CHAPTER XXII.

THE INDUSTRIAL MANAGER.

233. WHAT was said in discussing the general principles governing the wages of skilled labor in the last chapter will apply, with slight exceptions, to all classes of skilled labor, including under that term the class of industrial managers, or *entrepreneurs*. The manager of an industrial operation is of the first importance, and his share of the product is large, because he stands in the highest rank of the various classes of laborers. He therefore demands further consideration. Although highest in the scale, he is, however, only a laborer, and may be said to be the child of modern industrial conditions. "In its first stages, the division of labor does not necessarily imply the introduction of the master-class. When the forms of production are few, when the materials are simple, when only hand-tools are used, when each artisan working at his bench makes the whole of the article to be marketed, when styles are standard, and the consumers of his product are found in the immediate neighborhood, perhaps within range of his personal acquaintance, the **need of the master is not felt.** But when the hand-loom gives way to the power-loom, when the giant factory absorbs a thousand petty shops, when many persons, of all degrees of skill and strength, are joined in labor, all contributing to a result which perhaps not one of them comprehends perfectly or at all, when machinery is introduced which deals

with the gauzy fabric more delicately than the human hand, and crushes stone and iron with more than the force of lightning, when costly materials require to be brought from the four quarters of the globe, and the products are distributed by the agencies of commerce through every land, when fashion enters, demanding incessant changes in form and substance to meet the caprices of the market, the **master becomes a necessity** of the situation, not alone to enforce discipline through the body of laborers thus brought under one roof, not alone to organize these parts into a whole, and keep every part in its place, at its proper work, not alone to furnish technical skill, and exercise a general care of the vast property involved, but, beyond these, and far more than these, to assume the responsibilities of production, to decide what shall be made, after what patterns, in what quantities, at what times, to whom the product shall be sold, at what prices, and on what terms of payment. The armies of industry can no more be raised, equipped, held together, moved, and engaged, without their commanders, than can the armies of war." *

234. It is not generally realized how constantly the desires and tastes of mankind undergo alteration as different countries are modified by civilization, and to what extent these alterations cause a readjustment of the exchange of goods in one trade with every other. Such changes must be watched by the manager, and the character of his products modified accordingly. So intense is the **competition of modern trade** that he who controls a large capital actively engaged in production can never remain at a standstill; he must be full of new ideas; he must have power to initiate new schemes for the extension of his market; he must have judgment to adopt new inventions, and yet not be deceived as to their value and efficiency. The movement of late years, also, as we have

* F. A. Walker, "Political Economy," pp. 76, 77.

seen before (section 67), shows an increasing tendency toward **large production.** The gains from large production, however, can not be garnered except in so far as the executive ability of the industrial manager can be found capable of carrying it on. In fact, it seems as if large production, as a feature of modern industrial life, were a result of the development of the manager's functions. As the capacity to control large affairs has been displayed, the management of wider industrial operations has been given over into the hands of single individuals. It is said that a single sugar refiner supplies one half the consumption of sugar in the United States; but this is largely due to the intense competition of refiners since the Civil War. The "profit" on a pound of sugar was once about two and a half cents, but, as refineries increased in number, the "profit" dropped to as low as one quarter or one eighth of a cent a pound. Under such conditions it became desirable to refine as many pounds as possible in order to get a proper payment for the supervision and care of an establishment. One refiner, having great executive capacity and managing skill, began to gather under his own management and ownership the ships which imported the raw sugar, the wharves, the factories wherein are made the boxes and barrels, and refineries of greatly increased capacity. Where so much was produced, greater division of labor and the use of expensive machinery was made possible, and, as a consequence, the expense of producing a single pound was less for him than for the managers of smaller refineries. He was thus able to sell all his product at the same price as other refiners and gain a larger return, or he could undersell them and get the same gain on each pound. Similar results are to be noticed in almost every trade. In fact, the intensity of modern competition and the characteristics of modern commerce are themselves acting to create a demand for the higher class of industrial managers.

