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GENERAL INCREASE OF WAGES FALLS UPON CONSUMERS OF PRODUCTS, AND IN NO WAY ENCROACHES UPON RENT OR PROFITS OF CAPITALISTS.

By R. M. Johnston, F.L.S.

Different observers standing at different points of view in the midst of many complex problems are hardly ever likely to concur in each others conclusions if their respective views are limited to a few isolated facts, belonging to but still forming an insignificant part of the whole series of facts upon which the true solution of the complex problem depends. Each observer under such conditions may arrive at opposite conclusions, which may be perfectly consistent with the fragmentary data upon which they respectively rest, and yet be altogether wrong and inconsistent when correlated with the more important series of co-efficients which were overlooked or ignored.

The conclusions of even the most extended observations may also be consistent with the data upon which they are based, and yet be altogether inconsistent with the truth, if the data themselves be inaccurate. Further, there are always some points so difficult of solution that only the powerful restraint of a particular habit of mind or training can prevent ones sympathetic leanings from leaping the gap to the goal desired in preference to the wiser course of making further exploration or waiting for further gleams of light.

These observations are necessary when called upon to review the arguments of Mr. Ogilvy, in so far as they are supposed to touch upon my former paper on Strikes and their Influence upon Wages. It affords me great pleasure to find myself in agreement on so many points with one like Mr. Ogilvy, whose well-known generous sympathies for the amelioration of the condition of the masses of the people must command the respect of all right thinking persons. We are substantially in agreement in the view stated by me in my former paper, that "A strike may be the means of successfully raising the status of some branches of labour that are comparatively under-paid or over-worked; it may raise the real wages of a particular country or locality which formerly laboured under the average remuneration of other countries; it may be the means of forcing the capitalist or employer to give a fairer or larger share of the profits of capital and labour—i.e., machinery, plant, skill, and labour—but from the very nature of the common source of all profit and wages, viz., the current products created by the combined services

of capital (instruments) and labour, strikes cannot raise the

real wage of all wage-earners."

In other words, it is possible to regulate and alter the distribution of the aggregate wealth of consumable necessaries by means of strikes.

So far there is a substantial agreement between us.

It is in the following statement made by me wherein our views are in diametrical opposition, viz :- (1.) "It is not denied that an arbitrary increase to nominal wages, if restricted to a few industries, might increase both nominal and real wages of these trades; but in all such cases it would be obtained by a proportionate decrease of the purchasing powers or real wages of every other class in the community who were obliged to purchase the products enhanced in price of the various industries who succeeded in having the nominal wages so raised," and more especially is the fundamental difference between us set forth in the next paragraph used by me, viz:-(2.) "It is the consumers of products or services who would ultimately lose by the advantage gained by the industries whose wages were nominally raised, and not the capitalists and employers as such who directly were obliged to advance the nominal wages." And again, we are diametrically opposed in relation to the following observations of Mr. Gunton's, with which I am completely in accord. (3) "That nothing can improve the social condition of the masses, whether it raises the nominal wages or not, which does not increase the general rate of real wages (i.e., purchasing power) the degree of which may be universally taken as the accurate measure of social progress," and "there are no economic means by which the material condition of the masses can be improved which do not tend to increase the aggregate production of wealth per capita." And these differences between us—as regards the means by which alone the condition of the masses can be improved—are finally summarised by me in the statement: "Invention, increasing command over the forces of nature, can alone accomplish this. Schemes of distribution and strikes for higher nominal wages must end in failure and disappointment, so far as the great masses of men are concerned."

In opposition to these three statements Mr. Ogilvy makes the following observations, to all of which I am sorry to give

a categorical No!

(1) That "No increase of production can improve the condition of the masses unless accompanied by an increase of

nominal wages."

(2) "In the primary industries, that is those concerned in extracting or producing the raw materials of wealth from the land (as in agriculture and mining), every increase of wages will come out of the rent;" and again, "Every department of industry (including carriers by sea and land) which is

concerned in supplying the raw material of wealth from the land, every enforced rise of wages will be clear gain to the labourer, because the loss will fall upon the landlord, and stay there."

It is remarkable that Mr. Ogilvy's usual penetration should in these two propositions have so far failed him that he did not perceive that their support wholly rests upon old economic fallacies long since exploded, and discountenanced by the best, if not nearly all, modern economists. Even Mr. Henry George does not support these old economic fallacies, associated with "The Theory of Rent" and "The Wages Fund;" and yet, notwithstanding this, Mr. Ogilvy's conclusions regarding rent and wages depend wholly for support upon the resuscitation of those old fallacies which so long darkened men's minds regarding the true theory of rent, and the true relations between rent, profit, wages, production, and prices.

