences of industrialization for society. Doctrines were developed that reflected and appealed to their attitudes. Such doctrines served to justify the position of the middle class, to support policies it usually favored, and to rationalize the poor state of the working class. Many of these doctrines appeared in Self-Help, *the popular book by Samuel Smiles, a physician, editor, secretary of two railroads, and author. First published in 1859,* Self-Help *became a best-seller in England and was translated into many languages. The following excerpt is a good example of the individualism and moral tone that appear throughout the book.*

CONSIDER: *How Smiles justifies his assertion that self-help is the only answer to problems; how Smiles would analyze the situation of the working class and how he would react to the testimony presented to the parliamentary commission on child labor.*

"Heaven helps those who help themselves" is a well tried maxim, embodying in a small compass the results of vast human experience. The spirit of self-help is the root of all genuine growth in the individual; and, exhibited in the lives of many, it constitutes the true source of national vigor and strength. Help from without is often enfeebling in its effects, but help from within invariably invigorates. Whatever is done *for* men or classes, to a certain extent takes away the stimulus and necessity of doing for themselves; and where men are subjected to over-guidance and over-government, the inevitable tendency is to render them comparatively helpless.

Even the best institutions can give a man no active help. Perhaps the most they can do is, to leave him free to develop himself and improve his individual condition. But in all times men have been prone to believe that their happiness and well-being were to be secured by means of institutions rather than by their own conduct. Hence the value of legislation as an agent in human advancement has usually been much overestimated. To constitute the millionth part of a Legislature, by voting for one or two men once in three or five years, however conscientiously this duty may be performed, can exercise but little active influence upon any man's life and character. Moreover, it is every day becoming more clearly understood, that the function of Government is negative and restrictive, rather than positive and active; being resolvable principally into protection—protection of life, liberty, and property. Laws, wisely administrated, will secure men in the enjoyment of the fruits of their labor, whether of mind or body, at a comparatively small personal sacrifice; but no laws, however stringent, can make the idle industrious, the shiftless provident, or the drunken sober. Such reforms can only be effected by means of individual action, economy, and self-denial; by better habits, rather than by greater rights. . . .

Indeed, all experience serves to prove that the worth and strength of a State depend far less upon the form of its institutions than upon the character of its men. For

SOURCE: Samuel Smiles, *Self-Help* (Chicago: Belford, Clarke, 1881), pp. 21–23, 48–49.

the nation is only an aggregate of individual conditions, and civilization itself is but a question of the personal improvement of the men, women, and children of whom society is composed.

National progress is the sum of individual industry, energy, and uprightness, as national decay is of individual idleness, selfishness, and vice. What we are accustomed to decry as great social evils, will for the most part be found to be but the outgrowth of man's own perverted life; and though we may endeavor to cut them down and extirpate them by means of Law, they will only spring up again with fresh luxuriance in some other form, unless the conditions of personal life and character are radically improved. If this view be correct, then it follows that the highest patriotism and philanthropy consist, not so much in altering laws and modifying institutions, as in helping and stimulating men to elevate and improve themselves by their own free and independent individual action.

One of the most strongly marked features of the English people is their spirit of industry, standing out prominent and distinct in their past history, and as strikingly characteristic of them now as at any former period. It is this spirit, displayed by the commons of England, which has laid the foundations and built up the industrial greatness of the empire. This vigorous growth of the nation has been mainly the result of the free energy of individuals, and it has been contingent upon the number of hands and minds from time to time actively employed within it, whether as cultivators of the soil, producers of articles of utility, contrivers of tools and machines, writers of books, or creators of works of art. And while this spirit of active industry has been the vital principle of the nation, it has also been its saving and remedial one, counteracting from time to time the effects of errors in our laws and imperfections in our constitution.

The career of industry which the nation has pursued, has also proved its best education. As steady application to work is the healthiest training for every individual, so is it the best discipline of a state. Honorable industry travels the same road with duty; and Providence has closely linked both with happiness. The gods, says the poet, have placed labor and toil on the way leading to the Elysian fields. Certain it is that no bread eaten by man is so sweet as that earned by his own labor, whether bodily or mental. By labor the earth has been subdued, and man redeemed from barbarism; nor has a single step in civilization been made without it. Labor is not only a necessity and a duty, but a blessing: only the idler feels it to be a curse. The duty of work is written on the thews and muscles of the limbs, the mechanism of the hand, the nerves and lobes of the brain—the sum of whose healthy action is satisfaction and enjoyment. In the school of labor is taught the best practical wisdom; nor is a life of manual employment, as we shall hereafter find, incompatible with high mental culture.