235. It may be thought, by a casual observer, that no one becomes a manager of capital and labor unless he is himself a capitalist. It is quite true that a very great number of industrial establishments are entirely managed by their owners; but it is also true that, practically, no business is now carried on simply with capital owned by the manager and employer. Under the extended use of credit now obtaining, every manager is a borrower of capital from banks and other lenders; and the actual capital owned by him often bears but a small ratio to the total capital used by him. He gets the use of capital largely because of his reputation as a successful manager in his own trade. More than all this, **it is by no means necessary in these days that the most skillful manager should be the owner of the capital which is invested and employed under his management.** If we examine the greatest investments of capital under one head in this country, we shall find that their managers are selected irrespective of the amount of capital they own, or even of the amount of capital they put into the business they manage. It is no longer true that, because a man is wealthy, he is competent to manage a cotton-mill; nor that, because a man owns many shares in a bank he is competent, or likely to be chosen, to be its president or manager. Certain kinds of business which employ the largest amounts of capital choose their managers irrespective of the capital they own, and pay them a sum, as wages, entirely distinct from any earnings their capital may receive in the form of dividends. We need only mention, in illustration of this statement, establishments such as banks, insurance-companies, railways, cotton- and woolen-mills, mines, etc., in which the manager only represents the owners of the property, and receives wages for his care and superintendence. The millions of dollars invested by mutual-insurance companies requires the highest financial skill obtainable, and the wages of such

managers has reached, in one case, it is said, the sum of thirty thousand dollars a year. Banks are also, like cotton- and woolen-mills, ready to pay large sums for successful and trustworthy managers. The dividends of a cotton-mill depend almost entirely on the skill of the manager (technically known as a "treasurer"), and high wages are gladly paid, because of the larger returns given by the mill under his control. So with railways and other corporations. In fact, the creation of corporations controlled by directors, who choose a manager, renders possible the aggregation of small savings into large sums, which are then as a whole wielded by the skill of a single person. One person thus controls the capital contributed often by thousands of shareholders; and, although the owners of small capitals may have no great business capacity, yet, by the collection of their funds into one large sum, they may be able to secure the services of the best executive skill in the community.

236. This distinction between the function of capital earning interest, and of business capacity earning wages for great skill in mental work, is of peculiar importance in all discussions on the labor question. It opens an avenue for any man, whether rich or poor, leading upward to the highest prizes of industrial life, provided he has the natural or acquired ability. "Business men are chosen by a process of natural selection from among many millions of competitors. Of many employers of labor," says Marshall,* "in some parts of England, more than half have risen from the ranks of hired labor. Every artisan who has exceptional natural abilities has a chance of raising himself to a post of command." In our own country, the meaning of the constant talk in commercial life about "self-made men" is that these men have begun at the bottom, and by the exhibition of the rare powers of the

* *Ibid.*, p. 144.

industrial manager have easily risen* to positions of great business power and responsibility; but the **class of skillful business managers is small relatively to any other industrial class.** There is thus a process of natural selection † going on, by which those who have some capital and great business power soon get control over a large capital; while, on the other hand, those who have not business power will speedily dissipate a large capital if they happen to get control of it." It must be evident, then, that the supply of industrial managers does not adapt itself to the demand with as much readiness as in the case of highly skilled artisans (and this was far from being great). In fact, the demands made upon the powers of a manager in charge of a great establishment preclude the supposition that many persons can be found all equally competent for the task. It does not at all follow ‡ that, because some men earn large wages of management, this will fill up the ranks by stimulating the supply of competitors. This may happen where no special skill is necessary; but, where great skill is required, those who have it enjoy a practical monopoly, and this is the reason for their

* "A man who has all the rare qualities that are required for managing a large business will, unless he is specially unlucky, make a high rate of profits on his capital. These profits will increase his capital, and will encourage him to devise and carry out bold plans on a broad basis. The confidence that others have in him will enable him to borrow capital easily, and thus, because he has the faculties which are one condition of getting high earnings of management, he will rapidly acquire that control of a large capital which is the other condition."—Marshall, *ibid.*, pp. 139, 140.

† Marshall, *ibid.*, p. 140; cf. Walker, "Wages," chap. xiv.

‡ I can not agree with Mr. Marshall, who thinks that competition will force down their earnings (p. 143). I rather agree with his statement elsewhere (p. 115): "Much of the work of business is then so difficult, and requires so much special training and such a rare combination of natural qualities, that the earnings of management got by it may be very high, without there being many men who can do the work and get these high earnings."

high wages. **Industrial managers, of proved success, get higher wages than the skilled laborers they employ, because a master is the most important laborer in the establishment, and because, at the same time, the number in his class is less in proportion to the demand than is the case in regard to any other kind of labor.** It is true that managers for kinds of business which require no excessive power and skill are much more numerous than they used to be; but, as Marshall says, "the continual increase in the complexity of business, and the continual increase in the amount of capital that can be employed in business under a single management, are indeed giving to business ability of the highest order the opportunities of obtaining greater earnings of management than were ever heard of in earlier generations."