THEORY OF RENT.

"Ricardo's Law of Rent," now almost universally accepted by economists, is so well established by reason and experience that even Mr. Henry George is forced to admit that "its mere statement has all the force of a self-evident proposition." It is thus set forth, according to Ricardo:—

"The rent of land is determined by the excess of its produce over that which the same application can secure from the least

productive land in use."

Or, as stated more specifically by Mr. F. A. Walker:—

"The rent of any piece of land is determined by the difference between its annual yield and that of the least productive land actually cultivated for the supply of the same market, under equal application of labour and capital." (P. 197, "Political Economy," London, 1887.)

If this be granted, we have the following distinguishing

elements:—

Let R = Excess of Produce over that of the least Productive land actually cultivated for the supply of the same market under equal applications of Labour and Capital = Rent.

N = Produce of the least productive land actually cultivated under similar conditions to R.

C = Profit of Farmer and Capitalist.

W=Nominal Wages of Labourer.

P = Produce of Land, Labour, and Capital.

D = Demand of Consumers.

D^m=Maximum Purchasing Power of Consumer.

Dn=Minimum Purchasing Power of Consumer.

Prm = Maximum Nominal Price of Products.

P^{rn} = Minimum Nominal Price of Products.

Then R + N = P or Supply

$$\frac{C+W}{D^n} = P^{rn} \text{ or Price Minimum.}$$

Now it can be seen at once, if these premises be granted, that as the application or efforts of labour receive the same reward whether engaged upon the least (N), or most productive land in cultivation (R), that any alteration in the rate of wages, if general, would not affect the proportion falling to R, no matter whether the nominal wages rose or fell; for R (rent,) is solely determined by N, and—excepting cases where employment and area under cultivation are curtailed—is in no way concerned with the rate of wages. The surplus, R (rent), has not come into existence as the sole work of labour; for in relation to the laws which determine price it is a measure of the gift of nature monopolised in the hands of landowners as rent. It is the fluctuations of demand (D) which directly affect the value of products coming to R, and not the scale of wages, whether high or low, so long as the scale is general. As about 52 per cent. of the breadwinners in various countries depend upon agriculture and pastoral industries, it is also clear that if the increase of their wages was only local, or partial, the condition of the great mass of workers would not be Improved.

Going back to our analysis it follows that

R + N = P or produce of land, labour, and capital or = Supply.

Seeing that supply and demand are among the principal factors in determining price or nominal value in the market and as these are ever varying factors, it follows that nominal value or price ever fluctuates with the variations of (P) supply and demand (D). Thus—

$$\frac{\mathbf{R} + \mathbf{N}}{\mathbf{D}}$$
 or $\frac{\mathbf{P}}{\mathbf{D}} = \mathbf{P}^{r}$ or Price.

But the actual cost of products being determined mainly by the cost of labour and machinery cannot fall below the actual aggregate cost of the standard of living for the labourer and the actual cost of maintaining the capitalist's machines and instruments.

On the other hand, the nominal value for products divided between R + G + W cannot be increased much above the minimum producing cost without operating upon demand

through the lowered purchasing power of the consumer, and

so producing a check, or temporary equilibrium.

From this reasoning it follows that the surplus produce (R), while increasing the general store, and thus tending to lower prices to consumers, yet rent or earnings of landlords per se do not enter into the market price in any way, and therefore do not increase the price of products to consumer.

Therefore it follows that the ultimate exchange price, whether maximum or mimimum, is wholly determined thus:—

$$\mathbf{C} + \mathbf{W} \left\{ \begin{array}{c} + \left(\mathbf{D^m - D} \right) \\ - \left(\mathbf{D - D^n} \right) \end{array} \right\} = \left\{ \begin{array}{c} \mathbf{P^{rm}} \\ \mathbf{P^{rm}} \end{array} \right\}$$

How, then, can any arbitrary increase or decrease of W affect R (rent), except in an indirect way, by its effect upon consumer, who certainly would have his real wages or purchasing power diminished correspondingly with any arbitrary increase to the *nominal wages* of W.

