THE

DISTRIBUTION OF WEALTH

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CHAPTER V

RENT

LABOR and land are the original or primary factors of production, capital being a secondary factor produced by the other two and in turn aiding them in the work of further production. One peculiar thing about land is its quality of extension which it possesses in greater degree than other forms of wealth. Under our present laws of property this gives its owners control over certain productive forces and desirable objects which nature alone can supply and which she has chosen to scatter over such wide spaces that they can only be utilized in connection with considerable areas of the earth's surface. They include such things as sunlight and heat, rainfall, and even the atmosphere itself, to say nothing of mineral deposits, soil, and scenery. These things all exist in considerable abundance — some of them in such abundance that they could have no value when dissociated from the land; but ground space is necessary in order to utilize them, and ground space is limited — so limited as compared with the demand

for it in certain parts of the world that vast sums are paid for it. These productive forces are in reality parts of the land, being mere appurtenances of those areas over which nature has seen fit to scatter them.

However, nature has not distributed them with absolute impartiality over the entire surface of the earth, some parts being favored above others. In every settled community, location also becomes a factor of great importance in determining the superiority or inferiority of different areas of land. The question of the quality of the land depends, therefore, upon a number of factors, all of which affect in some way the value of the product which it will yield in proportion to the cost of cultivating or utilizing it. The product may be agricultural, mineral, or manufactured goods. Proximity to market and cheapness of transportation are therefore as important as soil or climate in determining the quality of the land.

It would be easy to picture a community, and perhaps not so very difficult to find one, in which land is so abundant as not to count as a factor of production at all, being classed as free goods along with air in most places and water in mid-ocean. But very soon in the development of such a community two things will happen: first, the most favored spots

will be appropriated, so far as it is known what are the most favored ones, leaving the increasing population access only to the less favored ones; second, in order to provide for the growing wants of the people, those most favored spots will be cultivated beyond the point where the law of diminishing returns begins to operate. Until this time arrives, land would not count as an economic factor at all, and there would be no occasion to economize in its use. None of it would command a price so long as there was other land just as good not yet appropriated and to be had for nothing.

Excepting such land as is used for parks, pleasure grounds, dwelling sites, and other similar purposes, any particular acre of land, like any other factor of production, is wanted only for what it will add to one's income, — that is, for what it will yield over and above the cost of using it. But the cost of using it resolves itself into the amount which the labor and capital used in its cultivation could produce elsewhere. If there are few other opportunities for employing labor and capital, and their possible earnings consequently small, little will be sacrificed in withdrawing them from other lines of work in order to employ them on the land in question. Whatever they can produce on this land over and above that amount is therefore an additional income to their

owner, and is due to his use of the land. But if there are many and excellent opportunities for the employment of one's labor and capital, and their earnings consequently large, much will be sacrificed in withdrawing them from those other possible openings, and only the surplus above this large amount which they can produce on a given piece of land could count as the earnings of the land, or as the addition to one's income which comes to one through the use of the land. As already pointed out, the land is wanted only because of this surplus.

If a certain individual, with a given amount of labor and capital at his disposal, can earn $1000 a year by working for other people, it will be for the reason that he and his capital can add that much to the product of some industrial establishment over and above what it could produce without them. A piece of land upon which he with his capital could produce a total crop worth only $1000 would be worth nothing to him, but one upon which he could produce a crop worth $1200 would be worth approximately $200 a year. If, however, conditions should change so that he with his capital could only earn $800 a year elsewhere, then the land upon which he could produce a crop worth $1000 would be worth approximately $200 a year to him, while land upon which he

could produce $1200 would be worth $400 a year. These are the amounts which he would logically have to attribute to his use of the land in question, the rest of his gross income being attributable to his labor and capital.

Until the time arrives when the best grade of land is all appropriated and cultivated beyond the point of diminishing returns, no particular acre or parcel of land could add anything to one's income over and above what one could secure without it. Nor could it add anything to the total product of the community. So long as there is other land of the same grade still appropriable, as much could be produced without any particular acre as with it; and so long as the best grade of land is not cultivated up to that degree of intensity where it begins to yield diminishing returns, it would subtract nothing from the total product of the community to have some of the land thrown out of cultivation, and all the labor and capital employed on the remaining land. If any of it were withdrawn from cultivation, the labor and capital which had cultivated it could either be employed on some other land already under cultivation, adding to the product of this land as much as or more than it had been producing on the land from which it was removed, or it could move over on to another unappropriated and equally good piece of

land where it could produce just as much. The total product of the community would not be affected by the use or disuse of the land in question.

