

BOOK IV

EFFECT OF MATERIAL PROGRESS UPON THE DISTRIBUTION OF WEALTH

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TERIAL PROGRESS

Hitherto, it is questionable if all the mechanical inventions yet made have lightened the day's toil of any human being.—
John Stuart Mill.

Do ye hear the children weeping, O my brothers,
Ere the sorrow comes with years?
They are leaning their young heads against their mothers,
And *that* cannot stop their tears.
The young lambs are bleating in the meadows;
The young birds are chirping in the nest;
The young fawns are playing with the shadows;
The young flowers are blowing toward the west—
But the young, young children, O, my brothers,
They are weeping bitterly!
They are weeping in the playtime of the others,
In the country of the free.

—*Mrs. Browning.*

CHAPTER I

THE DYNAMICS OF THE PROBLEM YET TO SEEK

In identifying rent as the receiver of the increased production which material progress gives, but which labor fails to obtain; in seeing that the antagonism of interests is not between labor and capital, as is popularly believed, but is in reality between labor and capital on the one side and land ownership on the other, we have reached a conclusion that has most important practical bearings. But it is not worth while to dwell on them now, for we have not yet fully solved the problem which was at the outset proposed. To say that wages remain low because rent advances is like saying that a steamboat moves because its wheels turn around. The further question is, What causes rent to advance? What is the force or necessity that, as productive power increases, distributes a greater and greater proportion of the produce as rent?

The only cause pointed out by Ricardo as advancing rent is the increase of population, which by requiring larger supplies of food necessitates the extension of cultivation to inferior lands, or to points of inferior production on the same lands, and in current works of other authors attention is so exclusively directed to the extension of production from superior to inferior lands as the cause of advancing rents that Mr. Carey (followed by Professor Perry and others) has imagined that he has overthrown the Ricardian theory of rent

by denying that the progress of agriculture is from better to worse lands.*

Now, while it is unquestionably true that the increasing pressure of population which compels a resort to inferior points of production will raise rents, and does raise rents, I do not think that all the deductions commonly made from this principle are valid, nor yet that it fully accounts for the increase of rent as material progress goes on. There are evidently other causes which conspire to raise rent, but which seem to have been wholly or partially hidden by the erroneous views as to the functions of capital and genesis of wages which have been current. To see what these are, and how they operate, let us trace the effect of material progress upon the distribution of wealth.

The changes which constitute or contribute to material progress are three: (1) increase in population; (2) improvements in the arts of production and exchange; and (3) improvements in knowledge, education, government, police, manners, and morals, so far as they increase the power of producing wealth. Material

* As to this, it may be worth while to say: (1) That the general fact, as shown by the progress of agriculture in the newer States of the Union and by the character of the land left out of cultivation in the older, is that the course of cultivation is from the better to the worse qualities of land. (2) That, whether the course of production be from the absolutely better to the absolutely worse lands or the reverse (and there is much to indicate that better or worse in this connection merely relates to our knowledge, and that future advances may discover compensating qualities in portions of the earth now esteemed most sterile), it is always, and from the nature of the human mind, *must* always tend to be, from land under existing conditions deemed better, to land under existing conditions deemed worse. (3) That Ricardo's law of rent does not depend upon the direction of the extension of cultivation, but upon the proposition that if land of a certain quality will yield something, land of a better quality will yield more.

progress, as commonly understood, consists of these three elements or directions of progression, in all of which the progressive nations have for some time past been advancing, though in different degrees. As, considered in the light of material forces or economies, the increase of knowledge, the betterment of government, etc., have the same effect as improvements in the arts, it will not be necessary in this view to consider them separately. What bearing intellectual or moral progress, merely as such, has upon our problem we may hereafter consider. We are at present dealing with material progress, to which these things contribute only as they increase wealth-producing power, and shall see their effects when we see the effect of improvements in the arts.

To ascertain the effects of material progress upon the distribution of wealth, let us, therefore, consider the effects of increase of population apart from improvement in the arts, and then the effect of improvement in the arts apart from increase of population.

CHAPTER II

THE EFFECT OF INCREASE OF POPULATION UPON THE DISTRIBUTION OF WEALTH

The manner in which increasing population advances rent, as explained and illustrated in current treatises, is that the increased demand for subsistence forces production to inferior soil or to inferior productive points. Thus, if, with a given population, the margin of cultivation is at 30, all lands of productive power over 30 will pay rent. If the population be doubled, an additional supply is required, which cannot be obtained without an extension of cultivation that will cause lands to yield rent that before yielded none. If the extension be to 20, then all the land between 20 and 30 will yield rent and have a value, and all land over 30 will yield increased rent and have increased value.

It is here that the Malthusian doctrine receives from the current elucidations of the theory of rent the support of which I spoke when enumerating the causes that have combined to give that doctrine an almost undisputed sway in current thought. According to the Malthusian theory, the pressure of population against subsistence becomes progressively harder as population increases, and although two hands come into the world with every new mouth, it becomes, to use the language of John Stuart Mill, harder and harder for the new hands to supply the new mouths. According to Ricardo's theory of rent, rent arises from the difference in productiveness of the lands in use, and as explained

by Ricardo and the economists who have followed him, the advance in rents which, experience shows, accompanies increasing population, is caused by the inability of procuring more food except at a greater cost, which thus forces the margin of population to lower and lower points of production, commensurately increasing rent. Thus the two theories, as I have before explained, are made to harmonize and blend, the law of rent becoming but a special application of the more general law propounded by Malthus, and the advance of rents with increasing population a demonstration of its resistless operation. I refer to this incidentally, because it now lies in our way to see the misapprehension which has enlisted the doctrine of rent in the support of a theory to which it in reality gives no countenance. The Malthusian theory has been already disposed of, and the cumulative disproof which will prevent the recurrence of a lingering doubt will be given when it is shown, further on, that the phenomena attributed to the pressure of population against subsistence would, under existing conditions, manifest themselves were population to remain stationary.