Father Goriot: Money and the Middle Class

Honoré de Balzac

With industrialization the middle class rose in status and wealth. Increasingly, money became a common denominator in society, and the middle class was in a position to benefit from this. But the emphasis on money had its painful side even for the relatively wealthy. Few have focused on this more profoundly and broadly than the French novelist Honoré de Balzac, who himself struggled with financial problems for much of his life. The following is an excerpt from his Father Goriot *(1834), in which Goriot, an old bourgeois, bemoans the way his daughters are treating him now that he is no longer so rich.*

CONSIDER: *How Goriot sees money as both the cause for and the solution to his problems; the connections Balzac makes between money, social structure, and family life; how a worker might react to Goriot's problems.*

"Ah! if I were rich still, if I had kept my money, if I had not given all to them, they would be with me now; they would fawn on me and cover my cheeks with their kisses! I should be living in a great mansion; I should have grand apartments and servants and a fire in my room; and *they* would be about me all in tears, and their husbands and their children. I should have had all that; now—I have nothing. Money brings everything to you; even your daughters. My money. Oh! where is my money? If I had plenty of money to leave behind me, they would nurse me and tend me; I should hear their voices; I should see their faces. Ah, God! who knows? They both of them have hearts of stone. I love them too much; it was not likely that they should love me. A father ought always to be rich; he ought to keep his children well in hand, like unruly horses. I have gone down on my knees to them. Wretches! this is the crowning act that brings the last ten years to a proper close. If you but knew how much they made of me just after they were married. (Oh! this is cruel torture!) I had just given them each eight hundred thousand francs; they were bound to be civil to me after that, and their husbands too were civil. I used to go to their houses: it was, 'My kind father' here, 'My dear father' there. There was always a place for me at their tables. I used to dine with their husbands now and then, and they were very respectful to me. I was still worth something, they thought. How should they know? I had not said anything about my affairs. It is worth while to be civil to a man who has given his daughters eight hundred thousand francs apiece; and they showed me every attention then—but it was all for my money.

SOURCE: Honoré de Balzac, *Father Goriot* (New York: Century Co., 1904), pp. 264–265.

Grand people are not great. I found that out by experience! I went to the theatre with them in their carriage; I might stay as long as I cared to stay at their evening parties. In fact, they acknowledged me their father; publicly they owned that they were my daughters. But I always was a shrewd one, you see, and nothing was lost upon me. Everything went straight to the mark and pierced my heart. I saw quite well that it was all sham and pretence, but there is no help for such things as these. I felt less at my ease at their dinner-table than I did downstairs here. I had nothing to say for myself. So these grand folks would ask in my son-in-law's ear, 'Who may that gentleman be?'—'The father-in-law with the dollars; he is very rich.'—'The devil, he is!' they would say, and look again at me with the respect due to my money."

Woman in Her Social and Domestic Character

Elizabeth Poole Sandford

Industrialization also had its effects on middle-class women. As the wealth and position of these women rose in a changing economic environment, previous models of behavior no longer applied. A variety of books and manuals appeared to counsel middle-class women on their proper role and behavior. The following is an excerpt from one of these, Woman in Her Social and Domestic Character *(1842), written by Mrs. John Sandford.*

CONSIDER: *Woman's ideal function in relation to her husband, according to this document; by implication, the role of the middle-class man in relation to his wife; possible explanations for this view of women.*

The changes wrought by Time are many. It influences the opinions of men as familiarity does their feelings; it has a tendency to do away with superstition, and to reduce every thing to its real worth.

It is thus that the sentiment for woman has undergone a change. The romantic passion which once almost deified her is on the decline; and it is by intrinsic qualities that she must now inspire respect. She is no longer the queen of song and the star of chivalry. But if there is less of enthusiasm entertained for her, the sentiment is more rational, and, perhaps, equally sincere; for it is in relation to happiness that she is chiefly appreciated.

And in this respect it is, we must confess, that she is most useful and most important. Domestic life is the chief source of her influence; and the greatest debt society can owe to her is domestic comfort: for happiness is almost an element of virtue; and nothing conduces more to improve the character of men than domestic peace. A woman may make a man's home delightful, and may thus increase his motives for virtuous exertion. She may refine and tranquillize his mind,—may turn away his anger or allay his grief. Her smile may be the happy influence to gladden his heart, and to disperse the cloud that gathers on his brow. And in proportion to her endeavors to make those around her happy, she will be esteemed and loved. She will secure by her excellence that interest and regard which she might formerly claim as the privilege of her sex, and will really merit the deference which was then conceded to her as a matter of course. . . .

Perhaps one of the first secrets of her influence is adaptation to the tastes, and sympathy in the feelings, of those around her. This holds true in lesser as well as in graver points. It is in the former, indeed, that the absence of interest in a companion is frequently most disappointing. Where want of congeniality impairs domestic comfort, the fault is generally chargeable on the female side. It is for woman, not for man, to make the sacrifice, especially in indifferent matters. She must, in a certain degree, be plastic herself if she would mould others. . . .

To be useful, a woman must have feeling. It is this which suggests the thousand nameless amenities which fix her empire in the heart, and render her so agreeable, and almost so necessary, that she imperceptibly rises in the domestic circle, and becomes at once its cement and its charm.

Nothing is so likely to conciliate the affections of the other sex as a feeling that woman looks to them for support and guidance. In proportion as men are themselves superior, they are accessible to this appeal. On the contrary, they never feel interested in one who seems disposed rather to offer than to ask assistance. There is, indeed, something unfeminine in independence. It is contrary to nature, and therefore it offends. We do not like to see a woman affecting tremors, but still less do we like to see her acting the amazon. A really sensible woman feels her dependence. She does what she can; but she is conscious of inferiority, and therefore grateful for support. She knows that she is the weaker vessel, and that as such she should receive honor. In this view, her weakness is an attraction, not a blemish.