It can be shown, in a similar way, that the profit of the farmer, or entrepreneur, and the interest of Capitalists are determined solely by competition with each other, and are in no way affected by cost of machinery or wages of labour so long as these latter elements of cost are common to all competing farmers, entrepreneurs and capitalists. In all their enterprises such charges Plus their own profit (solely determined by comparative skill, enterprise and competition) make up the final cost of products which does not stay with the landlord or entrepreneurs, but is passed on, and wholly borne by consumers; and therefore it is as consumers (not as landlords, farmers, entrepreneurs, capitalists or wage-earners) that all classes concerned in production are affected by any arbitrary increase to the nominal wages of the labourer.

These arguments, while demonstrating the accuracy of my original observation that "It is the consumers of products or services who would ultimately lose by the advantage gained by the industries whose wages were nominally raised, and not the capitalists and employers (as such) who directly were obliged to advance the nominal wages," they also form a complete refutation of Mr. Ogilvy's opposing argument, tending to show that "Every enforced rise of wages will be clear gain to the labourer, because the loss will fall upon the landlord, and stay there."

The fact that rent forms no part of the price of agricultural produce may startle many who have not given the matter deep consideration, and although affirmed by me as a truth, it must not be supposed that I take up a singular attitude in respect to this question: for it is the generally accepted opinion of the ablest economists and thinkers of the day. In proof of this I need only cite one witness, Mr. F. A. Walker, whose able work on Political Economy, published in

1887, deals so thoroughly with all vexed questions of this character. At page 200-201 ("Political Economy") he writes:—

"From the law of rent, as it has been stated, we deduce the very important conclusion that rent forms no part of the

price of agricultural produce.

"No proposition which the political economist has occasion to announce is so startling, at the first hearing, as this; nor does any other contend against such persistent incredulity. And yet no proposition can be more clearly established."

Notwithstanding what has been said, it is quite possible, and has actually occurred recently to a large extent in England, that a rise of agricultural labourers' wages there, or what has the same effect, the opening up of large areas of more fertile land, as in America, or both together, may have the effect of throwing the poorer lands of any one place out of cultivation, and thus directly diminish the value of rent in that place. This is happening now, and for the last fifteen years in England, mainly by the influx of cheaper products from the distant vast plains of Dakota and other fertile areas of America. But what does this involve? Why, that for every 1,000 acres thrown out of crop cultivation, thereby diminishing rent, about 30 breadwinners, equal to 173 persons, are directly deprived of employment. This is the only way in which rent can be injuriously affected, but it is a process which is equally disastrous to the local agricultural labourer. It is also, on the other hand, advantageous to the consumer so long as these themselves do not form too large an element of the general population; for otherwise their cheapened foods of foreign creation might be more than counterbalanced by their diminished earnings as producers, and thus operate unfavourably upon their purchasing power or real wages.

But returning to the question of rent and price, it is clear, as affirmed by Mr. F. A. Walker, "That in the same market, at the same time, there is but one price for different equal portions of any (similar description) of commodity;" and "We have also seen that the normal price is fixed by the cost of producing that portion of the supply which is produced at the greatest disadvantage. Apply these principles to the case in hand. England does not raise all the wheat needed for the subsistence of her population (mainly mechanical and industrial). Besides cultivating the most fertile of her own fields she makes heavy draughts upon the United States, France, Egypt, Hungary, India, and the Black Sea region. For the wheat of all these countries, however, so far as it is of the same quality, there is but one price. That price is fixed by the cost of raising the million, say of bushels, which are raised at the greatest disadvantage, which means at the

greatest distance, viz., on the plains of Dakota." Wheat may be raised in Middlesex at an actual cost not exceeding two shillings per bushel; but the Middlesex farmer will not, on that account, sell his wheat below the market price, say six shillings (four shillings), which price is fixed, as we have seen, by the wheat from America. The difference, four shillings (two shillings?) is to be profit for somebody; and we will now proceed to show * that this body must be either the landlord or the tenant, not the agricultural labourer, and not the consumer of flour."

* As he afterwards does—p. 202.

To give a more explicit illustration of the probable effects of an increase in nominal rate of wages and of the process by which any increase in wages must fall upon consumers, and not upon rent of landlord, or the profit of the capitalist or entrepreneur—the following table is drawn up. And to throw further light upon the matter, let the points be discussed as if in diaologue between three persons, representing—landlord, builder and workman.

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INCOME AND RENT BEFORE AND AFTER A 20 PER CENT. RISE COST OF MATERIALS IN BUILDING TRADE.