The misapprehension to which I now refer, and which, to a proper understanding of the effect of increase of population upon the distribution of wealth, it is necessary to clear up, is the presumption, expressed or implied in all the current reasoning upon the subject of rent in connection with population, that the recourse to lower points of production involves a smaller aggregate produce in proportion to the labor expended; though that this is not always the case is clearly recognized in connection with agricultural improvements, which, to use the words of Mill, are considered "as a partial relaxation of the bonds which confine the increase of population." But it is not involved even where there is no advance in the arts, and the recourse to lower points

of production is clearly the result of the increased demand of an increased population. For increased population, of itself, and without any advance in the arts, implies an increase in the productive power of labor. The labor of 100 men, other things being equal, will produce much more than one hundred times as much as the labor of one man, and the labor of 1,000 men much more than ten times as much as the labor of 100 men; and, so, with every additional pair of hands which increasing population brings, there is a more than proportionate addition to the productive power of labor. Thus, with an increasing population, there may be a recourse to lower natural powers of production, not only without any diminution in the average production of wealth as compared to labor, but without any diminution at the lowest point. If population be doubled, land of but 20 productiveness may yield to the same amount of labor as much as land of 30 productiveness could before yield. For it must not be forgotten (what often is forgotten) that the productiveness either of land or labor is not to be measured in any one thing, but in all desired things. A settler and his family may raise as much corn on land a hundred miles away from the nearest habitation as they could raise were their land in the center of a populous district. But in the populous district they could obtain with the same labor as good a living from much poorer land, or from land of equal quality could make as good a living after paying a high rent, because in the midst of a large population their labor would have become more effective; not, perhaps, in the production of corn, but in the production of wealth generally—or the obtaining of all the commodities and services which are the real object of their labor.

But even where there is a diminution in the productiveness of labor at the lowest point—that is to say,

where the increasing demand for wealth has driven production to a lower point of natural productiveness than the addition to the power of labor from increasing population suffices to make up for—it does not follow that the aggregate production, as compared with the aggregate labor, has been lessened.

Let us suppose land of diminishing qualities. The best would naturally be settled first, and as population increased production would take in the next lower quality, and so on. But, as the increase of population, by permitting greater economies, adds to the effectiveness of labor, the cause which brought each quality of land successively into cultivation would at the same time increase the amount of wealth that the same quantity of labor could produce from it. But it would also do more than this—it would increase the power of producing wealth on all the superior lands already in cultivation. If the relations of quantity and quality were such that increasing population added to the effectiveness of labor faster than it compelled a resort to less productive qualities of land, though the margin of cultivation would fall and rent would rise, the minimum return to labor would increase. That is to say, though wages as a proportion would fall, wages as a quantity would rise. The average production of wealth would increase. If the relations were such that the increasing effectiveness of labor just compensated for the diminishing productiveness of the land as it was called into use, the effect of increasing population would be to increase rent by lowering the margin of cultivation without reducing wages as a quantity, and to increase the average production. If we now suppose population still increasing, but, between the poorest quality of land in use and the next lower quality, to be a difference so great that the increased power of labor which comes with the increased population that brings it into

cultivation cannot compensate for it—the minimum return to labor will be reduced, and with the rise of rents, wages will fall, not only as a proportion, but as a quantity. But unless the descent in the quality of land is far more precipitous than we can well imagine, or than, I think, ever exists, the average production will still be increased, for the increased effectiveness which comes by reason of the increased population that compels resort to the inferior quality of land attaches to all labor, and the gain on the superior qualities of land will more than compensate for the diminished production on the quality last brought in. The aggregate wealth production, as compared with the aggregate expenditure of labor, will be greater, though its distribution will be more unequal.

Thus, increase of population, as it operates to extend production to lower natural levels, operates to increase rent and reduce wages as a proportion, and may or may not reduce wages as a quantity; while it seldom can, and probably never does, reduce the aggregate production of wealth as compared with the aggregate expenditure of labor, but on the contrary increases, and frequently largely increases it.

But while the increase of population thus increases rent by lowering the margin of cultivation, it is a mistake to look upon this as the only mode by which rent advances as population grows. Increasing population increases rent, without reducing the margin of cultivation; and notwithstanding the dicta of such writers as McCulloch, who assert that rent would not arise were there an unbounded extent of equally good land, increases it without reference to the natural qualities of land, for the increased powers of co-operation and exchange which come with increased population are equivalent to—nay, I think we can say without metaphor, that they give—an increased capacity to land.

I do not mean to say merely that, like an improvement in the methods or tools of production, the increased power which comes with increased population gives to the same labor an increased result, which is equivalent to an increase in the natural powers of land; but that it brings out a superior power in labor, which is localized on land—which attaches not to labor generally, but only to labor exerted on particular land; and which thus inheres in the land as much as any qualities of soil, climate, mineral deposit, or natural situation, and passes, as they do, with the possession of the land.

An improvement in the method of cultivation which, with the same outlay, will give two crops a year in place of one, or an improvement in tools and machinery which will double the result of labor, will manifestly, on a particular piece of ground, have the same effect on the produce as a doubling of the fertility of the land. But the difference is in this respect—the improvement in method or in tools can be utilized on any land; but the improvement in fertility can be utilized only on the particular land to which it applies. Now, in large part, the increased productiveness of labor which arises from increased population can be utilized only on particular land, and on particular land in greatly varying degrees.