In every thing, therefore, that women attempt, they should show their consciousness of dependence. If they are learners, let them evince a teachable spirit; if they give an opinion, let them do it in an unassuming manner. There is something so unpleasant in female self-sufficiency that it not unfrequently deters instead of persuading, and prevents the adoption of advice which the judgment even approves.

SOURCE: Mrs. John Sandford (Elizabeth Poole Sandford), *Woman in Her Social and Domestic Character* (Boston: Otis, Broaders and Co., 1842), pp. 5–7, 15–16.

Women and the Working Class

Flora Tristan

As industrialization spread, working-class organizations developed. Opposed by governments and by the middle classes, these organizations faced great difficulties in creating a following and maintaining their existence. For the most part the new labor unions paid little attention to women and were dominated by men. However, there were women like Flora Tristan (1803–1844) who recognized the connections between the emancipation of women and forming working-class unions. In The Workers' Union *(1844), Tristan made the following appeal to French workers.*

CONSIDER: *The ways this might appeal to workers and particularly to working-class women; how this differs from the attitude of Elizabeth Poole Sandford or Samuel Smiles.*

(1) To constitute the working class by setting up a compact, solid, and indissoluble union.

(2) The workers' union to choose and pay a defender who shall represent the working class before the nation [workers were without the voting franchise because of the 200-franc tax requirement], so as to establish universal acceptance of this class' right to exist [as an organization].

(3) To proclaim the legitimacy of hands (*bras*) as property, 25 million French workers having no property other than their hands.

(4) To secure the recognition of every man and woman's right to work.

(5) To secure the recognition of every man and woman's right to moral, intellectual, and vocational training.

(6) To examine the possibilities of organizing the labor force in present social conditions.

(7) To construct workers' union buildings in every department of France which shall provide intellectual and vocational training for working-class children and admit working men and women who have been disabled on the job or are sick or old.

(8) To proclaim the urgent necessity of giving working-class women moral, intellectual, and vocational training so that they may improve the morals of the men.

(9) To proclaim the fact that juridical equality between men and women is the only means of achieving the unity of humanity.

SOURCE: Flora Tristan, *L'Union Ouvriére*, 2nd ed. (Paris, 1844), p. 108, in Julia O'Faolain and Lauro Martines, eds., *Not in God's Image*. Copyright © 1973 by Julia O'Faolain and Lauro Martines. Reprinted by permission of Harper & Row, Publishers, Inc.

Visual Sources

Gare Saint Lazare

Claude Monet

From a visual standpoint, industrial civilization was strikingly different from its predecessor. The 1877 painting (figure 11.1) of a railroad station in the heart of nineteenth-century Paris by the French Impressionist Claude Monet epitomizes the new industrial civilization. Steam, powerful engines, rapid transportation, and structures of iron and glass, all in an expanding urban environment, contrast sharply with the typical rural or urban images of previous eras.

CONSIDER: *The associations that a nineteenth-century viewer might have upon viewing this painting.*

FIGURE 11.1 (© Fogg Art Museum, Harvard University Art Museums, USA, Bequest from the Collection of Maurice Wertheim, Class of 1906/Bridgeman Art Library)

FIGURE 11.2 (© National Trust /Art Resource, NY)

Iron and Coal

William Bell Scott

In the caption to his 1860 painting of industrial activity in Tyneside, England (figure 11.2), British artist William Bell Scott (1811–1891) proudly proclaims: "In the Nineteenth Century the Northumbrians show the World what can be done with Iron and Coal." He may have painted the picture in response to a plea in a publication complaining that in most paintings "we miss . . . the poetry of the things about us; our railways, factories, mines, roaring cities, steam vessels, and the endless novelties and wonders produced everyday." Certainly this mid-nineteenth century painting celebrates these industrial "things." The foreground setting is an engineering workshop. In the center, three muscular workers hammer out molten iron. On the right is a drawing of a steam engine built by Robert Stephenson and Co., and indeed an example of that steam engine is crossing Stephenson's High Level Bridge in the background to the right. In the left foreground, a girl sits on an Armstrong gun with her father's lunch and an arithmetic book in her lap. In the shop are other industrial objects made of iron: an anchor, a marine air pump, and a heavy chain with a pulley. In back of the three workers a boy who works in the mines stands with a Davy safety lamp and looks down on the docks below. On the river a coal barge passes.

