

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

CHAPTER 3

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

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of gratifying them, the effect of laborsaving 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 laborsaving 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 laborsaving 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 laborsaving 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 laborsaving machinery or improvements is to increase rent without

This does not reduce the amount of labor expended, because demand is not a fixed quantity.

Desire mounts with every additional opportunity for its gratification.

So the effect of laborsaving improvements will be to increase the production of wealth, requiring more land, and therefore lowering the margin of cultivation.

Lowering the margin increases rent.

increasing wages or interest.

This explains why laborsaving machinery everywhere fails to benefit laborers.

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 laborsaving machinery everywhere fails to benefit laborers.

Yet, fully to grasp 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.

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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.

The object of labor of any individual is not wealth in one particular form, but wealth in all the forms that consort with his desires. Hence, a saving in labor required to produce one of the things desired is effectively an increase in the power of producing all the other things.

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

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This increase might be in terms of quality rather than physical quantity, but would still tend to increase the demand for land.

reasoning is frequently, but erroneously, assumed. Subsistence 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 laborsaving 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.

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To illustrate this effect of laborsaving 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 landowners would get the whole benefit, subject to temporary deductions, which will be hereafter stated.

This will lower the margin of production,

increasing the share of production which goes to rent.

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

The process tends to continue. Wages and interest decrease as a proportion of production, but may increase or decrease in absolute amount depending on the specific circumstances.

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 laborsaving 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

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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 landowners continued to exist, it would be at the whim or by the mercy of the landowners—they would be maintained either for the amusement of the landowners, or, as paupers, by their bounty.

This point, of the absolute perfection of laborsaving 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 laborsaving 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 invention or an

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The preceding applies to inventions and improvements only when generally diffused.

When their use is limited to a few producers—by a patent or other kind of monopoly, the special returns to monopoly do not affect the general distribution.

What has been said as to improvements applies not only to those which directly increase productive power, but also to such improvements in government, manners, and morals as indirectly increase it. 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.

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.