Here, let us imagine, is an unbounded savannah, stretching off in unbroken sameness of grass and flower, tree and rill, till the traveler tires of the monotony. Along comes the wagon of the first immigrant. Where to settle he cannot tell—every acre seems as good as every other acre. As to wood, as to water, as to fertility, as to situation, there is absolutely no choice, and he is perplexed by the embarrassment of richness. Tired out with the search for one place that is better than another, he stops—somewhere, anywhere—and starts to make himself a home. The soil is virgin and rich, game is abundant, the streams flash with the finest trout.

Nature is at her very best. He has what, were he in a populous district, would make him rich; but he is very poor. To say nothing of the mental craving, which would lead him to welcome the sorriest stranger, he labors under all the material disadvantages of solitude. He can get no temporary assistance for any work that requires a greater union of strength than that afforded by his own family, or by such help as he can permanently keep. Though he has cattle, he cannot often have fresh meat, for to get a beefsteak he must kill a bullock. He must be his own blacksmith, wagonmaker, carpenter, and cobbler—in short, a “jack of all trades and master of none.” He cannot have his children schooled, for, to do so, he must himself pay and maintain a teacher. Such things as he cannot produce himself, he must buy in quantities and keep on hand, or else go without, for he cannot be constantly leaving his work and making a long journey to the verge of civilization; and when forced to do so, the getting of a vial of medicine or the replacement of a broken auger may cost him the labor of himself and horses for days. Under such circumstances, though nature is prolific, the man is poor. It is an easy matter for him to get enough to eat; but beyond this, his labor will suffice to satisfy only the simplest wants in the rudest way.

Soon there comes another immigrant. Although every quarter section of the boundless plain is as good as every other quarter section, he is not beset by any embarrassment as to where to settle. Though the land is the same, there is one place that is clearly better for him than any other place, and that is where there is already a settler and he may have a neighbor. He settles by the side of the first comer, whose condition is at once greatly improved, and to whom many things are now possible that were before impossible, for two men may help each other to do things that one man could never do.

Another immigrant comes, and, guided by the same attraction, settles where there are already two. Another, and another, until around our first comer there are a score of neighbors. Labor has now an effectiveness which, in the solitary state, it could not approach. If heavy work is to be done, the settlers have a log-rolling, and together accomplish in a day what singly would require years. When one kills a bullock, the others take part of it, returning when they kill, and thus they have fresh meat all the time. Together they hire a school-master, and the children of each are taught for a fractional part of what similar teaching would have cost the first settler. It becomes a comparatively easy matter to send to the nearest town, for some one is always going. But there is less need for such journeys. A blacksmith and a wheelwright soon set up shops, and our settler can have his tools repaired for a small part of the labor it formerly cost him. A store is opened and he can get what he wants as he wants it; a post-office, soon added, gives him regular communication with the rest of the world. Then come a cobbler, a carpenter, a harness-maker, a doctor; and a little church soon arises. Satisfactions become possible that in the solitary state were impossible. There are gratifications for the social and the intellectual nature—for that part of the man that rises above the animal. The power of sympathy, the sense of companionship, the emulation of comparison and contrast, open a wider, and fuller, and more varied life. In rejoicing, there are others to rejoice; in sorrow, the mourners do not mourn alone. There are husking bees, and apple parings, and quilting parties. Though the ballroom be unplastered and the orchestra but a fiddle, the notes of the magician are yet in the strain, and Cupid dances with the dancers. At the wedding, there are others to admire and enjoy; in the house of death, there are watchers; by the open

grave, stands human sympathy to sustain the mourners. Occasionally, comes a straggling lecturer to open up glimpses of the world of science, of literature, or of art; in election times, come stump speakers, and the citizen rises to a sense of dignity and power, as the cause of empires is tried before him in the struggle of John Doe and Richard Roe for his support and vote. And, by and by, comes the circus, talked of months before, and opening to children whose horizon has been the prairie, all the realms of the imagination—princes and princesses of fairy tale, mail-clad crusaders and turbaned Moors, Cinderella's fairy coach, and the giants of nursery lore; lions such as crouched before Daniel, or in circling Roman amphitheater tore the saints of God; ostriches who recall the sandy deserts; camels such as stood around when the wicked brethren raised Joseph from the well and sold him into bondage; elephants such as crossed the Alps with Hannibal, or felt the sword of the Maccabees; and glorious music that thrills and builds in the chambers of the mind as rose the sunny dome of Kubla Khan.

Go to our settler now, and say to him: "You have so many fruit trees which you planted; so much fencing, such a well, a barn, a house—in short, you have by your labor added so much value to this farm. Your land itself is not quite so good. You have been cropping it, and by and by it will need manure. I will give you the full value of all your improvements if you will give it to me, and go again with your family beyond the verge of settlement." He would laugh at you. His land yields no more wheat or potatoes than before, but it does yield far more of all the necessaries and comforts of life. His labor upon it will bring no heavier crops, and, we will suppose, no more valuable crops, but it will bring far more of all the other things for which men work. The presence of other settlers—the

increase of population—has added to the productiveness, in these things, of labor bestowed upon it, and this added productiveness gives it a superiority over land of equal natural quality where there are as yet no settlers. If no land remains to be taken up, except such as is as far removed from population as was our settler's land when he first went upon it, the value or rent of this land will be measured by the whole of this added capability. If, however, as we have supposed, there is a continuous stretch of equal land, over which population is now spreading, it will not be necessary for the new settler to go into the wilderness, as did the first. He will settle just beyond the other settlers, and will get the advantage of proximity to them. The value or rent of our settler's land will thus depend on the advantage which it has, from being at the center of population, over that on the verge. In the one case, the margin of production will remain as before; in the other, the margin of production will be raised.