CONSIDER: *What image of industrial activity this painting presents to the viewer; what other images of industrial activity might an artist present.*

Illustration from *Life and Adventures of Michael Armstrong*

The following illustration (figure 11.3) is from a novel, Life and Adventures of Michael Armstrong *(1840), by the well-known British author, Mrs. Frances Trollope. The illustration depicts several of the main elements of the Industrial Revolution in England. It shows the inside of a textile factory—a factory in the most advanced of the new industries. Thanks to mechanization and artificial power, a few workers can now do the work of many. The workers—men, women, and children—are obviously poor. In the background stands the stern middle-class owner talking with others of his class while in the foreground a child worker embraces his middle-class counterpart for some kindness he has displayed. The scene is reflective of the typical middle-class view of the poor and poverty—as problems of morals, to be treated with pity and philanthropic concern but not yet requiring substantial social or economic change.*

CONSIDER: *The ways in which this illustration reflects aspects of industrialization touched on by other documents in this chapter; the similarities and differences between this illustration and Figure 7.2 in Chapter 7.*

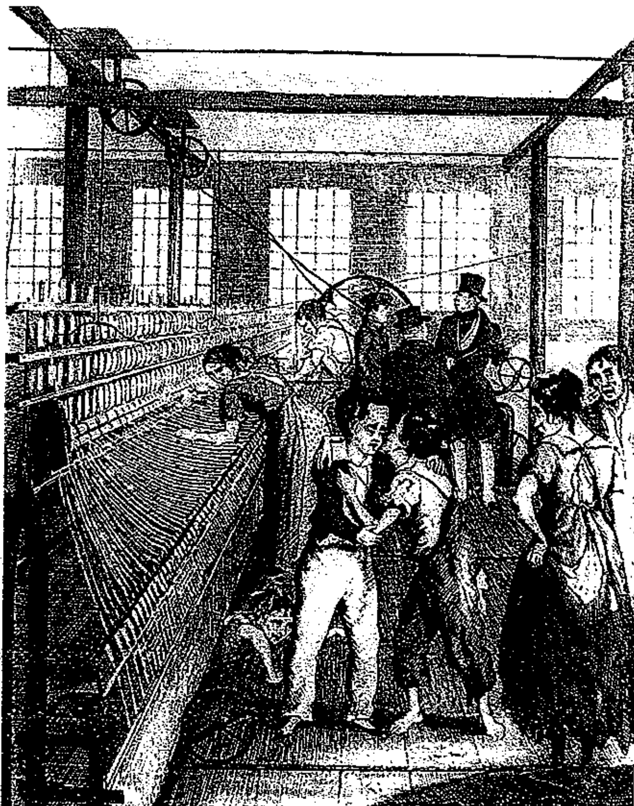
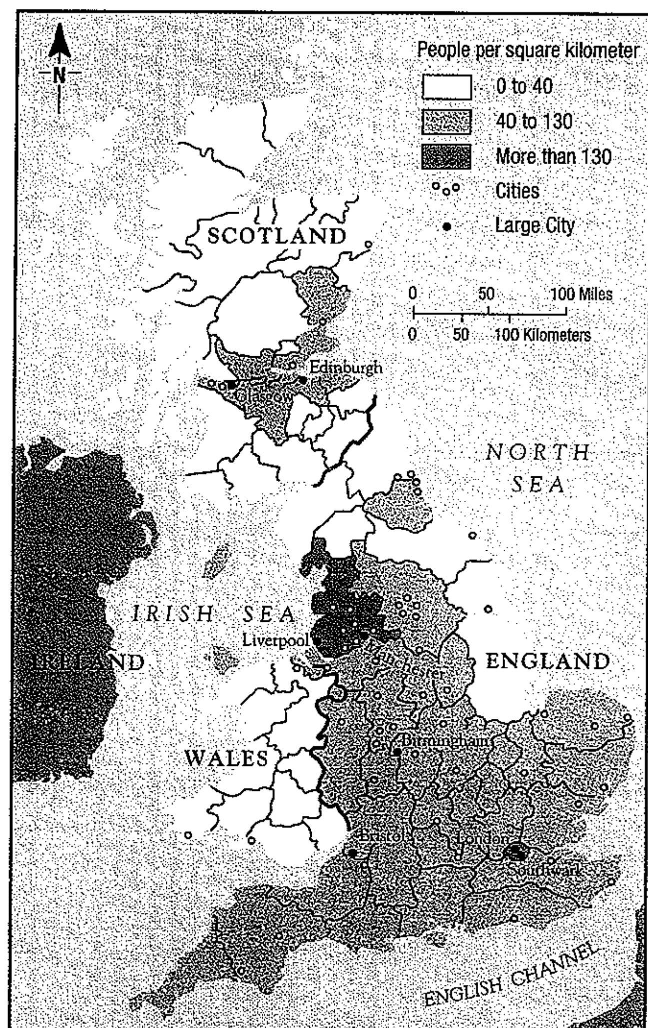


FIGURE 11.3 (© Bettmann/Corbis)