237. In regard to the distribution of the product among the different classes of laborers, we now see that a very large share goes to the industrial manager as wages for a kind of skill which, for natural reasons, is practically monopolized. As usually viewed, this large payment is connected with the ownership of capital, and it is said that a manufacturer is getting enormous "profits." This way of looking at it obscures the real truth. For the ownership of capital, a manager can get no more than any investor of equal judgment, and this payment is **interest.** But, when we see—as is very often the case in countries like the United States, where the natural resources are great, and where favorable opportunities are often open for great skill in industrial management—a few men earning vast sums from the management of railways, or timber lands, or oil-wells, it is largely in the form of wages for superior skill in grasping the opportunity and knowing how to follow it up successfully. **These large earnings are not so much interest on capital as they are wages of management.** For without the mana-

ger's peculiar and individual power the industries they bring into operation could not be successfully continued. Many a town owes its material prosperity to the chance that a successful manager has chosen to establish himself there rather than elsewhere.* One man can make the same business profitable while another can scarcely save himself from failure. In common language, the interest for capital and the wages of management are thought of as a single payment to a "capitalist," and called "profits"; but nothing is more confusing. It is necessary to separate the idea of "profits" into its parts, especially as the amount of the two parts is governed by different principles: (1) The payment for capital, according to the laws governing interest, and (2) the payment for managing ability, according to the laws governing the wages of skilled labor.

238. Under these conditions we can see that the continuance of a business depends on whether or not the manager receives his wages of management. In the friction between an employer and workman, which appears in times of strikes, it is commonly said that his "profits" are high, and that he can afford to raise wages. Granting that the employer is receiving a large share, it is wholly a mistake to consider it a payment solely for capital. There is no little nonsense talked about labor and capital. Of the employer's large share, by far the largest part is wages of management. These wages of management are large, and fill the imagination of the poorly-paid laborer, simply because the manager stands higher up in the scale

* "There is many a thriving town in New England whose only reason for growth, through fifty years from small beginnings, has been found in the accident of the birth there, and the long life, of a single energetic, able, careful man of business. There is many a 'deserted village' whose decay dates from the sickness or death of one man out of the many hundreds who thronged its streets."—F. A. Walker, "Political Economy," p. 75.

of workmen than his employés. Any of his workmen can get up into the same place if he is equally capable. The workman lower down in the scale, paid a low rate of wages, looks at the capable manager above him, paid a very high rate of wages, with envy, wrongly calls him a "capitalist" solely because of his high wages, and believes himself oppressed; when, in reality, the whole truth lies in the fact that **the conflict is not between labor and capital, but between different classes of laborers.** In the distribution the most numerous and unskilled class gets the lowest wages, while the least numerous and most capable industrial class of managers gets the highest wages, and those between them fill up the intermediate scale. Managers could not get the highest wages if they were as many and as easily obtained as the unskilled or little-skilled laborers. In order to raise their wages in any permanent and lasting way, the laborer must enter into a **contest of capacity.** If he moves up the scale, his wages will increase; if he is careless, lazy, unthrifty, dishonest, unintelligent, without ambition, he will remain where he is, in the lowest and largest class who receive the least and most precarious wages. To be sure, there will be cases of injustice on the part of employers so long as human beings continue imperfect, and against these the combinations of laborers have every reason to contend. But wages of the lower classes of labor can not be raised by strikes to the extent of trenching on the wages of the higher classes of labor, as governed by their relative numbers and the relative demand for them. When a manager, by a rise of wages, is driven to a point where he sees that his own wages of management are cut into (irrespective of interest or capital), he may decline to work, and the whole establishment hinges on this decision.* Therefore, a rise of wages can not be pushed on indefinitely. **The play of demand and supply,** working, as described, between the various classes of laborers, from the unskilled to the industrial manager, will determine the relative wages of each class; and these wages will vary by changes in the numbers of the classes, the character of the industries, methods of business, and the various causes affecting the relative demand of one kind of labor as compared with another. **It is absurd to think that,** because men are equal politically in the exercise of civil rights, **they are also equal industrially and economically.** In proportion to his business capacity and skill will a man in the long run receive wages.