Population still continues to increase, and as it increases so do the economies which its increase permits, and which in effect add to the productiveness of the land. Our first settler's land, being the center of population, the store, the blacksmith's forge, the wheelwright's shop, are set up on it, or on its margin, where soon arises a village, which rapidly grows into a town, the center of exchanges for the people of the whole district. With no greater agricultural productiveness than it had at first, this land now begins to develop a productiveness of a higher kind. To labor expended in raising corn, or wheat, or potatoes, it will yield no more of those things than at first; but to labor expended in the subdivided branches of production which require proximity to other producers, and, especially, to labor expended in that final part of production, which consists in distribution, it will yield much larger returns.

The wheat-grower may go further on, and find land on which his labor will produce as much wheat, and nearly as much wealth; but the artisan, the manufacturer, the storekeeper, the professional man, find that their labor expended here, at the center of exchanges, will yield them much more than if expended even at a little distance away from it; and this excess of productiveness for such purposes the land owner can claim just as he could an excess in its wheat-producing power. And so our settler is able to sell in building lots a few of his acres for prices which it would not bring for wheat-growing if its fertility had been multiplied many times. With the proceeds, he builds himself a fine house, and furnishes it handsomely. That is to say, to reduce the transaction to its lowest terms, the people who wish to use the land build and furnish the house for him, on condition that he will let them avail themselves of the superior productiveness which the increase of population has given the land.

Population still keeps on increasing, giving greater and greater utility to the land, and more and more wealth to its owner. The town has grown into a city—a St. Louis, a Chicago or a San Francisco—and still it grows. Production is here carried on upon a great scale, with the best machinery and the most favorable facilities; the division of labor becomes extremely minute, wonderfully multiplying efficiency; exchanges are of such volume and rapidity that they are made with the minimum of friction and loss. Here is the heart, the brain, of the vast social organism that has grown up from the germ of the first settlement; here has developed one of the great ganglions of the human world. Hither run all roads, hither set all currents, through all the vast regions round about. Here, if you have anything to sell, is the market; here, if you have anything to buy, is the largest and the choicest stock. Here intel-

lectual activity is gathered into a focus, and here springs that stimulus which is born of the collision of mind with mind. Here are the great libraries, the storehouses and granaries of knowledge, the learned professors, the famous specialists. Here are museums and art galleries, collections of philosophical apparatus, and all things rare, and valuable, and best of their kind. Here come great actors, and orators, and singers, from all over the world. Here, in short, is a center of human life, in all its varied manifestations.

So enormous are the advantages which this land now offers for the application of labor, that instead of one man with a span of horses scratching over acres, you may count in places thousands of workers to the acre, working tier on tier, on floors raised one above the other, five, six, seven and eight stories from the ground, while underneath the surface of the earth engines are throbbing with pulsations that exert the force of thousands of horses.

All these advantages attach to the land; it is on this land and no other that they can be utilized, for here is the center of population—the focus of exchanges, the market place and workshop of the highest forms of industry. The productive powers which density of population has attached to this land are equivalent to the multiplication of its original fertility by the hundred fold and the thousand fold. And rent, which measures the difference between this added productiveness and that of the least productive land in use, has increased accordingly. Our settler, or whoever has succeeded to his right to the land, is now a millionaire. Like another Rip Van Winkle, he may have lain down and slept; still he is rich—not from anything he has done, but from the increase of population. There are lots from which for every foot of frontage the owner may draw more than an average mechanic

can earn; there are lots that will sell for more than would suffice to pave them with gold coin. In the principal streets are towering buildings, of granite, marble, iron, and plate glass, finished in the most expensive style, replete with every convenience. Yet they are not worth as much as the land upon which they rest—the same land, in nothing changed, which when our first settler came upon it had no value at all.

That this is the way in which the increase of population powerfully acts in increasing rent, whoever, in a progressive country, will look around him, may see for himself. The process is going on under his eyes. The increasing difference in the productiveness of the land in use, which causes an increasing rise in rent, results not so much from the necessities of increased population compelling the resort to inferior land, as from the increased productiveness which increased population gives to the lands already in use. The most valuable lands on the globe, the lands which yield the highest rent, are not lands of surpassing natural fertility, but lands to which a surpassing utility has been given by the increase of population.

The increase of productiveness or utility which increase of population gives to certain lands, in the way to which I have been calling attention, attaches, as it were, to the mere quality of extension. The valuable quality of land that has become a center of population is its superficial capacity—it makes no difference whether it is fertile, alluvial soil like that of Philadelphia; rich bottom land like that of New Orleans; a filled-in marsh like that of St. Petersburg, or a sandy waste like the greater part of San Francisco.

And where value seems to arise from superior natural qualities, such as deep water and good anchorage, rich deposits of coal and iron, or heavy timber, observation also shows that these superior qualities are brought out,

rendered tangible, by population. The coal and iron fields of Pennsylvania, that to-day are worth enormous sums, were fifty years ago valueless. What is the efficient cause of the difference? Simply the difference in population. The coal and iron beds of Wyoming and Montana, which to-day are valueless, will, in fifty years from now, be worth millions on millions, simply because, in the meantime, population will have greatly increased.

It is a well provisioned ship, this on which we sail through space. If the bread and beef above decks seem to grow scarce, we but open a hatch and there is a new supply, of which before we never dreamed. And very great command over the services of others comes to those who as the hatches are opened are permitted to say, "This is mine!"

