

## CHAPTER II — LABOUR

### I. THE PART PLAYED BY LABOUR IN PRODUCTION

To accomplish its purposes, and principally to satisfy the needs of its existence, every living being must perform a certain amount of work. The seed itself works to raise the crust of hardened earth that covers it, so as to come through and breathe the air and light. The oyster, fastened to its bed, opens and closes its shell to draw food from the water that surrounds it. The spider spins its web; the fox and the wolf go in search of prey. Nor is man exempt from this universal law: he also must make persevering efforts in order to satisfy his needs. In plants this effort is unconscious; in animals it is instinctive; in man it has become a deliberate act, and is called *labour*.

But are there not some kinds of wealth that man can obtain without labour — wealth that nature generously bestows upon him? That is a difficult question.

First of all it must be observed that there is not one single object among those that are called *products* that does not in some measure presuppose the intervention of labour. The very etymology of the word *product*, from *productum*, “drawn forth,” shows this. For how could anything have been thus drawn forth, except by the hand of man? If fruits are to serve for the satisfaction of our wants, man must yet take the trouble to gather them — even those that nature herself gives us, such as the bread-fruit, bananas, dates, and all the crustaceans and shell-fish that the Italians call “sea fruit.” And fruit-picking is certainly a kind of labour which may become very troublesome.

It must also be noticed that people seldom realize what a considerable part labour plays even in the creation of those products that are often very inaccurately described as “natural.” They are inclined to think, for instance, that everything that grows on the earth — cereals, vegetables, and fruit — is due to the generosity of the earth, *magna parens frugum*.<sup>1</sup> As a matter of fact, most of the plants that supply man with food have been, if not created, yet so

<sup>1</sup> Xenophon saw things more truly when he said: “The gods sell us all kinds of goods at the price of our labour.”

modified by cultivation and by the labour of hundreds of generations that botanists have so far been unable to discover their original types. Wheat, maize, lentils, and beans have nowhere been discovered in a wild state. Even the kinds that are found growing wild are extraordinarily different from their cultivated relatives. They have had first to be brought from the four corners of the earth, and then subjected to centuries of acclimatization.<sup>1</sup> Between the sour berries of the wild vine and our bunches of grapes, between the succulent fruits and vegetables of our gardens and orchards and the tough roots and bitter and sometimes poisonous berries of the wild varieties, the difference is so great that these fruits and vegetables might well be regarded as artificial products, actually created by the industry of man. This is proved by the fact that if the unceasing labour of cultivation is relaxed for a few years, these products swiftly degenerate, as it is called — which simply means that they go back to the wild state and lose all the properties with which human industry has endowed them.

Now there are certain observations to be made even about those forms of wealth which are not “products” because they exist before any act of production takes place. Such are the earth, in the first place, and all the organic and inorganic substances with which it supplies us: the bubbling spring of water or petroleum, the growing forest, the natural grass land, the stone quarry, the coal or metal mine, the waterfall that turns the mill-wheel or the turbine, the guano bed deposited by sea-birds, the fishery teeming with fish, shell-fish, or coral. Of these things it must be said:

(1) That this natural wealth does not exist as wealth, that is to say, as useful and valuable objects, until human intelligence has discovered its existence, and especially its *utility* — the properties which make it fit to satisfy some one or other of our wants (see above, p. 38).

(2) That this natural wealth cannot be utilized — cannot serve to satisfy human wants — until it has been subjected to a certain amount of labour. Virgin soil cannot be utilized until it has been cleared; a mineral spring is useless until the water is collected and bottled; mushrooms and shell-fish must be gathered or caught — a more or less laborious process — and must certainly also receive some preparation in the way of cooking.

Yet, after doing labour the justice of recognizing that it is never

<sup>1</sup> The potato comes from Chile, the tomato from Peru, the peach from Persia, the cherry from Asia Minor, etc.; and how different they are from their rude ancestors! The origin of many others is unknown, because the original species have disappeared.

entirely absent when wealth is created — even so-called natural wealth, — we must not conclude that the *value* of this wealth is proportional to the amount of labour expended on it. This view we have already explained and criticized. When, for instance, somewhere in the Caucasus or the Far West of America, an oil-well worth millions is discovered by a lucky boring, it would be absurd to contend that this stream of gold is the produce of labour.