239. There are cases, however, when labor may not get its due share of the product. As production is now carried on, the capitalist, or the manager representing capital, occupies a position of vantage; the manager offers employment, and taking full advantage of the competition of laborers, he engages men to work at a fixed price per day or week. So long as laborers are not owners of capital (as they are in a co-operative establishment), their wages are for a given time a fixed sum. While this is so, it may happen that a rumor of foreign wars or some other cause entirely outside of the control or skill of the manager, and so not due to his exertions, may cause such a change in the demand for his products as to increase their value largely. His goods may sell for ten or even

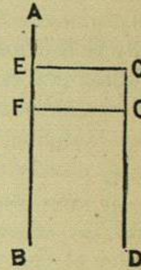
* "The *entrepreneur* finds his motive for organizing and conducting the great enterprises of modern industry in the profits which he hopes individually to realize. . . . It is, perhaps, to secure a net profit to himself of fifteen or twenty thousand dollars that he leases land and buildings and borrows capital, and hires the labor requisite to achieve an annual product of half a million of dollars. If, then, the conditions of trade and industry are such as to destroy, for the time, his profit, much more if they are such as to threaten a loss which will impair the integrity of the capital for which he has become responsible, his interest in production is greatly diminished, if not destroyed; he will either cease producing entirely, or, what is more likely, will contract the scope of his operations."—F. A. Walker, "Political Economy," pp. 183, 184.

twenty per cent more this month than they did last month. Consequently there will be a larger sum to distribute; and, if laborers receive the same fixed wages as agreed upon before the rise in price, the increase due to the accidental change of demand will wholly fall to the manager, being independent of any increased exertion on their part. In this way, so long as wages of employés are fixed by agreement with employers, any **unusual gains will inure to the advantage of the manager or the owners of the capital.** It is to be remembered, however, that an unexpected failure of demand is quite as likely as an increase of demand; and, while capital may gain by unusual good fortune, it is as often exposed to unusual bad fortune. If the laborers demand a share of the unusual gains beyond the control of the manager, they ought, in justice, to suffer a reduction of wages in case of unusual losses.

240. The business man generally offsets losses by gains, and in the long run expects to get an average return such as he considers sufficient to recompense him for interest and for wages of management. This brings us to the so-called doctrine of "equivalence of profits," by which it is claimed that "profits" tend to an equality. Considering this doctrine in the light of the distinction between interest and wages of management, it does not seem possible to establish its truth, as usually stated. If "profits" include wages of management, then there is not only no tendency toward an equality between profits in the same trades, but not even between the profits of different men in different trades.* The only possible way in

* As Mr. Mill, who included wages of management under profits, says of "gross profit," it "varies very greatly from individual to individual, and can scarce be in any two cases the same. It depends on the knowledge, talents, economy, and energy of the capitalist himself, or of the agents whom he employs, on the accidents of personal connection, and even on chance. Hardly any two dealers in the same

which the doctrine can be truly stated is that there is **a tendency to an equality of return on equal investments of capital,** or, in other words, that the rate of interest tends to an equality. If in one trade there are peculiar risks incident to the investment of capital, as, for example, in the manufacture of gunpowder or dynamite, then such capital will expect a larger rate than in another trade where these risks do not exist. But in two trades where the risks are the same, and the security for the investment of capital is the same, the rate of interest expected will be the same. For, if the rate be not the same, there will be a removal of capital from the less remunerative to the more remunerative industry; provided, of course, that the two trades lie within competing groups, between which capital can readily move. The increased competition of capital will then lower the rate of interest in the more remunerative trade to a common level. This transfer of capital goes on with great readiness through the agency of banks.* Each industry is constantly borrowing capital from the general reservoirs of capital seeking investment, that is, from the banks. If A B represents the amount of capital used in one industry, and C D that in another, then it is not necessary that the whole of the sur-



trade, even if their commodities are equally good and equally cheap, carry on their business at the same expense, or turn over their capital in the same time" (Book II, chap. xv, § 4). But Mr. Mill urges the tendency of profits to an equality in different employments, thus: "On the average the various employments of capital are on such a footing as to hold out, not equal profits, but equal expectations of profits to *persons of average abilities and advantages.*" But there can be no real comparison of managers in different employments any more than in the same employments, so far as their earnings of management are concerned.