To recapitulate: The effect of increasing population upon the distribution of wealth is to increase rent, and consequently to diminish the proportion of the produce which goes to capital and labor, in two ways: First, By lowering the margin of cultivation. Second, By bringing out in land special capabilities otherwise latent, and by attaching special capabilities to particular lands.

I am disposed to think that the latter mode, to which little attention has been given by political economists, is really the more important. But this, in our inquiry, is not a matter of moment.

CHAPTER III

THE EFFECT OF IMPROVEMENTS IN THE ARTS UPON THE DISTRIBUTION OF WEALTH

Eliminating improvements in the arts, we have seen the effects of increase of population upon the distribution of wealth. Eliminating increase of population, let us now see what effect improvements in the arts of production have upon distribution.

We have seen that increase of population increases rent, rather by increasing the productiveness of labor than by decreasing it. If it can now be shown that, irrespective of the increase of population, the effect of improvements in methods of production and exchange is to increase rent, the disproof of the Malthusian theory—and of all the doctrines derived from or related to it—will be final and complete, for we shall have accounted for the tendency of material progress to lower wages and depress the condition of the lowest class, without recourse to the theory of increasing pressure against the means of subsistence.

That this is the case will, I think, appear on the slightest consideration.

The effect of inventions and improvements in the productive arts is to save labor—that is, to enable the same result to be secured with less labor, or a greater result with the same labor.

Now, in a state of society in which the existing power of labor served to satisfy all material desires, and there was no possibility of new desires being called forth by

the opportunity of gratifying them, the effect of labor-saving improvements would be simply to reduce the amount of labor expended. But such a state of society, if it can anywhere be found, which I do not believe, exists only where the human most nearly approaches the animal. In the state of society called civilized, and which in this inquiry we are concerned with, the very reverse is the case. Demand is not a fixed quantity, that increases only as population increases. In each individual it rises with *his* power of getting the things demanded. Man is not an ox, who, when he has eaten his fill, lies down to chew the cud; he is the daughter of the horse leech, who constantly asks for more. "When I get some money," said Erasmus, "I will buy me some Greek books and afterward some clothes." The amount of wealth produced is nowhere commensurate with the desire for wealth, and desire mounts with every additional opportunity for gratification.

This being the case, the effect of labor-saving improvements will be to increase the production of wealth. Now, for the production of wealth, two things are required—labor and land. Therefore, the effect of labor-saving improvements will be to extend the demand for land, and wherever the limit of the quality of land in use is reached, to bring into cultivation lands of less natural productiveness, or to extend cultivation on the same lands to a point of lower natural productiveness. And thus, while the primary effect of labor-saving improvements is to increase the power of labor, the secondary effect is to extend cultivation, and, where this lowers the margin of cultivation, to increase rent. Thus, where land is entirely appropriated, as in England, or where it is either appropriated or is capable of appropriation as rapidly as it is needed for use, as in the United States, the ultimate effect of labor-saving ma-

chinery or improvements is to increase rent without increasing wages or interest.

It is important that this be fully understood, for it shows that effects attributed by current theories to increase of population are really due to the progress of invention, and explains the otherwise perplexing fact that labor-saving machinery everywhere fails to benefit laborers.

Yet, to grasp fully this truth, it is necessary to keep in mind what I have already more than once adverted to—the interchangeability of wealth. I refer to this again, only because it is so persistently forgotten or ignored by writers who speak of agricultural production as though it were to be distinguished from production in general, and of food or subsistence as though it were not included in the term wealth.

Let me ask the reader to bear in mind, what has already been sufficiently illustrated, that the possession or production of any form of wealth is virtually the possession or production of any other form of wealth for which it will exchange—in order that he may clearly see that it is not merely improvements which effect a saving in labor directly applied to land that tend to increase rent, but all improvements that in any way save labor.

That the labor of any individual is applied exclusively to the production of one form of wealth is solely the result of the division of labor. The object of labor on the part of any individual is not the obtainment of wealth in one particular form, but the obtainment of wealth in all the forms that consort with his desires. And, hence, an improvement which effects a saving in the labor required to produce one of the things desired, is, in effect, an increase in the power of producing all the other things. If it take half a man's labor to keep him in food, and the other half to provide him clothing

and shelter, an improvement which would increase his power of producing food would also increase his power of providing clothing and shelter. If his desires for more or better food, and for more or better clothing and shelter, were equal, an improvement in one department of labor would be precisely equivalent to a like improvement in the other. If the improvement consisted in a doubling of the power of his labor in producing food, he would give one-third less labor to the production of food, and one-third more to the providing of clothing and shelter. If the improvement doubled his power to provide clothing and shelter, he would give one-third less labor to the production of these things, and one-third more to the production of food. In either case, the result would be the same—he would be enabled with the same labor to get one-third more in quantity or quality of all the things he desired.

And, so, where production is carried on by the division of labor between individuals, an increase in the power of producing one of the things sought by production in the aggregate adds to the power of obtaining others, and will increase the production of the others, to an extent determined by the proportion which the saving of labor bears to the total amount of labor expended, and by the relative strength of desires. I am unable to think of any form of wealth, the demand for which would not be increased by a saving in the labor required to produce the others. Hearses and coffins have been selected as examples of things for which the demand is little likely to increase; but this is true only as to quantity. That increased power of supply would lead to a demand for more expensive hearses and coffins, no one can doubt who has noticed how strong is the desire to show regard for the dead by costly funerals.