## II. HOW LABOUR PRODUCES

We must distinguish three varieties of labour:

(1) *Bodily* labour, which is generally, but not necessarily, manual labour, is indispensable for the production of all material wealth, for, as we have just said, the raw material of all wealth must always be transformed, or at any rate extracted. And in this transformation the hand of man is the initial agent, though not the only one.<sup>1</sup>

The wonderful and infinitely various actions proceeding from this hand are almost miraculous. Yet man has no fairy's fingers. His hands and his limbs are nothing but muscular force directed by intelligence, so they can only produce the same effect as any other motive force, namely, a change of place.<sup>2</sup>

This movement or change of place may be either a *change in the position of the object itself*, or a *change in the position of its constituent parts*. In the latter case we say that the object has undergone a "transformation," or change of form; but every transformation is really only a displacement. The exquisite shapes assumed by clay under the hand of the potter or the sculptor, the rich and ingenious patterns wrought by the fingers of the lace-maker, are only the effects produced by the displacement of particles of clay or threads of textile material. All that man's labour can do is to move, separate, invert, superpose, and arrange — movements, all of them. Take the production of bread, for example. Consider the various actions involved: ploughing, sowing, reaping, winnowing, grinding, sifting, kneading, putting into the oven — and you will see that they all represent nothing but various movements or displacements imposed upon matter. But as regards the actual transformations that take place in the constitution of the bodies dealt with, modifying

<sup>1</sup> Though man has less muscular strength than animals, he generally has more dexterity, and he owes this especially (as the word itself indicates, coming from *dextra*, the right hand) to that marvellous organ, the hand, with the thumb placed opposite to the fingers.

<sup>2</sup> The work of nature also probably consists ultimately in movement; but this is a matter for the physicist.

their physical or chemical properties and thereby assisting in production — the mysterious development of a plant out of a seed; the fermentation that turns a sugary syrup into alcohol; the chemical reactions that make iron and carbon into steel — these have nothing to do with manual labour. All that man does is to put the materials in the right place: the seed in the ground, the grapes in the vat, the ore in the blast furnace; and nature does the rest.

When we consider how feeble is this motive power of man, and how limited is its field of action, we shall be the more astonished that it has been sufficient to transform the world. Nor must it be thought that man knows by the light of nature how to use his hands for working: it has required centuries of apprenticeship, and much still remains to be learned.<sup>1</sup>

Immaterial products, or services (see above, p. 87), do not generally involve manual labour, but they always involve *bodily* labour, that is to say, the work of other organs than the hand. For barristers, teachers, and actors this organ is the voice; for doctors, sailors, artists, and writers it is the eyesight; for the country postman it is the legs. But physical fatigue may be just as great in these cases as in manual labour.

(2) The labour of *invention* is purely intellectual, but it is no less indispensable to production than manual labour, for every single thing utilized by man, and every single productive process must have been invented. It is owing to invention that the inheritance of mankind is extended every day by some new conquest. From the clay that makes the mud of our streets, industry produces that solid, light, and glittering metal that we call aluminium; and the worthless residue of coal is converted by industry into perfumes and into colours more splendid than Tyrian purple. Yet, even so, the list of things that we know how to utilize is short indeed, compared with the immense number of things of which we make no use. Out of the 140,000 known varieties of the vegetable kingdom, less than 300 are cultivated; and out of the hundreds of thousands of species in the animal kingdom there are barely 200 that we have learned to utilize.<sup>2</sup> And even among the mammals, our nearest relations, there are hardly a score that we utilize, whether for food, for labour, or for company. In the inorganic world the proportion is no more favourable. But the catalogue of our riches grows longer every day, and there is every reason to believe that if our knowledge

<sup>1</sup> According to the American engineer, Taylor, man does not even yet know how to work. For the Taylor method, see my *Political Economy*.

<sup>2</sup> De Candolle, *Origine des plantes cultivées*, p. 366.

were perfect there would not be a single blade of grass or grain of sand in the whole wide world for which we had not discovered some use.