* See Part II, chap. xxix.

plus of capital (A F) in the former over the latter should be transferred to create the equality, but only one half of it (A E). This is a process constantly going on between different trades. If furniture-men find a lively demand for their goods, while the demand for shoes is decidedly slack, the former will be frequent borrowers at the banks, while the latter will have less than their former need for loans. In this way the stream of capital seeking investment is diverted from industries where less capital is wanted to those where it is in greater demand.

241. **Exercises.**—1. In the mountains of Tennessee families make their own cloth, raise their own food, live practically under a system of barter, wages are generally paid in kind, and money is little used. Compare these industrial conditions with those of Pittsburg, Pennsylvania. Why is the industrial manager likely to be found in one of these places and not in the other?

2. Can you mention any large factory or institution in your neighborhood which has grown in size and prosperity chiefly through the skill of some one manager?

3. How do you explain the fact that men who have held the offices of Secretary of the Treasury, or Comptroller of the Currency, are sought for by banks as managers?

4. In a shoe factory, employing one thousand men of varying capacity, there is one manager controlling the whole. Why can not each of these one thousand men manage a factory equally well?

5. What just criticism could you make of the statement that, "when *profits* increase, wages suffer"? If, however, it were said that, of a given product, "when the manager's wages increase, other wages suffer," does that have any bearing on the question whether or not there is a "conflict of labor and capital"? Is the manager's share due to the ownership of capital?

6. If the rate of interest for the use of capital is falling, and yet the efficiency of modern processes of production tends to increase, thereby giving more to divide, can it be said that capital is receiving an increasing share? Between what classes, then, is the real contest going on for shares in this portion? Has every laborer a chance?

7. If trades unions refuse to admit ambitious men from lower occupations to their more highly-skilled trades, does that stand in the way of any laborer who wishes to fit himself so that he can stand higher up in the scale of industrial capacity, and so claim a larger share of the product? Yet, if the unions increase in numbers, will not that lower their wages?

8. Why is it that strikes made at times when the manufactured goods are falling in price are almost inevitably failures?

9. Are the wages of managers equal in the same employment? Are all managers in the same employment equally successful? Is the rate of interest for use of loaned capital generally the same to all the managers in the same employment?

CHAPTER XXIII.

WAGES AND PRICES.

242. IN studying the principles according to which the value of the product was governed, we found (Chapter XIII) that, where competition was free, two articles whose **costs of production** were the same would exchange equally for each other. But the cost of production means the sacrifice undergone in producing a thing. Men labor and save to make production possible. The exertions of labor and the abstinence required for the use of capital form the sacrifices in all production. In proportion to these sacrifices will commodities be exchanged for one another, or, in other words, when the sacrifices are the same, their value will be the same; so that, where competition is free, commodities will exchange for one another in proportion to their sacrifice in production. If a bag of potatoes requires two days' labor, and a bag of corn one day's labor (and the same capital is needed for each) in production, the bag of potatoes will tend to exchange for two bags of corn.

When commodities are produced in different groups, as in the case of corn and iron rails, and there is no free competition of labor and capital between the two different groups of industries, the exchange value depends not on the cost of production, but on reciprocal demand (see Chapter XV). We have seen that, when labor could not move readily between two industries, the same exertion might

be paid at different rates. If the demand for corn is strong, and that for iron rails is weak, then corn will exchange for more of iron rails than it would under other conditions. So the value, where competition is not free, varies according to the demand for the products of a given industry as compared with the demand of that industry for other products.

243. In connection with this brief review of the causes which give value to the product, let us recapitulate the parts into which this value is divided according to our principles of distribution. Corresponding to the various sacrifices there are sums given as remuneration for the sacrifices; for labor, wages, for capital, interest, etc. These remunerations, or sums into which the product is divided, may be usually found in the following form:

Item	Group
1. Payments for rent of buildings, ground-rent, etc.	"**Cost of labor**," or outlay, to the employer (1–6).
2. Taxes.	
3. Insurance.	
4. Machinery, tools, etc.	
5. Materials.	
6. Wages of workmen.	
7. Wages of manager.	"**Profits**" of employer (7, 8).
8. Interest on capital engaged (1–6).	

These various sums added together (1–8) may be properly called the **expenses of production** of a commodity. A certain sum is to be paid for given kinds of labor (determined as in Chapter XXI) and a certain sum for interest (see Chapter XIX). The expenses of production, being a concrete payment for the various sacrifices, when added together, make up the **price**. The value, or price, should, of course, cover all the expenses of production, if conditions are normal.