Nor is the demand for food limited, as in economic reasoning is frequently, but erroneously, assumed. Sub-

sistence is often spoken of as though it were a fixed quantity; but it is fixed only as having a definite minimum. Less than a certain amount will not keep a human being alive, and less than a somewhat larger amount will not keep a human being in good health. But, above this minimum, the subsistence which a human being can use may be increased almost indefinitely. Adam Smith says, and Ricardo indorses the statement, that the desire for food is limited in every man by the narrow capacity of the human stomach; but this, manifestly, is true only in the sense that when a man's belly is filled, hunger is satisfied. His demands for food have no such limit. The stomach of a Louis XIV, a Louis XV, or a Louis XVI, could not hold or digest more than the stomach of a French peasant of equal stature, yet, while a few rods of ground would supply the black bread and herbs which constituted the subsistence of the peasant, it took hundreds of thousands of acres to supply the demands of the king, who, besides his own wasteful use of the finest qualities of food, required immense supplies for his servants, horses and dogs. And in the common facts of daily life, in the unsatisfied, though perhaps latent, desires which each one has, we may see how every increase in the power of producing any form of wealth must result in an increased demand for land and the direct products of land. The man who now uses coarse food, and lives in a small house, will, as a rule, if his income be increased, use more costly food, and move to a larger house. If he grows richer and richer he will procure horses, servants, gardens and lawns, his demand for the use of land constantly increasing with his wealth. In the city where I write, is a man—but the type of men everywhere to be found—who used to boil his own beans and fry his own bacon, but who, now that he has got rich, maintains a town house that takes up a whole

block and would answer for a first-class hotel, two or three country houses with extensive grounds, a large stud of racers, a breeding farm, private track, etc. It certainly takes at least a thousand times, it may be several thousand times, as much land to supply the demands of this man now as it did when he was poor.

And, so, every improvement or invention, no matter what it be, which gives to labor the power of producing more wealth, causes an increased demand for land and its direct products, and thus tends to force down the margin of cultivation, just as would the demand caused by an increased population. This being the case, every labor-saving invention, whether it be a steam plow, a telegraph, an improved process of smelting ores, a perfecting printing press, or a sewing machine, has a tendency to increase rent.

Or, to state this truth concisely:

Wealth in all its forms being the product of labor applied to land or the products of land, any increase in the power of labor, the demand for wealth being unsatisfied, will be utilized in procuring more wealth, and thus increase the demand for land.

To illustrate this effect of labor-saving machinery and improvements, let us suppose a country where, as in all the countries of the civilized world, the land is in the possession of but a portion of the people. Let us suppose a permanent barrier fixed to further increase of population, either by the enactment and strict enforcement of an Herodian law, or from such a change in manners and morals as might result from an extensive circulation of Annie Besant's pamphlets. Let the margin of cultivation, or production, be represented by 20. Thus land or other natural opportunities which, from the application of labor and capital, will yield a return of 20, will just give the ordinary rate of wages

and interest, without yielding any rent; while all lands yielding to equal applications of labor and capital more than 20 will yield the excess as rent. Population remaining fixed, let there be made inventions and improvements which will reduce by one-tenth the expenditure of labor and capital necessary to produce the same amount of wealth. Now, either one-tenth of the labor and capital may be freed, and production remain the same as before; or the same amount of labor and capital may be employed, and production be correspondingly increased. But the industrial organization, as in all civilized countries, is such that labor and capital, and especially labor, must press for employment on any terms—the industrial organization is such that mere laborers are not in a position to demand their fair share in the new adjustment, and that any reduction in the application of labor to production will, at first, at least, take the form, not of giving each laborer the same amount of produce for less work, but of throwing some of the laborers out of work and giving them none of the produce. Now, owing to the increased efficiency of labor secured by the new improvements, as great a return can be secured at the point of natural productiveness represented by 18, as before at 20. Thus, the unsatisfied desire for wealth, the competition of labor and capital for employment, would insure the extension of the margin of production, we will say to 18, and thus rent would be increased by the difference between 18 and 20, while wages and interest, in quantity, would be no more than before, and, in proportion to the whole produce, would be less. There would be a greater production of wealth, but land owners would get the whole benefit, subject to temporary deductions, which will be hereafter stated.

If invention and improvement still go on, the efficiency of labor will be still further increased, and the amount

of labor and capital necessary to produce a given result further diminished. The same causes will lead to the utilization of this new gain in productive power for the production of more wealth; the margin of cultivation will be again extended, and rent will increase, both in proportion and amount, without any increase in wages and interest. And, so, as invention and improvement go on, constantly adding to the efficiency of labor, the margin of production will be pushed lower and lower, and rent constantly increased, though population should remain stationary.

I do not mean to say that the lowering of the margin of production would always exactly correspond with the increase in productive power, any more than I mean to say that the process would be one of clearly defined steps. Whether, in any particular case, the lowering of the margin of production lags behind or exceeds the increase in productive power, will depend, I conceive, upon what may be called the area of productiveness that can be utilized before cultivation is forced to the next lowest point. For instance, if the margin of cultivation be at 20, improvements which enable the same produce to be obtained with one-tenth less capital and labor will not carry the margin to 18, if the area having a productiveness of 19 is sufficient to employ all the labor and capital displaced from the cultivation of the superior lands. In this case, the margin of cultivation would rest at 19, and rents would be increased by the difference between 19 and 20, and wages and interest by the difference between 18 and 19. But if, with the same increase in productive power the area of productiveness between 20 and 18 should not be sufficient to employ all the displaced labor and capital, the margin of cultivation must, if the same amount of labor and capital press for employment, be carried lower than 18. In this case, rent would gain more than the increase in

the product, and wages and interest would be less than before the improvements which increased productive power.