Nor is it only wealth that has to be discovered; it is also the way to transform and utilize it. That is to say, manual labour itself in all its forms — each movement of a weaver's fingers or a blacksmith's arm — has had to be invented by the first craftsman. And it must not be thought that in this domain invention ever completely stops: it is involved in the humblest labour, preventing it from crystallizing into routine. Invention, in the economic sense of the word, is not the brain-wave of a man of genius,<sup>1</sup> but simply the adapting of new means to any end whatever. According to Hobson, the mechanical loom as it exists to-day is the accumulated result of 800 small and detailed inventions.

It should be noted that every invention, once made, is privileged to serve for an indefinite number of productive acts — or rather, reproductive acts. It is just this that makes it so difficult for the legislator to protect the property rights of inventors.

(3) Finally, every productive undertaking, whenever it is carried on collectively and not in isolation, requires the labour of *organization and direction*. This is itself a very effective form of labour, the importance of which increases as industry in our modern societies becomes conducted on an increasingly large scale. It is one of the best known and most important characteristics of labour that its efficiency is increased by combination, in the sense that three workers working together can produce more than three times the produce of one. But this is by no means the same as saying that increasing the number of units in the group is sufficient to obtain a more than proportionally larger product. When we harness ten or twelve horses together, the resulting power is far from being superior, or even equal, to the sum of their individual forces. In every undertaking there is an *optimum* number of workers, relatively to the given conditions, neither more nor less. Collective labour, therefore, can only be superior to individual labour in so far as it is organized and commanded. Moreover, you will scarcely find anyone nowadays, even among manual workers, who thinks that this kind of labour — the labour of the industrial leader — is worth less than the labour of execution.

<sup>1</sup> If we think of Buffon's statement that "genius is prolonged patience," and remember the lives of the great inventors, we shall be more inclined to recognize that invention is only one form of labour.

### III. THE EVOLUTION OF IDEAS CONCERNING THE PRODUCTIVENESS OF LABOUR

The history of this term "productive" is an interesting one. Applied at first to one particular kind of labour, it has gradually been extended in its application, and is now bestowed indiscriminately on all kinds. It is interesting also to follow the succession of economic doctrines on this subject.

(1) The physiocrats confined the term "productive" to *agricultural* labour (including hunting and fishing), and denied it to all other labour, even that of manufacturing. The reason given for this discrimination was not only that these agricultural industries supply the materials of all wealth — materials which other industries merely work up, which is quite true, — but especially that these industries are the only ones in which nature works in conjunction with man — that nature alone can create a "net product," which is not true.

(2) The definition of the physiocrats was unquestionably too narrow. The raw materials supplied to us by the agricultural and extractive industries are generally altogether unfit for our consumption, and have to undergo numerous modifications which constitute the precise task of the *manufacturing* industries. The latter are therefore the indispensable complement of the former, and without them the productive process is as incomplete as a play with the third act suppressed. Of what use is the ore at the mouth of the mine, unless it is to be taken on to the smelting-house first, and then to the forge? Of what use is the wheat before it has passed through the hands of the miller and the baker? Without the labour of the weaver, flax would be as useless as the nettle. What right have we, then, to refuse these labours the title "productive," since without them these kinds of wealth would be useless to us — would not even be wealth at all?

As for the contention that extractive and agricultural industries *create* wealth, while manufacturing industry only *transforms* it, this also is a mistake. The farmer creates nothing, any more than the manufacturer. All that he too does is to transform the simple substances drawn from the soil and the air. He makes wheat out of water, potash, silica, phosphates, and nitrates, exactly as the soap-maker makes soap out of soda and fat.

Ever since the time of Adam Smith, therefore, no economist has hesitated to extend the term "productive" to include the labour of manufacture. At the same time there is a certain portion of

truth in the physiocratic doctrine, and this must be retained. This is the fact that agriculture occupies the front rank among the various kinds of labour, simply because food takes the first place among our various needs; agriculture cannot with impunity be sacrificed or neglected, as belligerent countries have learned from bitter experience.

(3) With regard to the labour of *transport* there has been more hesitation, because transport seems to make no change in the object transported. Is not a package of goods the same at the arrival station as it was at the station of departure? In that fact, it was said, lay a characteristic difference between transport and manufacture.