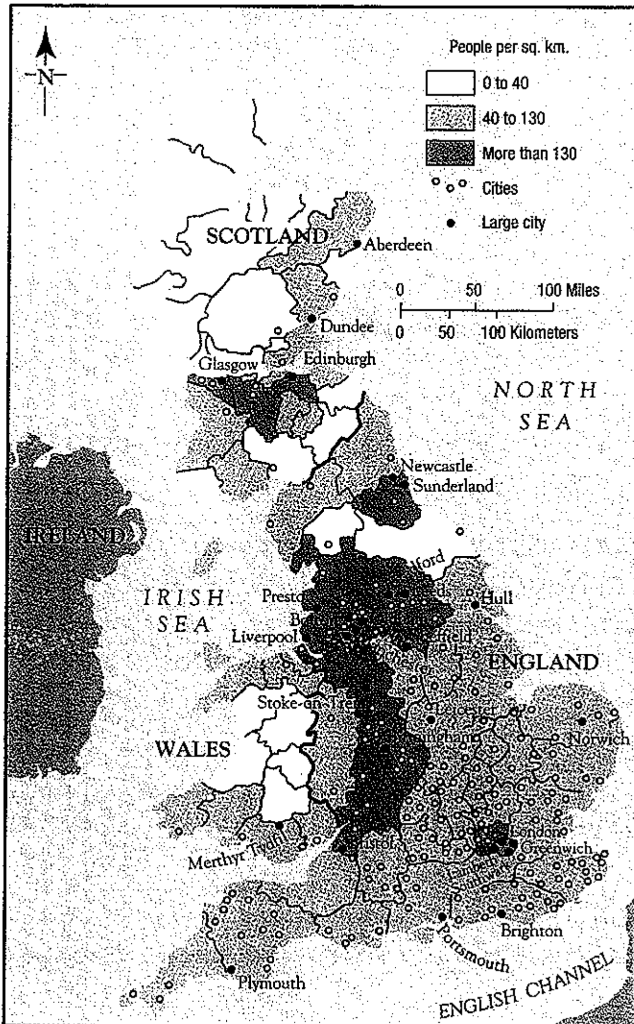
Industrialization and Demographic Change

A comparison of maps 11.1 and 11.2, which show the population density of England in 1801 and 1851, respectively, reveals the relatively rapid increase in population and urbanization in certain areas of England during this period. The third map (map 11.3) shows where industry (mainly textiles, metallurgy, and mining) was concentrated in 1851. A comparison of all three maps reveals the connections among shifting population density, urbanization, and industrialization during this period of early, rapid modernization of England's economy.

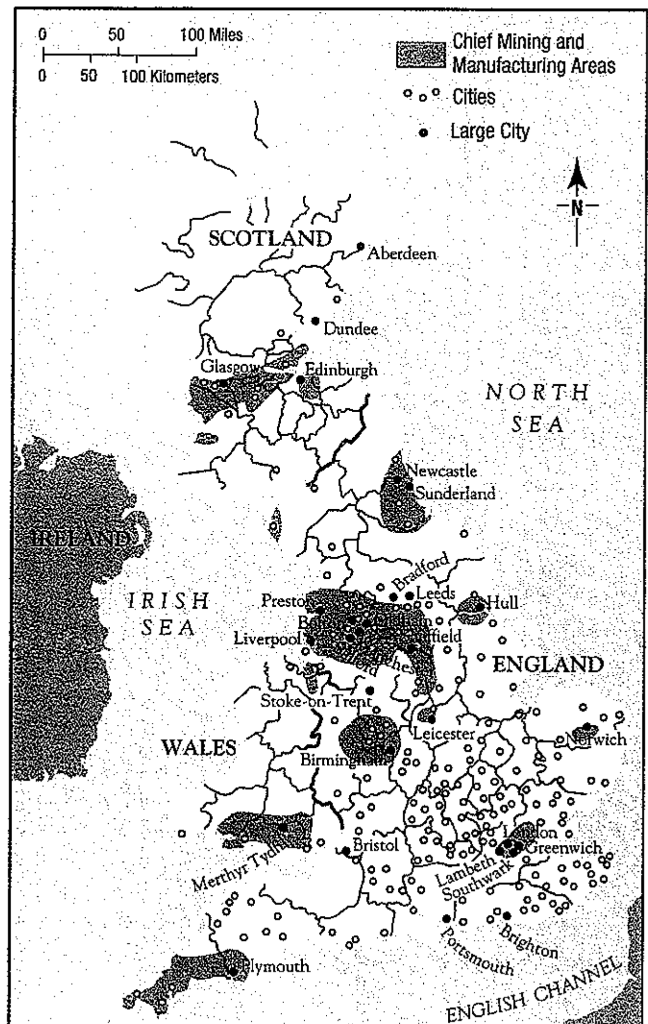
CONSIDER: *What some of the geopolitical consequences of these connections between demographic and economic changes might be; what some of the social consequences of these same connections might be.*



MAP 11.1 Population Density: England, 1801



MAP 11.2 **Population Density: England, 1851**



MAP 11.3 **Concentration of Industry in England, 1851**

Secondary Sources

The Making of Economic Society: England, the First to Industrialize

Robert L. Heilbroner

Although it is clear that industrialization occurred first in England, it is not apparent why this should be so. During the eighteenth century France was prosperous and economically advanced. Other countries such as Belgium and the Netherlands possessed certain economic advantages over England and might have industrialized earlier but did not. In the following selection Robert Heilbroner, an economist and economic historian, addresses the question of why England was first and points out the differences between England and most other European nations in the eighteenth century.

CONSIDER: *Why Heilbroner stresses the role of the "New Men" over the other factors he lists; any disadvantages England had to overcome; whether it was simply the circumstances that gave rise to the "New Men" or whether it was the "New Men" who took advantage of the circumstances when most men in most other nations would not have.*

Why did the Industrial Revolution originally take place in England and not on the continent? To answer the question we must look at the background factors which distinguished England from most other European nations in the eighteenth century.