Nor is it precisely true that the labor set free by each improvement will all be driven to seek employment in the production of more wealth. The increased power of satisfaction, which each fresh improvement gives to a certain portion of the community, will be utilized in demanding leisure or services, as well as in demanding wealth. Some laborers will, therefore, become idlers and some will pass from the ranks of productive to those of unproductive laborers—the proportion of which, as observation shows, tends to increase with the progress of society.

But, as I shall presently refer to a cause, as yet unconsidered, which constantly tends to lower the margin of cultivation, to steady the advance of rent, and even carry it beyond the proportion that would be fixed by the actual margin of cultivation, it is not worth while to take into account these perturbations in the downward movement of the margin of cultivation and the upward movement of rent. All I wish to make clear is that, without any increase in population, the progress of invention constantly tends to give a larger proportion of the produce to the owners of land, and a smaller and smaller proportion to labor and capital.

And, as we can assign no limits to the progress of invention, neither can we assign any limits to the increase of rent, short of the whole produce. For, if labor-saving inventions went on until perfection was attained, and the necessity of labor in the production of wealth was entirely done away with, then everything that the earth could yield could be obtained without labor, and the margin of cultivation would be extended to zero. Wages would be nothing, and interest would be nothing, while rent would take everything. For the owners of

the land, being enabled without labor to obtain all the wealth that could be procured from nature, there would be no use for either labor or capital, and no possible way in which either could compel any share of the wealth produced. And no matter how small population might be, if anybody but the land owners continued to exist, it would be at the whim or by the mercy of the land owners—they would be maintained either for the amusement of the land owners, or, as paupers, by their bounty.

This point, of the absolute perfection of labor-saving inventions, may seem very remote, if not impossible of attainment; but it is a point toward which the march of invention is every day more strongly tending. And in the thinning out of population in the agricultural districts of Great Britain, where small farms are being converted into larger ones, and in the great machine-worked wheat-fields of California and Dakota, where one may ride for miles and miles through waving grain without seeing a human habitation, there are already suggestions of the final goal toward which the whole civilized world is hastening. The steam plow and the reaping machine are creating in the modern world latifundia of the same kind that the influx of slaves from foreign wars created in ancient Italy. And to many a poor fellow as he is shoved out of his accustomed place and forced to move on—as the Roman farmers were forced to join the proletariat of the great city, or sell their blood for bread in the ranks of the legions—it seems as though these labor-saving inventions were in themselves a curse, and we hear men talking of work, as though the wearying strain of the muscles were, in itself, a thing to be desired.

In what has preceded, I have, of course, spoken of inventions and improvements when generally diffused. It is hardly necessary to say that as long as an inven-

tion or an improvement is used by so few that they derive a special advantage from it, it does not, to the extent of this special advantage, affect the general distribution of wealth. So, in regard to the limited monopolies created by patent laws, or by the causes which give the same character to railroad and telegraph lines, etc. Although generally mistaken for profits of capital, the special profits thus arising are really the returns of monopoly, as has been explained in a previous chapter, and, to the extent that they subtract from the benefits of an improvement, do not primarily affect general distribution. For instance, the benefits of a railroad or similar improvement in cheapening transportation are diffused or monopolized, as its charges are reduced to a rate which will yield ordinary interest on the capital invested, or kept up to a point which will yield an extraordinary return, or cover the stealing of the constructors or directors. And, as is well known, the rise in rent or land values corresponds with the reduction in the charges.

As has before been said, in the improvements which advance rent are not only to be included the improvements which directly increase productive power, but also such improvements in government, manners, and morals as indirectly increase it. Considered as material forces, the effect of all these is to increase productive power, and, like improvements in the productive arts, their benefit is ultimately monopolized by the possessors of the land. A notable instance of this is to be found in the abolition of protection by England. Free trade has enormously increased the wealth of Great Britain, without lessening pauperism. It has simply increased rent. And if the corrupt governments of our great American cities were to be made models of purity and economy, the effect would simply be to increase the value of land, not to raise either wages or interest.

CHAPTER IV

EFFECT OF THE EXPECTATION RAISED BY MATERIAL PROGRESS

We have now seen that while advancing population tends to advance rent, so all the causes that in a progressive state of society operate to increase the productive power of labor tend, also, to advance rent, and not to advance wages or interest. The increased production of wealth goes ultimately to the owners of land in increased rent; and, although, as improvement goes on, advantages may accrue to individuals not land holders, which concentrate in their hands considerable portions of the increased produce, yet there is in all this improvement nothing which tends to increase the general return either to labor or to capital.

But there is a cause, not yet adverted to, which must be taken into consideration fully to explain the influence of material progress upon the distribution of wealth.

That cause is the confident expectation of the future enhancement of land values, which arises in all progressive countries from the steady increase of rent, and which leads to speculation, or the holding of land for a higher price than it would then otherwise bring.

We have hitherto assumed, as is generally assumed in elucidations of the theory of rent, that the actual margin of cultivation always coincides with what may be termed the necessary margin of cultivation—that is to say, we have assumed that cultivation extends to less productive points only as it becomes necessary from

the fact that natural opportunities are at the more productive points fully utilized.

This, probably, is the case in stationary or very slowly progressing communities, but in rapidly progressing communities, where the swift and steady increase of rent gives confidence to calculations of further increase, it is not the case. In such communities, the confident expectation of increased prices produces, to a greater or less extent, the effects of a combination among land holders, and tends to the withholding of land from use, in expectation of higher prices, thus forcing the margin of cultivation farther than required by the necessities of production.

This cause must operate to some extent in all progressive communities, though in such countries as England, where the tenant system prevails in agriculture, it may be shown more in the selling price of land than in the agricultural margin of cultivation, or actual rent. But in communities like the United States, where the user of land generally prefers, if he can, to own it, and where there is a great extent of land to overrun, it operates with enormous power.