This distinction is scarcely philosophical, for every displacement involves an essential modification of the thing displaced. Strictly speaking it is even the only modification that we can make in matter, as we have already seen (p. 87). Besides, if we consider that displacement is not a sufficiently essential modification to entitle it to be called productive, then we must refuse to call the extractive industries productive. For what difference is there between the work of the miner who transports coal or ore from the bottom of the shaft to the surface, and that of the carman who transports it from the mine to the factory — unless we contend that displacement is productive when it takes place vertically and not when it takes place horizontally? Is it necessary to observe, then, that just as manufacturing industry is the indispensable complement of agricultural and extractive industries, so the transport industry is the indispensable complement of these preceding ones? What would be the use of stripping off the bark of the cinchona or tapping the rubber trees in the forests of Brazil, of digging guano on the islands of Peru, of hunting for elephants' tusks in South Africa, if there were no carriers and sailors to transport these products to the places where they could be utilized? Of what use to a landowner is the finest crop in the world, if he cannot transport it for want of roads?

The late war, by cutting or hindering communications between the belligerents and the rest of the world, revealed the productive nature of transport in a terrible fashion, for the stoppage of transport was enough to bring great countries to the verge of famine. It was even possible to see populations suffering from the lack of certain kinds of wealth which yet existed in superabundance in their own countries, but which could not be transported owing either to the congestion or to the absence of railways. Notable examples of this were wheat in Russia, coal in Germany, and butter in Switzerland.

(4) With regard to *commerce*, hesitation was still more prolonged.

There is no doubt that the productive character of commercial operations can be justified by the simple fact that commerce is historically and logically inseparable from transport, and that the separation between them, as we shall see further on, came only at a late period. Even to-day merchants are still the real directors of transport: the carrying industries only execute their orders. Therefore, and since we have admitted that transport is an act of production, it seems that we must say the same of commerce.

But commerce does more than transport goods. Its business is to *store* them, and this is to some extent transporting them in time, as it were. It often also makes them undergo certain *transformations*: this is the case with the baker, the pastry-cook, the tailor, and the druggist — so much so, indeed, that statisticians are doubtful whether to class these people as manufacturers or merchants. But even among merchants properly so called, the wine merchant decants and dilutes and mixes his wines, the grocer roasts his coffee, and so on. So if we wanted to separate the trading from the manufacturing class we should not know where to draw the dividing line.

But the problem becomes harder when we are faced by a purely commercial action, in the definite legal sense of buying in order to sell again — such as dealings on the Stock Exchange, for instance — and still more in the case of the transfer of property without any change of place, such as the sale of real estate. Here the operation has become completely dematerialized, and those who hold that wealth can only be material (see above, p. 38) ought logically therefore to refuse to call such actions productive. But those who believe, as we do, that wealth consists of everything which meets our needs and gives us satisfaction, will not hesitate to call any operation an act of production if it makes the ownership of an object pass from the hands of one who can make no use of it, into the hands of one who both can and will. Why should it not be called productive, since the whole secret of production is *the making useful of something useless?* (See Book II, Chapter I.)

(5) Finally, it is the labour that consists only in services rendered, such as the *liberal professions*, that has given rise to the keenest discussion. It may seem strange, for example, to apply the term “productive” to the labour of the teacher of the piano, or of the surgeon who amputates a leg. Where are their products? Where is the wealth that they have created?

It is sufficient, however, to notice two things: (a) that if they do not create any material wealth they none the less create utilities.



in the form of services rendered; and that utility, not the material substance to which it may be attached, is the end and object of production; (b) that in the social organism, thanks to the law of division of labour to be explained later, there is such mutual dependence among all the labours of men that they cannot be separated, and immaterial services are an indispensable condition of the production of all material wealth.

Take, for example, the production of bread. No doubt we shall put in the front rank the manual labour of the ploughmen, sowers, reapers, carters, millers, and bakers. But it is obvious that the labour of the farmer or landowner, even if he never puts his hand to the plough, is no less useful in the production of wheat than that of the shepherd in the production of wool, even if he never shears a sheep himself. Nor can we ignore the labour of the engineer who plans the irrigation system, or the architect who puts up the farm buildings and barns. It would even be ungracious to forget the labour of the inventors, from some Triptolemus or other who invented the plough, down to his successors who discovered the different kinds of cereals, or manures, or the rotation of crops, or the methods of intensive cultivation.