SOURCE: Robert L. Heilbroner, *The Making of Economic Society.* Reprinted by permission of Prentice-Hall, Inc. (Englewood Cliffs, NJ, 1980), pp. 76–77, 80–81.

The first of these factors was simply that England was relatively wealthy. In fact, a century of successful exploration, slave-trading, piracy, war, and commerce had made her the richest nation in the world. Even more important, her riches had accrued not merely to a few nobles, but to a large upper-middle stratum of commercial bourgeoisie. England was thus one of the first nations to develop, albeit on a small scale, a prime requisite of an industrial economy: a "mass" consumer market. As a result, a rising pressure of demand inspired a search for new techniques.

Second, England was the scene of the most successful and thoroughgoing transformation of feudal society into commercial society. A succession of strong kings had effectively broken the power of the local nobility and had made England into a single unified state. As part of this process, we also find in England the strongest encouragement to the rising mercantile classes. Then too, as we have seen, the enclosure movement, which gained in tempo in the seventeenth and eighteenth centuries, expelled an army of laborers to man her new industrial establishments.

Third, England was the locus of a unique enthusiasm for science and engineering. The famous Royal Academy, of which Newton was an early president, was founded in 1660 and was the immediate source of much intellectual excitement. Indeed, a popular interest in gadgets, machines, and devices of all sorts soon became a mild national obsession: *Gentlemen's Magazine*, a kind of *New Yorker* of the period, announced in 1729 that it would henceforth keep its readers "abreast of every invention"—a task which the mounting flow of inventions soon rendered quite impossible. No less important was an enthusiasm of the British landed aristocracy for scientific farming: English landlords displayed an interest in matters of crop rotation and fertilizer which their French counterparts would have found quite beneath their dignity.

Then there were a host of other background causes, some as fortuitous as the immense resources of coal and iron ore on which the British sat; others as purposeful as the development of a national patent system which deliberately sought to stimulate and protect the act of invention itself. In many ways, England was "ready" for an Industrial Revolution. But perhaps what finally translated the potentiality into an actuality was the emergence of a group of new men who seized upon the latent opportunities of history as a vehicle for their own rise to fame and fortune. . . .

Pleasant or unpleasant, the personal characteristics fade beside one overriding quality. These were all men interested in expansion, in growth, in investment for investment's sake. All of them were identified with technological progress, and none of them disdained the productive process. An employee of Maudslay's once remarked, "It was a pleasure to see him handle a tool of any kind, but he was *quite splendid* with an 18-inch file." Watt was tireless in experimenting with his machines; Wedgwood stomped about his factory on his wooden leg scawling, "This won't do for Jos. Wedgwood," wherever he saw evidence of careless work. Richard Arkwright was a bundle of ceaseless energy in promoting his interests, jouncing about England over execrable roads in a post chaise driven by four horses, pursuing his correspondence as he traveled.

"With us," wrote a French visitor to a calico works in 1788, "a man rich enough to set up and run a factory like this would not care to remain in a position which he would deem unworthy of his wealth." This was an attitude entirely foreign to the rising English industrial capitalist. His work was its own dignity and reward; the wealth it brought was quite aside. Boswell, on being shown Watt and Boulton's great engine works at Soho, declared that he never forgot Boulton's expression as the latter declared, "I sell here, sir, what all the world desires to have—Power."

The new men were first and last *entrepreneurs*—enterprisers. They brought with them a new energy, as restless as it proved to be inexhaustible. In an economic, if not a political, sense, they deserve the epithet "revolutionaries," for the change they ushered in was nothing short of total, sweeping, and irreversible.

The Industrial Revolution in Russia

Peter N. Stearns

Before 1850 the industrial revolution was confined to Britain and a few limited areas in the West. Between 1850 and 1870, the coal mines, iron foundries, textile factories, steam engines, and railroads that had made Britain an industrial giant spread broadly into Western and Central Europe and North America. However, outside of these areas, no industrial revolution occurred until after the 1870s. Many historians have suggested reasons for this disparity between these areas of the West and elsewhere. In the following selection, Peter Stearns suggests reasons Russia was slow to industrialize.

CONSIDER: *What opportunities were available for industrial development in Russia; why, nevertheless, Russia did not industrialize sooner.*

Russia began to receive an industrial outreach from the West within a few decades of the advent of the industrial revolution. British textile machinery was imported beginning in 1843. Ernst Knoop, a German immigrant to Britain who had clerked in a Manchester cotton factory, set himself up as export agent to the Russians. He also

SOURCE: Peter N. Stearns, *The Industrial Revolution in World History* (Boulder, CO: Westview Press, 1993), pp. 72–73.

sponsored British workers who installed the machinery in Russia and told any Russian entrepreneur brash enough to ask not simply for British models but for alterations or adaptations: "That is not your affair; in England they know better than you." Despite the snobbism, a number of Russian entrepreneurs set up small factories to produce cotton, aware that even in Russia's small urban market they could make a substantial profit by underselling traditional manufactured cloth. Other factories were established directly by Britons.