244. Under the industrial system now existing, the employer takes a position, as it were, between 6 and 7 in

the preceding list, facing 1-6, with 7 and 8 behind him. To him 1-6 are all in the nature of outlay.* Whatever he advances for buildings, machinery, materials, taxes, insurance, and wages for his workmen, he properly regards as an outlay which must be repaid to him out of the product. The product, in addition to returning the outlay (1-6), must also give him wages (7) and interest (8) on all the capital he advanced. For his outlay he gets a finished product from the laborers: he advances the capital in the form of wages, material, etc., and runs all the risks of failures, errors, and unexpected disasters like fire, explosion, war, etc. The manager, then, bends all his energies to see how this outlay can be made to bring the greatest return. The important matter to him is not the actual or absolute amount of the outlay, but the **relation of the outlay to the return.**† His return costs him what he gives as an outlay. Now, if the return increases without any change in his outlay, his "profits" (7 and 8) are larger; if his return diminishes, without any change in his outlay, then his "profits" are less. Also, if he were to increase his outlay, and thereby increase his return in greater proportion he would gain greater "profits" (wages and interest).

245. At first sight, this might make it appear that the interests of the employer and the workmen were directly opposed to one another, that what the employer gained the workmen lost, and what the workmen gained the employer lost—but this is not necessarily true. We can now see the importance of the truth that the **relation of the outlay to the return** is what the employer is most concerned about. Here is a manufacturer of calico who advances $80,000 during the year, of which $50,000 may be spent in wages; this is his outlay. He gets from his factory during the year 2,000,000 yards of calico, which he sells for five cents a yard, making his return $100,000. His "profits" (wages and interest) are then $20,000. But suppose he can so manage his factory and workmen that, with no more outlay, their efficiency is so greatly increased that they turn out 200,000 yards more of calico—perhaps because the machinery is run faster, or waste is saved, or the men work in better quarters. In that case the return is increased by $10,000. Thus the employer might be able to increase the wages of his workmen by $5,000, and yet increase his profits by $5,000. In this case his outlay is increased to $85,000, and his return to $110,000, so that his "profits" (wages and interest) are now $25,000. Here is a case, then, which illustrates that **increased efficiency in the processes and labor of production may raise both wages and "profits,"** without taking from the one at the expense of the other. It is consistent, moreover, with our statements that an increase in the value of the product will make possible an increase in the fund from which both wages and interest are paid (see section 203).

* Business men sometimes loosely speak of 1-6 as their "cost of production," meaning really the outlay, before they get their own "profits."

† This is the conception known to economists as "cost of labor" to the capitalist (cf. Mill, Book II, chap. xv, § 7).

246. In connection with efficiency of labor in production we must, of course, consider everything which tends to increase the return to a given amount of sacrifice, or exertion. The same farmer, with the same capital, can raise many more bushels of grain on the rich prairie-lands of the Western States than he can on the thin soil of New England; thus it is clear that **natural resources** have to be taken into account (see Chapter VIII). In fertile countries wages and profits can be higher than in those countries which are less favored by nature. It will be remembered here that this agrees with our results as to cost of production: where cost, or sacrifice, was low, wages were high (see section 131).

Above all, we must consider **inventions and machinery** as affecting efficiency of labor. If the sacrifice of a laborer, working with his hands, produces 1,000 yards of calico; and then, if, by the introduction of helpful machinery, the same laborer, in the same time, produces by its help 10,000 yards, the value to be divided between wages and interest will be greatly increased. So that labor-saving machinery, which allows more to be produced with less labor and sacrifice, increases the efficiency of labor, and makes higher wages possible. Those who have not studied the subject might say that other laborers are thrown out of employment. But, without arguing the principle, the facts in the United States are against this theory.* In 1890, as compared with 1860, the number of manufacturing establishments increased from 140,433 to 355,415; the capital engaged, from $1,009,855,715 to $6,525,156,486; the number of hands employed, from 1,311,246 to 4,712,622; and the total amount paid in wages, from $378,878,966 to $2,283,216,529. In this period, during which great improvements in machinery have been going on, not only were an increased number of workmen employed, but the wages paid were increased in a still greater ratio than the number of workmen. The reason of this has been explained (section 213). In the cotton-mills of Lowell in 1830, one operative produced 4,321 yards (standard sheetings) per year; but in 1884, because machinery had been wonderfully improved, he produced 28,032 yards. In 1830 his wages were $164 per year; in 1884, $290. Moreover, the hours of labor have fallen from 13 and 14 hours per day to 10 and 11 hours.