Must we stop there? We might, undoubtedly; and it is here that many economists draw the line of demarcation between those kinds of labour which ought to be called productive because they add new utility to something, and the labour that consists solely in services rendered. But is the labour requisite for the production of wheat confined to agriculture? What about the labour of the policeman who keeps the thieves away, the lawyer who prosecutes them, the magistrate who sentences them, the soldier who protects the crops against hostile armies which are worse than thieves? Do not these also contribute to the production of wheat? And what is to be said of the labour of those who trained the farmer himself and his employees — the instructor who taught them the first principles of agriculture or the means of acquiring them, and the doctor who keeps them fit? Is it a matter of indifference, then, even from the point of view of wheat production alone, that the workers should be well taught and healthy, that they should enjoy order and security and the benefits of good government and good laws? Should we set aside, as having no bearing on the production of wheat, even such alien labours as those of authors, poets, and artists? Perhaps the taste for farming might be usefully developed in a community by those novelists who depict scenes of rural life, or the poets who

celebrate the delights of field labour, and teach us to repeat, with the author of the *Georgics*:

"O fortunatos nimium sua si bona norint  
Agricolas!"

Where, then, are we to stop? We see the circle of productive labour stretching away even to the utmost bounds of society, like the concentric rings that spread over the surface of the water from the central point that we have touched, and becoming lost in the distance. The various kinds of labour we have just considered do not certainly contribute in the same way to the production of wheat: some act directly, and others indirectly; but we can at all events affirm that none of them could be eliminated, from the labour of the ploughman up to that of the King, without causing the cultivation of wheat to suffer.

It must not be inferred, however, that all the kinds of labour we have just passed in review are equally important in the economic world. They are all necessary, but each one in its proper place. A country that had as many barristers as ploughmen, for instance, would be on the way to ruin.

The truth is that though every profession may be useful within the limits of the need that it satisfies, it becomes harmful beyond that limit, for then it degenerates into parasitism. What is wanted is *a right proportion between the effective strength of each professional group and the importance of the need that it has to satisfy*. Unfortunately this exact balance is far from being maintained in our civilized societies. Thus agricultural labour is becoming more and more neglected. That is a universal fact, and one that is as deplorable as it is universal. It is not so deplorable from the point of view of productiveness — for manual labour in agriculture may be replaced to some extent by machinery — as from that of the physical and moral health of the population, and even from the standpoint of political stability. France is still better off in this respect than most other countries, but this is simply because industry is relatively less developed there than elsewhere.

Again, when workers leave the land to enter factories there may be a gain in total production, apart from the drawbacks in other respects; but it is not the same when they leave agricultural labour to go in search of "a soft job" — and such is too frequently the case. We see the number of persons engaged in petty trade or in government employment increasing every day, and there is certainly some ground for the complaints that are made of the increase in

the number of these middlemen and officials, as well as the exorbitant tribute that is levied by both these classes on the product of the labour of the whole community.

#### IV. HARDSHIP AS A CONSTITUENT ELEMENT OF LABOUR

It is an indisputable fact that man will hardly ever work of his own accord, but only under the pressure of external causes, such as, in the case of children, punishments, prizes, and the instinct of emulation; and, for men, need, desire of gain, ambition, and professional distinction. Most men work with ardour only to hasten the time when they will be able to give up working. It must be concluded, therefore, that all productive labour involves a certain amount of *hardship*. This is a law of capital importance in political economy. If labour did not involve hardship, then, we may say, all economic phenomena would be different from what they are. neither slavery nor machinery, for instance, would ever have existed, since their only object is to dispense with a certain amount of labour.

But why is labour painful? It is not easy to say, although every one feels that it is so. Labour, after all, is only a form of human activity, and activity is by no means painful in itself. To act is to live, and absolute inaction is such atrocious torture that when it is too prolonged, as in solitary imprisonment, it either kills the prisoner or drives him mad.

Is it because labour always involves a certain amount of *effort*, and man is naturally an idle animal? This is not a sufficient explanation, for many forms of exercise that are regarded as pleasures — such as mountain-climbing, rowing, cycling, motoring, flying, and all kinds of games — demand more intense effort than work does, and yet many men are passionately devoted to them.