Europeans and Americans were particularly active in responding to calls by the tsar's government for assistance in establishing railway and steamship lines. The first steamship appeared in Russia in 1815, and by 1820 a regular service ran on the Volga River. The first public railroad, joining St. Petersburg to the imperial residence in the suburbs, opened in 1837. In 1851 the first major line connected St. Petersburg and Moscow, along a remarkably straight route desired by Tsar Nicholas I himself. American engineers were brought in, again by the government, to set up a railroad industry so that Russians could build their own locomotives and cars. . . .

But Russia did not then industrialize. Modern industrial operations did not sufficiently dent established economic practices. The nation remained overwhelmingly agricultural. High percentage increases in manufacturing proceeded from such a low base that they had little general impact. Several structural barriers impeded a genuine industrial revolution. Russia's cities had never boasted a manufacturing tradition; there were few artisans skilled even in preindustrial methods. Only by the 1860s and 1870s had cities grown enough for an artisan core to take shape—in printing, for example—and even then large numbers of foreigners (particularly Germans) had to be imported. Even more serious was the system of serfdom that kept most Russians bound to agricultural estates. While some free laborers could be found, most rural Russians could not legally leave their land, and their obligation to devote extensive work service to their lords' estates reduced their incentive even for agricultural production. Peter the Great had managed to adapt serfdom to a preindustrial metallurgical industry by allowing landlords to sell villages and the labor therein for expansion of ironworks. But this mongrel system was not suitable for change on a grander scale, which is precisely what the industrial revolution entailed.

Furthermore, the West's industrial revolution, while it provided tangible examples for Russia to imitate, also produced pressures to develop more traditional sectors in lieu of structural change. The West's growing cities and rising prosperity claimed rising levels of Russian timber, hemp, tallow, and, increasingly, grain. These were export goods that could be produced without new technology and without altering the existing labor system. Indeed, many landlords boosted the work-service obligations of the serfs in order to generate more grain production for sale to the West. The obvious temptation was to lock in an older economy—to respond to new opportunity by incremental changes within the traditional system and to maintain serfdom and the rural preponderance rather than to risk fundamental internal transformation.

Early Industrial Society: Progress or Decline?

Peter Stearns and Herrick Chapman

One of the most persistent debates over the early stages of the Industrial Revolution is whether a higher standard of living resulted for factory workers. A number of "optimistic" historians, relying primarily on statistical evidence such as wage rates, prices, and mortality rates, have argued that even during the early period factory workers experienced a rising standard of living. A group of more "pessimistic" historians, emphasizing qualitative data such as descriptions of the psychological, social, and cultural impact of the factory on workers' lives, argues that the standard of living declined for these workers during the first half of the nineteenth century. In the following selection Peter Stearns and Herrick Chapman focus on this debate, concluding that, at least for many workers, material conditions were modestly better.

CONSIDER: *The aspects of this selection that optimistic historians would emphasize and how pessimistic historians might respond; whether increased wage rates are a meaningful measure without a consideration of the psychological and social costs of that extra money.*

The question of whether conditions deteriorated or were improved by early factory employment has been hotly debated, particularly in the case of the British industrial revolution. There is evidence on both sides. Many have tried to prove that early industry was evil; others have asserted its beneficence. Even during the Industrial Revolution itself the question was argued with much partisan feeling. The issue is not merely an academic one. In order to understand the workers themselves, it is vital to know whether they experienced a deterioration in conditions as they entered industry. That the workers were in misery from a modern point of view cannot be denied; that they were severely limited in their conditions is obvious; but whether they felt themselves to be miserable, judging by the standards they knew, is far from clear. . . .

SOURCE: Reprinted with the permission of Macmillan College Publishing Company *Society in Upheaval*, 3rd ed., by Peter Stearns and Herrick Chapman. Copyright © 1992 by Macmillan College Publishing Company, Inc.

Furthermore, in England and elsewhere, rural conditions had usually been declining before the Industrial Revolution began. This was, after all, the main impulse for peasants to accept factory jobs. Peasant standards of living were low anyway; preindustrial society was simply poor. And the people entering industry were often drawn from the lowest categories of the peasantry. These were the people who suffered most from expanding population and declining domestic industry. There was deterioration of material conditions in the early industrial period, but it occurred primarily in the countryside among the landless and the domestic producers and among the unskilled in the slums of cities like London. When they found factory employment, workers seldom could note a significant worsening of their situation: many factory workers actually gained some ground in standard of living.

The worst problem for factory workers, as for the poorer classes even in premodern times, was the instability of conditions. Sick workers were rarely paid and sometimes lost their jobs. With age workers' skill and strength declined, and so did their earnings. Old workers, lacking property to fall back on, suffered from falling wages and frequent unemployment. Machine break-downs caused days and even weeks of unemployment. Most important, recurrent industrial slumps plunged many workers into profound misery. Wages fell, sometimes by as much as 50 percent; up to a quarter of the labor force lost their jobs. Some returned to the countryside to seek work or to roam in bands to find food. Some survived on charity; the charity rolls of manufacturing cities often embraced over half the working class, though only meager support was offered. Some sold or pawned their possessions. All reduced expenses by eating potatoes instead of bread and ignoring rent payments. Old age, finally, could bring disaster. Working-class life was thus punctuated by a number of personal and general crises, creating a sense of insecurity that haunted workers even in better times.