But when all the best land is appropriated, and is being cultivated beyond the point where diminishing returns begin, each acre of it becomes a matter of some consequence to the community. If one is withdrawn from cultivation, the labor and capital which were employed in its cultivation must then be employed either on some other land of the same grade, increasing the intensity of its cultivation and securing a smaller product under the law of diminishing returns, or on some of the second best land where it can not produce so much as it had been doing on the best grade. The withdrawal of the acre in question would therefore reduce the amount which could be produced in the community by the difference between what it would yield and what the same labor and capital could produce elsewhere. This would measure the marginal productivity of the land of the best grade, and the marginal product would determine the amount which any one would be willing to pay for its use.

In the last chapter we saw that the wages of any particular kind of labor depend upon its marginal product, — that is, upon the amount which any given unit could add to, or subtract from, the product of

the community by beginning or stopping work, and that this amount varies with the number of such units as compared with all the other factors. The same law applies to the rent of land. Let us for the moment make the extreme assumption that all the land in a certain community is of absolutely the same grade, differences of location being in every case exactly compensated by differences of fertility or some other advantage, and that there is an indefinite extent of it. Under such circumstances it would not be necessary to cultivate any of it beyond the point of diminishing returns; rather than to do so any cultivator would prefer to extend his cultivation over more land. Under these conditions the marginal productivity of land would be *nil*. Any particular piece of land could be spared without loss, since the labor and capital could find other land just as good upon which to employ themselves, and the total product of the community would not suffer in the least. But if the amount of land were so limited that it would be necessary to cultivate it beyond the point of diminishing returns in order to supply the demand for products, then each acre would become a matter of importance. Its withdrawal from cultivation would, as already shown, drive the labor and capital which had been cultivating it over upon the remaining land, increasing still further the

intensity of its cultivation and reducing the amount which could be produced by the community. And the scarcer the land is, the greater the resulting diminution in the total product when any given acre or parcel of land is withdrawn.

Referring again to Tables E and F in the last chapter, let us suppose that all the land in the community is of the grade of farm A, and that there is so little of it that two laborers have to be employed on each hundred-acre farm. There would then be a product of 900 bushels on each farm, and the marginal product of labor would be 400 bushels per man. But if one such farm were withdrawn from cultivation, the two laborers who had been employed in cultivating it would have to be employed on the remaining farms, probably distributing their work over a considerable number. Under these conditions they could not add to the product of these remaining farms more than 800 bushels, — theoretically a fraction less. There would then be a net loss of something over 100 bushels in the total product of the community. But if there were so many men or so few farms that three laborers would have to be employed on each farm, the total amount produced on each farm would be 1200 bushels, and the marginal product of labor on them all would be 300 bushels per man. Then if one farm were withdrawn from culti-

vation, these three laborers would have to be distributed over the other farms where they would add a fraction less than 900 bushels to the amount which was already being produced on them. In this case the loss of the farm would cause the community a net loss of something over 300 bushels. Thus, the more labor there is employed on each farm, and the lower its marginal productivity, the greater the net loss entailed by the withdrawal of any farm from cultivation.

It has sometimes been stated that rent is due to differences in the productivity of different areas of land.[1] This, however, is an unwarranted interpretation of the doctrine of rent as developed by Anderson and Ricardo, who did indeed assume, and correctly, that in any real community there are considerable differences in the productivity of the land under actual cultivation, and it was shown that these differences had something to do in determining the amount of rent. The rent of a given piece of land, for example, could not normally exceed the difference between the amount which could be produced upon it and the amount which the same labor and capital could produce on the poorest land in cultivation, or upon land so poor that its use could be had for nothing. But it does not follow from this that rent is due to these

[1] Walker's "Political Economy, Advanced Course," 3d Ed., N.Y., 1888, p. 197.

differences unless it is merely meant that however abundant and fertile the land in any community may be, if there are certain areas superior to the rest and so limited in extent as not to fully satisfy the demand for them, rent will be paid for their use. It is manifestly not true that rent is due to these differences if it is meant that rent would not exist if there were no differences, — that is, if land were all of the same grade. As shown above, if such land existed in such limited quantities that, in order to supply the demand for goods, it was necessary to cultivate it beyond the point of diminishing returns, it would all command a rent. It would, therefore, be more accurate to say that rent is due to the scarcity of land of the better grades, for this will give rise to rent whether there happen to be inferior grades or not.