247. At the same time that efficiency of labor has increased the value of the product, and so increased wages, it has made possible a **fall in prices.** Between 1840 and 1883, cotton goods have fallen in price 22 per cent, although wages have increased 64 per cent. Referring to

* See United States Census, abstract for 1890, p. 141, and Compendium for 1880, pp. 928, 930.

our list of elements in the manufacturers' outlay (section 243), we can see that, even if wages (No. 6) rise, an increase of the product by a better use of their exertions with machinery and materials will compensate the manufacturer for the higher wages. An employer, therefore, has no opposition to high wages in themselves; he is most concerned with the results of the labor. He can pay high wages, if the labor is efficient. This also explains the fact that, when "business becomes dull," an employer prefers to discharge the poorest men, who are paid the least wages, and keep with him his best men, who are paid the highest wages. The highest paid laborer is usually the cheapest man. The workman who foolishly "makes work," by prolonging a task as long as possible, is a dear man, and is the first to be dropped in bad times.

We have thus seen that **prices are not necessarily high because wages are high.** The price of a certain thing can be low if many of that thing can be produced for no great sacrifice. Thus, in our western grain-fields, wages are high; but the price of a bushel of wheat is so low that we undersell Russia and India in the markets of Europe. This is because the labor and capital produces so many bushels in a joint effort that, although the price of one bushel is low, the value of the total product is great, and so a large share out of the product can go to both labor and capital.

248. It may happen that wages may be raised or lowered in a single industry and not in others. In such a case the change of **wages will affect the price;** but only because the change is not universal over all industries. For (in section 243), in the items entering into the expenses of production of a commodity, one is wages; and the price has been supposed to cover the expenses of production. Now, if by a strike or other cause the employers in a certain industry were obliged to pay higher wages

for the same efficiency, they would make an increased "outlay" for the same old return. They would, therefore, raise the prices of their particular commodity. In Cambridge, a strike of horse-car employés for higher wages once caused a rise in the price of a ticket from five cents to six; the increase of wages being taken from the patrons of the road, rich and poor, not from the pockets of the company. If such a process were to be followed equally in all other industries, if wages were to be raised proportionally in all industries, then the price of every commodity would be raised proportionally to every other, and no producer would be any better off. For it makes no difference whether A sells his commodity for five cents, and buys another from B for five cents, or whether A raises the price of his goods to six cents, and B does the same, and then they exchange their goods for one another. They would be exactly where they were before. Just in proportion as A raised his price, would he be obliged to pay more for everything else he bought, and his expenses would be increased accordingly. If all laborers, in all industries, receive higher wages, the values of commodities relatively to one another will not be changed, and their relation to the single commodity money, or their prices, will accordingly not be changed. In fact, however, a change of wages is never universal, but affects one industry or one district at a time; so that the rise of wages, unaccompanied by an increase of efficiency, is usually followed by a rise of price for the article affected by the change.

249. **Exercises.**—1. Do wheat and iron exchange between England and the United States according to their costs of production (i. e., sacrifices)? Is there free competition (i. e., free movement of labor and capital) between the two countries?

2. If the price of steel rails should fall temporarily below the expenses of production, what would be the effect on the supply? If the price rose above the expenses of production?

3. Are there any reasons why it is an advantage to an employer to make his workmen feel contented, or to see them grow in intelligence?

4. Should laborers feel that machinery is hostile to their interests?

5. Laborers on railway embankments in India were paid, according to Mr. Brassey, from 9 to 12 cents a day, but in England from 75 to 87 cents a day, and yet the expense of building a mile of railway was about the same in the two places. How do you account for this?

6. If wages are high in agriculture in the United States, and yet prices of agricultural products are so low that we can undersell European countries, what must be the natural conclusion in regard to other industries than agriculture which can not sell at low prices and also pay high wages? Are these other industries as productive?

7. The late fall of silver considerably cheapened the material used in making silverware, but the rate of wages paid in this industry was increased at about the same time, and prices of the ware remain about the same as before. Has the "cost of labor" to the capitalist, or employer's outlay, remained the same?

8. If wages of shoemakers rise while those of bakers do not, what will be the effect on the relative prices of shoes and bread?