		Before Rise.			After Rise.			Amount of Net Increase or Decrease.		Per cent. Net Increase or Decrease.		Per- centage.
	Gross Income Rent. Rent. Rent.			Gross Income Rent. Income ss Rent.		Upon Income less Rent.		Upon Income less Rent.		Actual Increase to House		
		Gross	Ho	Inc ess F	Gross	HoRe	Incolor Iess I	Increase.	Decrease.	Iucrease.	Decrease.	Rent.+
I	Landlord‡	£ 1,000	£ 110	£ 890	£ 1,000	£ 130	£ 870	£	£ 20	P.C.	P.C. 2·25	18.2
	Building Contractor‡	500	85	415	500	100	400		15		3.0	17.6
	Mason*	*125	*35	*90	*150	*40	*110	*20		*22.2		*14.3
	Butcher‡	110	25	85	110	28	82		3		3.53	12.
•	Tailor‡	102	20	82	102	22	80		2	1 1 4	2.44	10.
	Labourer‡, (not Builders'.)	90	18	72	90	20	70		2		2.77	11'1

[†] The land element of value in house rent is assumed as if not affected by rise in the wages and cost of materials in building trade, and therefore it does not show 20 per cent. increase on gross rental.

* Indicates the effect upon one of those who benefited by the rise in wages.

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[‡] Indicates the effect upon others.

Mr. Ogilvy adopts the view that it would come out of the pocket of the capitalist or employer; and I from a considerable practical experience in the building and letting of houses, gained during five years in a large city, affirm that it comes out of neither employers nor wage-earners as such, but out of the pockets of all persons who inhabit houses, i.e., the consumers of houses so to speak. For let us take an instance of the process whereby the 20 per cent. increase ultimately comes to fall upon the consumers of houses, whether rich or poor, employer or employed, as it is attempted to be shown in the following imaginary dialogue between the three persons already referred to.

DIALOGUE BETWEEN LANDLORD AND BUILDER.

- A.—Capitalist, a landlord of houses, deriving his income from investing his money in houses.
- B.—Employer, a building contractor, who derives his income from his capital and plant and his directing skill as a builder and organiser.
- A.—My dear B, I propose to build four additional dwelling-houses, similar to the four which you built for me for £1,600 two years ago: 1 at £500, 2 at £400, and 1 at £300; and I shall be obliged if you will give me an estimate of what you will now build four similar houses for me in the same locality.
- B.—I shall be happy to do so, but you must be prepared to pay a higher price, as all building trade wages and materials have now gone up 20 per cent.
- A.—What? Do you mean to infer that I can afford to pay the extra 20 per cent. out of my pocket when my average profit hitherto at the old rates only yields me 5 per cent. on capital outlay in buildings, repairs, taxes and other necessary expenses in connection with letting, etc.? It is impossible!
- B.—Well, there is no help for it. If you won't build others will; for as the population increase is not likely to be greatly affected for any length of time by the rise in the wages and materials of the building trade, more houses must be built by some one or other.
- A.—That is all very true, but how can landlords afford to build houses at such prices at the old scale of rental?
- B.-Rental of buildings, not land rent, in all times and places, you are surely well enough aware, is determined by current rates and prices of land, labour, and materials, and not upon old rates of rental. You are no more called upon to let your houses at the old rates of rental than I am to contract for the building of houses at the old contract prices. In my profession we base our estimates

of costs, not upon the old rates, but upon what we infer the rates of wages, money, and materials will be on the average during the *time* and at the *place* where the new contract is to be carried out; and if you are to survive as a successful landlord you will have to be guided by the same unavoidable commercial principles.

- A.—But that would only be done by making a corresponding increase in the rents of houses?
- B.—Certainly. If competition hitherto among landlords obliged them to restrict their profits to 5 per cent. on capital outlay, the altered conditions of the labour market affect them all alike, so that all who do not become bankrupt must earn the same profit which competition among landlords themselves determined as a safe working minimum profit long before the recent rise of wages and materials came about. That means that rental of houses must bear the extra cost of building. Rents must be raised. The occupiers of houses must inevitably bear the burden of the increase, and as both you and I occupy houses we must also pay additional rent as occupiers of houses. But although we do expend more of our income as occupiers (i.e., consumers) of houses, that cannot affect our income as derived from our business concerns as landlord and builder.

A.—Why so?