But if there be inferior grades not yet in cultivation, some of them good enough to be worth cultivating if there is only a slight increase in the demand for products, or in the labor and capital to be employed, such an increase would bring some of these inferior grades into use and reduce the pressure upon the better grades. This will reduce the rent of the better grades below what it would otherwise be. Looked at merely from the standpoint of the law of demand and supply, the inferior lands would have to be regarded as partial substitutes for the better lands,

helping to satisfy the same demand, and therefore to relieve the scarcity of land.

Let the community previously assumed be regarded as an island community with no available land outside, and all the land within the island of absolutely the same grade. As population increases, the land must be more and more intensively cultivated and, in the absence of new improvements in the arts of production, the marginal productivity of labor must fall lower and lower. This, as already shown, will make the marginal productivity of land rise higher and higher. But if a new continent should be discovered within available distance, containing lands of various grades, some of them only a little inferior, all things considered, to that of the island, a part of the increasing labor supply could at once be transferred to the new lands, and a part of the subsistence of the population be derived from them. This would reduce the intensity of cultivation of the island, raise the marginal product of labor there, or at least check its decline, and reduce the marginal productivity of the land. In this sense the existence of differences in the productivity of different areas of land, instead of being a cause of rent, really helps to reduce rent, or at least to prevent its rise.

Referring again to Tables E and F of the preceding chapter: If the land were all of the same grade as

farm A, and there were three laborers for every such farm, the marginal product of labor would be 300 bushels per man, and that of land 300 bushels per farm. But if there were an indefinite amount of additional land of the grade of farm B, one man from each A farm would transfer his labor to a B farm, raising the marginal productivity of labor to 400 bushels per man, and lowering that of land to 100 bushels for each A farm, while the B farms would not have any marginal utility at all. But it is possible to assume that a given community has a fixed number of acres whether they are of the same grade or of different grades. In this case, differences in the productivity of the land would make the marginal productivity of labor lower and that of the better grades of land higher than they would be if it were all of the best grade. This, also, may be illustrated by Tables E and F. If the land were all of the A grade, and if there were two laborers for every such farm, the marginal product of labor would be 400 bushels, and that of land 100 bushels per farm. But if, with the same number of farms, half of them were of the B grade, the second man on each B farm might continue in the same place, in which case his marginal product would be only 300 bushels, or he might add himself as a third man to one of the A farms, in which case also his marginal product would be only

300 bushels. This would then set the rate for all the laborers, and this, in turn, would increase the marginal product of the A land to 300 bushels per farm.

Tables E and F were constructed on the assumption that varying quantities of labor are employed on a fixed quantity of land. It is quite as easy to vary the proportion between the two factors by assuming a fixed quantity of labor with varying quantities of land. Though in actual life it is not so easy to increase or decrease the amount of land in the community as it is the amount of labor or capital, yet in any industrial establishment, or in any industry as a whole, it is quite as easy. Moreover, in the community as a whole the amount of land in actual use varies slightly from time to time by reason of the fact that certain areas are withdrawn from cultivation at times, and again restored to cultivation. These variations are sufficient to enable the community to test the marginal productivity of the land. By constructing a table on the assumption that a fixed quantity of labor is employed on varying amounts of land, we can illustrate the method of finding the marginal productivity of land as that of labor was found in the preceding chapter. The wages of labor can then be determined by a method precisely similar to that by which rent was determined before, — that is, by subtracting the total rent from the total product. This

would be a reversal of the method of Table F, and ought to give corresponding results if the land and labor are of the same qualities as were assumed before. Table G is an attempt in this direction, and it is, like Table F, derived from Table E; though it is, for the sake of brevity, confined to the one grade of land represented by farm A.

TABLE G

TOTAL PRODUCT AND MARGINAL PRODUCT OF VARYING NUMBERS OF ACRES WHICH MAY BE CULTIVATED BY FIVE MEN, REPRODUCING THE PROPORTIONS BETWEEN LABOR AND LAND WHICH WERE GIVEN FOR FARM A IN TABLE E.