In games, however, the effort is voluntary and free: it seeks and finds satisfaction in itself alone; it is an end in itself. In work, on the other hand, the effort is imposed by the necessity of attaining a certain end, the satisfaction of some want. It is only the *antecedent condition of subsequent enjoyment*, — a “task,” as it is called, — and that is why it is painful. Between a boating man who rows for pleasure and a boatman who rows for his living, between an Alpine climber and the guide who accompanies him, between a girl who spends the night at a ball and a dancer who figures in a ballet, I can see only one difference: the first rows, climbs, or dances with the sole object of rowing, climbing, or dancing, while the others

do so to earn their living. But this difference is enough to cause the same forms of activity to be regarded by some as pleasures and by others as hardships. Thus Candide, Voltaire's hero, enjoyed cultivating his garden; but he would have disliked it if he had had to grow vegetables and go to market with them. The tourist who walks along a road merely for the sake of the walk finds pleasure in it, but the postman who tramps it morning and evening for a special purpose, always finds it long and wearisome. Now for almost the whole of the human race, labour is only the path they are compelled to follow by the necessity of earning a living: they work to live, and not for pleasure.

What proves that the painfulness of labour is due to its being compulsory, is that the hardship varies directly with the amount of constraint and inversely with the amount of freedom. It reached its maximum in the case of the Roman slave fastened to the hand-mill or chained to the bench of a galley; and it is still heavy for the wage-earner who has to earn his daily bread. It is felt at its lowest point by the peasant who tills his own land as a labour of love; by the chairman of a trust, directing a battle for thousands of millions of dollars, like a general commanding an army corps; and by the artist who conceives an idea and embodies it in marble or on canvas.

From this point it is but a step to the conclusion that work might be completely freed from its painful character under a social system in which the pressure of hunger and misery was no longer felt. And the majority of socialists have taken that step. *Attractive labour* was to be the central feature of the society that Fourier proposed to organize. He declared that the painfulness of work is simply due to the faulty organization of our modern societies. "If Louis XVI," said he, "could take delight in making locks, why could not all men likewise work for the pleasure of it?"

It must be admitted, indeed, that work will grow less and less painful as men become richer and more independent, because it will then more and more lose its character of a task imposed upon us by necessity, and become a free activity instead. Yet even if the law of labour should cease to be economically inevitable, it would remain a moral law, imposing upon us the duty of solidarity. Work, by its very definition, could only become a game when it *ceased to be productive of wealth*.

At present, however, every man who works is under the influence of two opposing forces: on one side there is the *desire to procure some kind of enjoyment*, and, on the other side, the *desire to avoid*

*the hardship that the labour inflicts upon him.* According as either of these motives outweighs the other, he will continue his work or abandon it.

As Jevons has ingeniously observed, the hardship endured by the worker goes on continually increasing as the work continues, whereas his expected satisfaction goes on continually diminishing as the most urgent of his needs begin to be met. Take the case of a worker drawing buckets of water from a well. His fatigue increases with each fresh bucket that he has to fill, while, on the other hand, the utility of each successive bucket diminishes (see p. 46). At which bucket will he stop? That depends to a certain extent on his power of resistance to fatigue, but chiefly on the scale of his wants. The Eskimo, who has no use for water except to quench his thirst, will stop at the first or second bucket; but the Dutchman, who feels the need of cleaning his house from top to bottom, will perhaps have to draw fifty buckets before he thinks he has enough.

In the same way the soldier, who has to carry all his baggage on his back, is obliged, before putting any new object in his pack, to set up a psychological balance between the additional enjoyment this object will give him, and the additional hardship entailed upon him by the extra weight. It is evident that this hardship goes on increasing as his knapsack fills, while the additional utility goes on diminishing, so that ultimately he is bound to reach a last object, as it were — the  $z$ th object — which will have to be abandoned, much to his regret, because it would *cost more than it is worth*.

If the stimulus of future wants is added to the stimulus of actually existing ones — if, for instance, in a land where water is scarce, the worker plans to fill a tank in anticipation of a drought — then productive activity may be increased to a marvellous extent. But this faculty of weighing an immediate hardship against a distant satisfaction — the faculty of *foresight* — belongs only to civilized races, and even to the well-to-do classes among them. The savage and the poor are alike improvident.