- B.—Because the profits of either are determined, not by the wages, high or low, paid to workmen under them, so long as they are general, but upon the intensity of competition between employer and capitalist, and other employers or capitalists in the same business.
- A.—But the workmen think that their higher rate of wages comes out of the "Wages Fund" of the older economists, and this is one of the reasons why they are so bitter against the employers or capitalists for absorbing, as they think, a too great share of the joint produce of labour and capital.
- B.—The older economists are largely to blame for the present hostile attitude between the employer and his workmen; for undoubtedly this attitude is, in a great measure, based upon the mistaken notion that the increase in wages is an encroachment upon the employer's share of profit; whereas it is in reality an additional charge on the values of products affected, which is ultimately borne by the consumers of the particular products.
- A.—But will the workmen be satisfied if they comprehend this matter in the light in which you regard it.
- B.—Why should they complain? They have got their 20 per cent. increase. But if you are anxious to ascertain their views let us put the matter to the test by asking Jones the

Hewer, one of the most intelligent of my workmen, who is now approaching us.

A.—Good-day, Jones, I suppose you feel satisfied with the results of your strike contest, which has terminated so favourably for the workmen in your trade.

Jones.—Ah, sir! we are glad to have scored a success, but it has been at a bitter cost to all of us.

A.—But surely with 20 per cent. increase to your wages you ought to be fairly well satisfied.

Jones.—Oh, that's true enough, so far as the rate of wages is concerned, but trade is now in a very depressed state, and as a consequence many of our brother workmen are but half employed, and even if we were all fully employed at the better wages now ruling it would take fully ten months to cover our losses due to enforced idleness during the long bitter strike of nine weeks, which brought us all so much distress and misery.

A.—Ten months do you say?

Jones.—Yes, fully that, without mentioning the increased cost of living, now that the landlords are about to raise our rents by about £6 a year.

A.—I should like to hear how you account for your loss being so great that it should take so long a time at the present higher wages to cover it.

Jones—Oh, that's easily proved. Our nine weeks' idleness caused us a direct loss of £20 12s. 6d., reckoned at our old rate of 8s. 4d. a day, for 44 hours in the week. Our present wages are higher by 1s. 8d. a day (viz. 10s.), and it is easily reckoned that it will take $247\frac{1}{2}$ days of that increase to make it good; and as we can only reckon 300 working days in the year it means the better part of ten months' earnings to put us straight.

A.—How do you account for so many of your men being still only half employed?

Jones.—Well, you see, the higher rents asked for the better class of houses are driving the poorer classes into the inferior houses that were formerly empty, and there is less demand than usual for new houses in consequence.

B.—Jones is quite correct there, as I know to my cost; for I have not had a third of the contracts this year, as compared with the average of the last three years, and my experience is also the experience of other builder contractors. But in my opinion there is another reason for the present slackness in the building trade.

A.—And what is that?

B.—I have long observed that statisticians are quite right in their statement that a sudden increase, however caused, in

the cost of living, has an immediate effect in checking, or, rather, postponing marriages; and in no trade has this effect so immediately a depressing influence as upon the building trade.

- A.—But things will take their natural course in time.
- B.—True, but in the meantime our trade, whether for workmen or employers, suffers, and, as Jones has said, it will take a long time for the better state of things, when they do come about, to make good the losses of the present year of enforced idleness and its evil consequences to both employers and workmen. Employers now see, when it is too late, that it would have been better for employers and workmen had they approached each other at the outset of the strike in a more friendly way, instead of fighting it out to the bitter end of a nine weeks' struggle.

Jones.—I say aye to that, too.

- A.—Then you, Jones, also think it was a mistake to enter upon this strike without a serious attempt to gain your cause by a more reasonable course?
- Jones.—Aye, sir, I do, and I have always been of the opinion that it would have been better to have settled our dispute by a friendly conference, even if it were to end in a compromise, rather than strike first and be obliged to confer when we were embittered by a long and cruel struggle for victory.
- A.—And why, then, was the strike originated so suddenly without an earnest attempt to settle matters by a friendly council of conciliation?
- Jones.—Why? You well enough know that the thoughtless, and those not burdened with the cares of a family, form the majority of workmen, and these are always too eager to enter a conflict without counting the bitter cost.
- B.—The workmen are not singular in this respect, for the majority of employers at the outset were also too anxious to precipitate a conflict without proper consideration, and are also much to blame in their eagerness to fight out the struggle rather than compromise or make any honest attempt to approach the settlement of differences of opinion by conciliatory conferences. I, too, am comforted with the feeling that, although one of the minority of my class, I used all the influence I could exert to promote a friendly conference at the first; but, as in Jones' experience, I and those who acted with me were over-ruled by the majority, who were too eager for conflict to give the matter the consideration that was necessary.
- A.—Then both of you think that the strike might have been avoided with advantage to all?