The immense area over which the population of the United States is scattered shows this. The man who sets out from the Eastern seaboard in search of the margin of cultivation, where he may obtain land without paying rent, must, like the man who swam the river to get a drink, pass for long distances through half-tilled farms, and traverse vast areas of virgin soil, before he reaches the point where land can be had free of rent—*i. e.*, by homestead entry or pre-emption. He (and, with him, the margin of cultivation) is forced so much farther than he otherwise need have gone, by the speculation which is holding these unused lands in expectation of increased value in the future. And when he settles, he will, in his turn, take up, if he can, more land than

he can use, in the belief that it will soon become valuable; and so those who follow him are again forced farther on than the necessities of production require, carrying the margin of cultivation to still less productive, because still more remote points.

The same thing may be seen in every rapidly growing city. If the land of superior quality as to location were always fully used before land of inferior quality were resorted to, no vacant lots would be left as a city extended, nor would we find miserable shanties in the midst of costly buildings. These lots, some of them extremely valuable, are withheld from use, or from the full use to which they might be put, because their owners, not being able or not wishing to improve them, prefer, in expectation of the advance of land values, to hold them for a higher rate than could now be obtained from those willing to improve them. And, in consequence of this land being withheld from use, or from the full use of which it is capable, the margin of the city is pushed away so much farther from the center.

But when we reach the limits of the growing city—the actual margin of building, which corresponds to the margin of cultivation in agriculture—we shall not find the land purchasable at its value for agricultural purposes, as it would be were rent determined simply by present requirements; but we shall find that for a long distance beyond the city, land bears a speculative value, based upon the belief that it will be required in the future for urban purposes, and that to reach the point at which land can be purchased at a price not based upon urban rent, we must go very far beyond the actual margin of urban use.

Or, to take another case of a different kind, instances similar to which may doubtless be found in every locality. There is in Marin County, within easy access of San Francisco, a fine belt of redwood timber. Nat-

urally, this would be first used, before resorting for the supply of the San Francisco market to timber lands at a much greater distance. But it yet remains uncut, and lumber procured many miles beyond is daily hauled past it on the railroad, because its owner prefers to hold for the greater price it will bring in the future. Thus, by the withholding from use of this body of timber, the margin of production of redwood is forced so much farther up and down the Coast Range. That mineral land, when reduced to private ownership, is frequently withheld from use while poorer deposits are worked, is well known, and in new States it is common to find individuals who are called "land poor"—that is, who remain poor, sometimes almost to deprivation, because they insist on holding land, which they themselves cannot use, at prices at which no one else can profitably use it.

To recur now to the illustration we made use of in the preceding chapter: With the margin of cultivation standing at 20, an increase in the power of production takes place, which renders the same result obtainable with one-tenth less labor. For reasons before stated, the margin of production must now be forced down, and if it rests at 18, the return to labor and capital will be the same as before, when the margin stood at 20. Whether it will be forced to 18 or be forced lower depends upon what I have called the area of productiveness which intervenes between 20 and 18. But if the confident expectation of a further increase of rents leads the land owners to demand 3 rent for 20 land, 2 for 19, and 1 for 18 land, and to withhold their land from use until these terms are complied with, the area of productiveness may be so reduced that the margin of cultivation must fall to 17 or even lower; and thus, as the result of the increase in the efficiency of labor, laborers would get less than before, while interest would

be proportionately reduced, and rent would increase in greater ratio than the increase in productive power.

Whether we formulate it as an extension of the margin of production, or as a carrying of the rent line beyond the margin of production, the influence of speculation in land in increasing rent is a great fact which cannot be ignored in any complete theory of the distribution of wealth in progressive countries. It is the force, evolved by material progress, which tends constantly to increase rent in a greater ratio than progress increases production, and thus constantly tends, as material progress goes on and productive power increases, to reduce wages, not merely relatively, but absolutely. It is this expansive force which, operating with great power in new countries, brings to them, seemingly long before their time, the social diseases of older countries; produces "tramps" on virgin acres, and breeds paupers on half-tilled soil.

In short, the general and steady advance in land values in a progressive community necessarily produces that additional tendency to advance which is seen in the case of commodities when any general and continuous cause operates to increase their price. As, during the rapid depreciation of currency which marked the latter days of the Southern Confederacy, the fact that whatever was bought one day could be sold for a higher price the next, operated to carry up the price of commodities even faster than the depreciation of the currency, so does the steady increase of land values, which material progress produces, operate still further to accelerate the increase. We see this secondary cause operating in full force in those manias of land speculation which mark the growth of new communities; but though these are the abnormal and occasional manifestations, it is undeniable that the cause steadily oper-

ates, with greater or less intensity, in all progressive societies.

The cause which limits speculation in commodities, the tendency of increasing price to draw forth additional supplies, cannot limit the speculative advance in land values, as land is a fixed quantity, which human agency can neither increase nor diminish; but there is nevertheless a limit to the price of land, in the minimum required by labor and capital as the condition of engaging in production. If it were possible continuously to reduce wages until zero were reached, it would be possible continuously to increase rent until it swallowed up the whole produce. But as wages cannot be permanently reduced below the point at which laborers will consent to work and reproduce, nor interest below the point at which capital will be devoted to production, there is a limit which restrains the speculative advance of rent. Hence speculation cannot have the same scope to advance rent in countries where wages and interest are already near the minimum, as in countries where they are considerably above it. Yet that there is in all progressive countries a constant tendency in the speculative advance of rent to overpass the limit where production would cease, is, I think, shown by recurring seasons of industrial paralysis—a matter which will be more fully examined in the next book.