Number of acres	Total product	Number of acres subtracted each time	Number of bushels subtracted from the product by each decrease of land	Marginal product per acre	Total rent	Total wages	Wages per laborer
500	2500						
250	2250	250	250	1	250	2000	400
166⅔	2000	83⅓	250	3	500	1500	300
125	1750	41⅔	250	6	750	1000	200
100	1500	25	250	10	1000	500	100

Assuming a fixed number of five laborers, this table begins with 500 acres of land of the grade of farm A. This reproduces the proportion between

labor and land with which Table E began. Leaving out of account possible differences in the economy of large-scale production, five men on 500 acres ought to produce five times as much as one man on 100 acres. Accordingly, the product of this larger combination is placed at 2500 bushels. Capital is supposed, as in the former case, to vary with the land, or to be a part of the farm, and it may therefore be left out of account. Changing the amount of land to 250 acres reproduces the proportion between labor and land which we had in the former table when two men cultivated 100 acres (5 : 250 :: 2 : 100), and ought to produce proportionally more, or 2250 bushels (2 : 900 :: 5 : 2250). Since five men on 500 acres produced 2500 bushels, and the same men on 250 acres produced 2250 bushels, the subtraction of 250 acres reduced the product by the amount of 250 bushels. This is the amount which would have to be attributed to the 250 acres, and it would approximately determine the amount which the five men could afford to pay for that amount of land, making a rental of one bushel per acre. Since the land is all of the same grade, and one acre is as good as another, this is the amount per acre which they would pay for the remaining 250 acres. Their total rent will therefore be 250 bushels, leaving a total sum for wages of 2000 bushels, or 400 bushels per man.

Again, by further reducing the number of acres to $166\frac{2}{3}$, we reproduce the proportion between labor and land which we had in the former table when three men worked on 100 acres ($5 : 166\frac{2}{3} :: 3 : 100$). Since three men on 100 acres produced 1200 bushels, five men on $166\frac{2}{3}$ acres ought to produce 2000 bushels ($3 : 1200 :: 5 : 2000$). In this case the further reduction of $83\frac{1}{3}$ in the number of acres would cause a further reduction of 250 in the number of bushels, or three bushels per acre. This is the amount per acre which the five laborers could afford to pay rather than to have their acreage cut down, or to secure a larger acreage after it was cut down. This would also fix for the time the rent of the remaining $166\frac{2}{3}$ acres, making a total rent of 500 bushels, and leaving a total of 1500 bushels for wages, or 300 bushels per man. And so the table proceeds until it ends, as did Tables E and F, with five men on 100 acres producing a total crop of 1500 bushels, each reduction in the number of acres bringing about a reduction in the amount produced. By attributing the reduction in the product in each case to the reduction in the amount of land, we can determine the virtual product of the land (or the marginal product as economists are wont to call it) by what logicians call the "method of difference," and wages by a variety of the "method of agreement." In Table F wages were found by the

"method of difference" and rent by the "method of agreement."[1]

Tables F and G illustrate two methods of determining the share of any factor in distribution. One is to find its marginal product by varying its amount and attributing the resulting variation in the amount of the product to the variation in the factor in question, there being every reason for believing that this will measure the sum which can profitably be paid for that amount of the factor which is added or subtracted. The other is to first find the marginal productivity of the other factors and to determine from this their total earnings. Whatever surplus remains after subtracting the total earnings of the other factors from the total product would then be the share of the factor in question. It has, however, been questioned whether these two methods would give the same result;[2] but a comparison of these two tables, or of any others which fairly represent the law of diminishing returns, ought to effectually dispose of this question, for it will be found that the

[1] Cf. J. S. Mill, "System of Logic," Book III, Ch. VIII.

[2] *E.g.*, Mr. R. S. Padan, in an article entitled "J. B. Clark's Formulæ of Wages and Interest," in the *Journal of Political Economy* for March, 1901, claimed that no such harmony between the two methods had been shown to exist. Professor Clark, however, relied upon diagrams rather than tables, and the harmony is not so demonstrable by that method.

results are exactly the same in either case, whether applied to the determination of one share or the other.

Both tables serve to illustrate explicitly the working of the law of joint demand as applied to land and labor. They show with some degree of definiteness how an increase in the supply of one factor tends, other things equal, to increase the demand for, and the price of, the other factor or factors which coöperate with it in production. The demand for any factor being based upon its marginal product, anything which increases that marginal product will increase the demand for it. This is a law which applies to capital also, as well as to land and labor.