B.—Yes, I think so. We could have arrived at the same result had we discussed the matter fairly at the outset.

Jones.—I am sure we could if the same arguments on both sides were considered at the beginning of the dispute, and if we had an opportunity to discuss on even terms our misunderstandings of each other.

A.—Then both of you are of opinion that all future struggles of this kind in the various industries will be settled by friendly conferences rather than by lockouts or strikes.

B.—I fear not. The majority of men only see that the strike effected a rise of wages; and that will induce other trades to follow their evil example. The misery of the thing they do not consider. Nor do they perceive that the raising of wages if made general would cancel all the advantages gained by the first few industries who reaped the advantages of the wages increase; for the nominal increase in cost of living would then actually counteract all the advantages obtained by nominal increases to income.

A.—You have stated that before, but I confess I do not quite see how such a result comes about.

B.—It is, however, a matter the truth of which can easily be demonstrated by a simple process of reasoning, and I will try to make it clear to you. First let me assume, according to the modern course of exchange, that no element of the gratuitous gifts of nature, as such, enters into nominal values of products, and therefore the final nominal cost of all products and marketable satisfactions to consumers is solely determined or made up from the aggregate nominal cost of all the services engaged in the work of producing them. In this way it is obvious that the aggregate nominal value of all wealth in exchange or satisfactions would be exactly identical in nominal value to the nominal earnings of all persons engaged in producing them, whatever the nature of the services may be; whether organising and directing skill, wealth producing instruments, or the simple physical power of human bone or muscle. Any addition, therefore, to the nominal cost of production must correspondingly increase the aggregate nominal cost of products.

A.—I can follow you so far, although I confess I am not able to see as yet why the gratuitous gifts of nature should not be monopolised by some, and in this way come to be a charge upon products to consumers, without forming an item of expenditure of energy or capital on the part of the producer.

B.—Your observation is a very important one; for although upon another occasion I may discuss this point with you, I must ask you for the present to take it for granted, as an

assumption on my part, the truth of which may afterwards be discussed on its own merits.*

- A.—Well, let us for the present admit this important assumption on your part, it still remains to be proved that no benefits would accrue to wage-earners if the nominal incomes of all the services of breadwinners, were equally increased.
- B.—Yes, that is the point I desire to prove. But you must also bear in mind that it is the mere raising of the nominal rates of wages or incomes I refer to; for if by raising the rate of wages we could also correspondingly increase the number or actual quantity of products, my argument would completely fall to the ground.
- A.—Yes, I perceive this, but I cannot myself see any indication of increased energy on the part of the great body of workmen who have had their wages raised.
- B.—I am glad you admit this, for I can assure that so far as my business is concerned the amount of work performed per hour per man upon the whole remains unchanged.
- A.—May not, however, the indirect effects of the improved condition of your workmen—giving them greater opportunities for self-improvement and greater power to improve the education of their children—result indirectly in promoting the spread of a higher culture and intelligence, and by this means increase the agencies at work which promote invention and discovery, and so multiply man's power over natural forces. For if this should be the outcome, our experience in the past shows that the satisfactions of life might be increased indefinitely without an additional tax upon the labourer's physical efforts or time, and without a very much larger expenditure of his income towards labour-saving instruments.
- B.—I do not deny that something of this may be expected, providing the rise in wages is not general; but under any circumstances it must be infinitesimal; for invention and discovery spring from the individual mind, and have very little to do with the material condition of the individual, or a more comfortable state of life. The phrase, "Necessity is the mother of invention," has not come to be quoted as a world-wide phrase without some broad show of reason and truth; and this certainly does not encourage us in expecting a larger crop of inventors or discoverers from those whose condition has become more comfortable.
- A.—This may be true, but surely you must admit that a greater spread of intelligence must broaden the sources from which inventive genius springs.
- B.—Again, I repeat that I do not deny that this may have some influence; but I fear the mere attainment of a more

^{*}See Monopoly of the Gifts of Nature ("Root Matters"-First series, pp. 31, 32).

comfortable state of existence among a section of our industrial classes would in itself have an infinitesimal influence upon invention, discovery, and increased energy. The new idea springs from the single mind, and not from the society or aggregate.