In prosperous years the worst feature of the average worker's material standard of living was housing. Rural cottages had often been flimsy and small, befouled by animals, but city housing was sometimes worse. . . .

With poor housing and urban crowding, along with the pressures of factory work itself, many workers were in poor health. Rates of infant mortality were high, and many workers had a life expectancy at birth only half as high as that of their employers. . . .

Unquestionably factory wages were better than those of the countryside. Highly skilled male workers, many of them former artisans, were paid three to six times as much as ordinary laborers. For early mechanization did not eliminate the need for skill, though it reduced the percentage of skilled workers and changed the skills required. Hence the men who built and installed machines or puddled iron or ran the more complex spinning machines required years to learn their trade fully. But even lesser-skilled workers could command a money wage that was higher than what was available in the countryside or to the transient workers of the cities. There was little left over for purchases beyond food, housing, and clothing. A bit of tobacco or a small contribution to a mutual aid group were all that the ordinary worker could afford. However, wages tended to go up with time. They definitely rose in England after 1840. The main factory centers in France saw an increase in real wages in the 1830s and 1840s, and there was improvement in Germany in the 1840s and 1850s, in Russia in the 1890s.

So it is safe to conclude that material conditions, though bad, provided modest gains and some solace for many workers during the early industrial period as a whole. On the average, conditions were better than the new workers' traditions had led them to expect.

The Family and Industrialization in Western Europe

Michael Anderson

The tremendous growth of interest in social history over the past twenty years has stimulated scholars from other disciplines to address historical questions. A number of sociologists have applied methods from their own discipline to social aspects of nineteenth-century industrialization. In the following selection Michael Anderson, a sociologist from the University of Edinburgh, discusses the effects of industrialization on the working-class family.

CONSIDER: *The specific ways in which the process of industrialization affected working-class families; how Anderson's interpretation might support the "optimists" or the "pessimists" in their debate over the effects of the Industrial Revolution on the working class; how the effects on middle-class families might differ.*

In industrial areas, then, the close interdependence of parents and children which was so important in peasant societies gave way, and this was reflected in changes in family relationships. The early stages of industrialization, however, probably changed relationships between husbands and wives much less, though freedom from such close supervision and a more private domestic situation may have allowed rather more affection to develop between them than had been the case in preindustrial peasant families. Husband and wife were no

SOURCE: Michael Anderson, "The Family and Industrialization in Western Europe," *The Forum Series.* Reprinted by permission of Forum Press (St. Louis, MO, 1978), p. 14. Copyright © 1978 by Forum Press.

longer cooperating in the same productive task, but this had never been universal anyway. There was, however, a continued need and possibility for both husbands and wives to work as producers to keep the family above the subsistence line. In a few areas wives actually left the house to work in the factories. More usually, as women had always done, the wives of factory workers worked at home producing small items of clothing, processing some kind of food or drink, taking in the middle class's washing, or running a small shop or lodging house. The manifold needs of an industrial community were thus met in a way which contributed to working class family solidarity while allowing mothers to supervise and care (perhaps rather better than before) for small children during the lengthening period before they were able to enter the labor force themselves.

Initially, then, it was only in a few areas, especially those specializing in mining, machine-making, metal manufacturing, shipbuilding and sawmilling, that a change occurred in the economic status of women and with it in their family situation. In these areas there were not enough openings for female wage employment and, in consequence, many women were forced into the almost totally new situation of full-time housewife. However, as more and more traditional tasks were taken over by the application of factory production methods to clothing and food preparation, the home increasingly became confined to consumption. Only then did the distinction between male productive work outside the home and female consumption-oriented work inside the home become common among the working class.

Though the evidence is patchy, it seems that, at least in some areas, this had an effect on relationships between husbands and wives. Since the husband became the only income producer, the rest of the family became more dependent on him than he was on them. Whatever the husband did, the wife had little power to resist. While the family as a whole relied materially on the father, he needed them only to the extent that he could obtain from them emotional or other rewards which he could not obtain elsewhere or to the extent to which public opinion in the neighborhood was effective in controlling his behavior (And with the weakened community control of large industrial cities, neighborhood control was often weak.). Thus, in the working class, the idea that a woman's place was in the home and that her role was essentially an inferior domestic one is not of great antiquity. Rather it seems only to have developed as a response to a major shift in the power balance between husbands and wives which reflected the new employment situation of late-nineteenth- and early-twentieth-century industrial society.

CHAPTER QUESTIONS

1. Do you feel that industrialization should be considered a great boon, a mixed blessing, or a disaster for nineteenth-century Europeans? Why?
2. In retrospect, what policies might governments have adopted to minimize the pains of industrialization? What factors acted against the adoption of such policies?
3. In a debate over how industrialization should be evaluated, what would the arguments of middle-class liberals be? Of industrial workers? Of women?