The proposition that rent is due to the productivity of land does not by any means carry with it the proposition that it is due to the productivity of landowners. Their income, consisting as it does of the rent of land, may, and sometimes does, come to them without their having performed any useful function in industry or in society at large. They may, however, and usually do, contribute something useful by which their incomes are increased above the mere rent of their land. They may, for example, cultivate their own land or do some other useful work, such as the management of their estates, or they may expend labor and capital in placing improvements

upon their land, in either of which cases they earn something in addition to the rent of their land, though it may come to them in a form which is indistinguishable from rent. In so far as they are merely receivers of rent, landowners are mere parasites, receiving a share of the product of the industry of others and lending no aid in return, unless permitting their land to be used can be considered as lending aid in the work of production. But inasmuch as they did not create the land, but were permitted to become its owners by the laws of society, they can hardly be regarded as contributing anything to society when they in turn permit their land to be used.

However, the function of the landowner is not necessarily a barren one except when he abuses the power placed in his hands or fails to meet the responsibility which such power places upon him. Those who use land which they do not own are notoriously wasteful of its resources, having a view to their immediate gain rather than the permanent value of the land, and they have to be restrained from ruining the land by the oversight of some one who has a deeper interest, or by stipulations in the contract under which they are allowed to use it. Some one must take the responsibility of guarding against this tendency to exploit the land, and there are but two ways of securing this. One

is for the government to keep control of the land and fix the rules for its utilization, regulating by laws that are somewhat general in character such matters as the rotation of crops and the manuring of the land, in the case of agricultural land, and the work of excavation and building, in the case of city land. The other is to turn the land over to private owners, trusting that their self-interest and their regard for the welfare of their families will prompt them to look out for the preservation of the energies of the soil. On the whole, the latter method has proved to be the more successful, especially in the case of agricultural land. The ownership of land has a wonderfully stimulating effect upon the economic virtues of thrift and foresight. "The magic of property turns sand into gold."

There are other results, some good and some bad, which follow from a system of private property in land, the discussion of which would take us too far into the fields of politics and sociology. It may be mentioned, however, that such a system undoubtedly gives a greater stability to society than could be secured without it, as landowners are a proverbially conservative class. At the same time it gives greater flexibility and adaptability in the management of the land than could be secured

through any governmental machinery which would adequately prevent the wasteful exploitation of the land. Again, it is probable that any country will be more stubbornly defended against foreign invasion by a population made up largely of landowners than by any other kind of a population, though there may be some doubt about this, and it is growing of less importance even if true. Finally, the system of private ownership helps to develop a leisure class which may be a blessing or a curse, according to the way in which it chooses to spend its leisure. It is only necessary to point out that most of the arts and graces of civilization, as well as most of its vices, have grown up because there have been some who had time to think about other things than the earning of their daily bread.

We are for the present concerned primarily with the nature of rent, why it accrues, and the laws by which its amount is determined. As to the first question, we have found that rent is that income which is derived from the ownership of an original and natural agent of production; as to the second, that it accrues because that agent is scarce; and as to the third, that the amount of rent is determined by the joint operation of the productiveness and the scarcity of land, being in each individual case determined by the amount

which the use of the particular piece of land in question adds to the product which could be secured without it, and this amount itself being determined by the amount of land of that grade as compared with all the other factors with which it co-operates in the work of production, — in other words, by the marginal productivity of that grade of land. This is only another way of stating the classic law of rent, viz., that the rent of any given piece of land is what it will produce over and above what could be produced on the poorest land in cultivation by the same amount of labor and capital; for this difference is one way of measuring the amount which the piece of land in question adds to the product of the community over and above what could be produced without it.

It has sometimes been argued that rent does not enter into the price of products, on the ground that if rents were remitted by landlords, the tenants would simply pocket the amounts and make no reduction in the price of their products on their wares. The price of goods being determined by demand and supply, the remission of rents would make no difference in either factor. It would not reduce the number of consumers, nor the strength of their desires, nor the length of their purses on the average. Nor would it increase the amount of land, labor, or capital by

which the supply of products could be increased, nor would it cause any of these factors to work any harder. But this does not constitute a valid distinction between rent and the other shares in distribution for the reason that all that was said about the results, or absence of results, of a remission of rents, could be repeated concerning a remission of wages by the laborers or of interest by the capitalists. In either case the employers would simply pocket their gains and go on selling as before, at whatever the market would stand. The market as a whole would not be affected in this case any more than in the case of the remission of rent, though there would doubtless be a change in the relative values of different commodities because of changes in the purchasing power of different classes of consumers. The remission of wages would not increase the amount of labor to be had, and consequently would not increase the supply of products.