"Men perished in winter winds till one smote fire... They gorged on flesh tell one sowed corn... They mowed and babbled till some tongue struck speech. What good gift have my brothers, but it came from Search, and strife, and loving sacrifice."

Professor Hearn had a clear perception of the conditions which determine invention when he wrote the following words:— *

"At every time and in every place the master of all arts and the bounteous bestower of genius is Want. It quickens the perception and sharpens the power of contrivance. This action is felt in every part of industry. There is scarcely one of the great improvements in the arts which has not immediately been connected with the expansion of some want. The want may be caused by the natural development of the capacities of the person by whom it is felt, or by the presence of some external obstacle. But whatever may be its origin, or whatever form it may assume, there is always a want, and a want of considerable persistence and intensity."

It was to strikes among workmen and the dearness or scarcity of skilled labour in America and in other countries that we mainly owe the origin of many ingenious laboursaving instruments, such as the cotton gin, the reaper and binder, and sewing machines. It was the craving for more leisure to play or scrog which led the boy Humphrey Potter to discover the first method for making the steam engine self-acting.

A.—It seems to me that the logic of your argument is to undervalue the results arising from improvements in the material condition of the people, and to magnify the influence of difficulties, obstacles, and want.

B.—You are no doubt in one sense justified in making this observation; but remember it is restricted by me to the following questions:—What are the potent influences in promoting useful invention or discovery? Do they spring more freely from men's minds when their material conditions are improved, or are they originated more frequently under the pressure of wants and difficulties. My own opinion tends to the conviction that the latter are the more potent influences.

In closing this imaginary dialogue, which might be greatly extended with advantage, let me now touch upon the

^{*} P. 194. Plutology.—Extent of Invention—Circumstances which determine it.

question raised by Mr. Ogilvy as regards the relative personal consumption of wealth by rich and poor respectively.

Personal Consumption of Commodities by the Rich.

It is evident that Mr. Ogilvy had not bestowed his usual care upon the question concerning commodities consumed respectively by rich and poor, whether luxuries or necessaries. He has taken a very strange course in forming an opinion of the relative amount of consumption of goods by rich and poor from a superficial impression made on his mind by the showy displays seen in shop windows.

Rich articles are more fitted for attractive display as advertisments, but only the inattentive, or the unskilled, would ever dream of estimating, upon such evidence, the relative quantities and the relative aggregate values of goods held in stock for sale intended for the rich and poor respectively.

Although the gorgeous silks, satins, velvets, ribbons, and dress goods form the chief displays in the windows of establishments devoted to the sale of textile fabrics generally, they certainly form an infinitesimal part of the value, and a still more infinitesimal part of the weight of the general stock on shelves and in warehouses. This stands to reason; for it is well ascertained that all persons receiving upwards of £150 per annum—i.e., under the annual average income of the skilled mechanic—only form about 2.28 per cent of the total population even in rich England. But a better plan would be to ascertain the value of these luxurious silks, satins, etc., as determined by the imports of a country whose principal supplies of textile fabrics come from foreign sources. Victoria is such a country, and an analysis of that colony's imports shows that scarcely 7 per cent. of the value of textile fabrics and dress are represented by the richer articles, such as silks, satins, ribbons, velvets, dress goods, and scarcely 1 per cent. of the weight of materials.

As regards Food, certainly not more than 5 per cent. can be set down as consumed by the rich personally, although their expenditure would be a little more than this if the consumption of their boarded servants were by error allowed

to be included.

As regards *Luxuries*, again, it is remarkable that although we gave to all persons over £150 income the whole of luxurious articles imported represented by works of art, paintings, musical instruments, jewellery, and platedware, etc., it would not represent more than 7 per cent. of what the masses alone consume of *luxuries*, in the shape of drink and tobacco.

Again, as regards the consumption of the fruits of labour connected with the building trades, it is well to bear in mind

that 64 per cent. of the value and 92 per cent. of the number of all dwelling houses in Great Britain are connected with those (certainly not the rich) living in houses under £30 annual rental.