There is, however, a sense in which wages do enter into the price of products and in which rent does not. Laborers have to be persuaded to work by some offer of advantage to themselves, but land does not. It is true that landlords may have to be persuaded, but there would be land if there were no landowners whereas there would be no labor if there were no laborers. Labor is inseparable from

laborers, but land is separable from landowners. Therefore the three following propositions may be laid down respecting labor. 1. In order that there may be production there must be labor. 2. In order that there may be labor there must be wages to persuade men to work, and to enable them to do so, otherwise there will be no labor and no production. 3. Therefore wages are necessary in order to secure the production of goods, — in other words, they are a necessary part of the cost of production. Since the cost of production is an important factor in determining the supply of products, and the supply is one of the factors in determining their price, it is seen that wages have an important and necessary part in the price-making process.

Obviously no such propositions as the second and third can be made respecting rent. It is not necessary that any one should receive rent in order that there may be land, and rent is not therefore necessary in order that there may be production. Rent is wholly a result of production, and not a cause also, whereas wages are a cause as well as a result. They are a cause in the sense that unlike rent they are a means of securing one of the conditions of production, and they are, like rent, a result in the sense that they can be paid only on condition that there is production. Therefore rent is not, as wages are, a

necessary share in the cost of production. Under a system which forbade any one to receive an individual reward for working there would be no work done, or at least only so much as could be done under the form of play; but, under a system which forbade any one to receive an individual reward for the use of land, there would be just as much land as now, barring a few relatively insignificant cases where land is, in a certain sense, "made." Even taking account of such cases, the difference of degree is so great between rent and wages as to make the two cases non-comparable.

A public policy which forbade wages, or appropriated them for public purposes, would be suicidal in that it would at once stop production, whereas a policy which would appropriate rents for public purposes would not be suicidal in the same sense because, if only pure economic rent were taken, leaving untouched all that could be attributed to labor, foresight, or enterprise, it would not affect production at all, though it might conceivably bring other undesirable results. This is, after all, the most important reason for distinguishing rent from other forms of income. A purely academic discussion might safely ignore such distinctions as exist and treat rent as it chose; but however rigidly analytical, or even mathematical, our study of economics may

become, we must not forget that such studies are of value only in so far as they throw light upon some question of public policy. The distinction just mentioned will throw light on certain important questions connected with taxation.

The rent of such lands as are used for pleasure grounds and dwelling sites requires no such elaborate analysis as has been given to that of lands used for purposes of production. The former class does not differ, so far as the laws of value are concerned, from ordinary articles of consumption. They furnish their utilities directly, and the law of marginal utility, as outlined in the first chapter, determines their value. That which is paid for their use is merely the price of the flow of utilities which they furnish to their users, and these utilities decline as they increase in abundance because of the relative satiation of the wants which they gratify. Therefore we may pass such lands by with the remark that they and their utilities come under the ordinary laws of value and price which was applied to other consumers' goods in the first chapter.

The factors which determine the supply of land are comparatively simple, and require no such elaborate explanation as is necessary in the case of both labor and capital. Nature has fixed for any one generation of men the land supply of the earth.

and they can do very little to increase or decrease it. Geological changes which affect the land surface go on so slowly as compared with the fleeting life of man that he is compelled to regard them as non-existent from the standpoint of his present economy. But any given population can make a larger section of the earth's surface available for its own uses. The people may scatter themselves over a wider area, or they may construct transportation systems and lines of communication which will enable them to gather subsistence from a wider area, confining themselves to those occupations which require less space. Both methods, however, are likely to be at the expense of some other population or race, and neither is likely to prove an effective method of increasing the world's supply of land. Again, new methods may be found by which space may be economized in the way of intensive farming and the construction of taller buildings; but these are methods of decreasing the demand for land rather than of increasing its supply. Finally, certain small areas may be reclaimed from the sea, the swamp, or the desert, and these may be regarded as practical additions to the land supply; but these additions are so small as not to affect the market for land to any appreciable extent outside of such countries as Holland. We

may conclude, therefore, that land is a factor whose supply is practically fixed by nature rather than by human effort.

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