Although the nominal incomes of the rich appear to absorb a far greater proportion of the aggregate nominal earnings than their proportional numbers as units of the population, yet it must be borne in mind that a reference to the mere nominal incomes is a most deceptive guide as regards the individual consumption of the rich; for in the latter are aggregated much of the incomes of vast numbers of professional classes and domestic servants, which, being reckoned again and again as distinct incomes, although derived chiefly from the expenditure of the rich, make the nominal aggregate of the income of the rich and of total income enormously above the true net income of both the rich and the national aggregate. That is, the real incomes of individuals are counted over and over again, and thus falsify the true proportions of net personal income coming to rich and poor respectively.

In opposition to Mr. Ogilvy's statement, then, I may confidently repeat part of what I have already dealt with more fully in a former chapter of "Root Matters in Social and Economic Problems" regarding

DISTRIBUTION AND CONSUMPTION OF WEALTH.

Under this heading I have observed, "There are many fallacies current with respect to the creation and distribution of wealth. If all the enormous wealth year by year created by (1), stored fruits of previous labour (Capital—of which steam engines alone represent approximately the work of 1,000,000,000 men, or more than the physical energy devoted to the creation of fresh wealth, than double the working population of the earth), (2), current labour, and (3), the gratuitous forces of nature, were directly devoted to consumption or enjoyment, no doubt the proportion per head alloted to the industrial labourer would be small indeed in comparison with the rich."

But the human body, whether rich or poor, can only consume or assimilate a certain quantity of food per day. The old, sickly, and very young, cannot consume or assimilate as much as the strong healthy persons of youth and prime of life. Health and hard physical labour cause the body to burn more food, and the greater tear and waste consumes more weight of the products of the sheep and cotton plant just for the same reason as greater energy exhausted by a steam engine demands a much higher consumption of fuel and a much greater waste of parts in tear and wear.

From this reasoning it is almost conclusive that a strong healthy navvy can and does consume more weight of the products of the soil, of the flour mill and the weaver's loom, than the less robust city clerk or the brain worried figurier; the mere quality or rarity of the materials involving more cost in some of the materials of the rich is comparatively insignificant and involves no more tax on the soil, on the

capitalist's machines, nor on the workman's labour.

Further, it can be shown that if the steam engines alone of the capitalist perform more work than twice the number of the whole working population of the earth, and if these only form a part of his machinery, tools, and instruments, known vaguely or concealed under nominal values as "capital," it follows that the rich capitalist, or organising entrepreneur, cannot or does not abstract from his profits the same proportion of his income towards his personal wants and enjoyments as the workman does. On the contrary, what he can directly consume personally of the primary satisfactions which make up the bulk of consumable wealth is limited by the same natural laws as the humblest workman; and the necessities of repairing the tear and wear of his costly machines (real capital) or the passion or necessity to increase the number and power of his machines, and to protect and keep them ever at work, abstract the greater portion of his increasing or decreasing Profits, which the thoughtless imagine are absorbed alto gether in personal consumption.

What is usually termed "The enormous accumulations of wealth in our times," "The riches of capitalists," do not consist of fine houses, luxurious equipages, money or grand parks, or if so, it only forms a most insignificant portion of it. The great bulk of the nominal and real wealth of capitalists consists of land improvements, mines, railways, tramways, ships, canals, stores, warehouses, manufactories, machines, tools and instruments, etc., themselves; and though rightly included in the aggregate wealth of a country by statisticians, these do not in any sense enter into the personal consumption of the rich owner any more than they enter into the personal consumption of the workman engaged in connection with these

forms of national wealth.

THE FRUITS OF LABOUR.

Familiar phrases, such as "The fruits of labour," "The toiling masses," "Man shall live by the sweat of his brow," "Capital is the fruit of labour," and such like, though correct enough as pleasing figures of speech, are too often wrested from their proper uses to adorn the fallacious arguments or rhetorical displays of well meaning, kind hearted people, in whom the logical faculty too often is easily overborne by

sentiment. Although I have a high appreciation of Mr. Ogilvy's logical acumen, I cannot help feeling that his enthusiasm and kind heart have, for the moment, dominated over his logical faculties when he spoke "of the lower ten millions whose toil is the active factor that produces all wealth, not of the upper ten thousand who in some mysterious way manage to get rich upon that toil." I am not disposed to quarrel with these words in so far as they convey the idea that their services (whether functional as accumulators of capital energy, or organising energy as entrepreneurs man for man), absorb a very much larger share of the aggregate satisfactions produced than is ideally just or desirable. But this objection is merely one of degree, and is applicable to all persons between the earnings of the poor city girl of London, who has to wearily "stich, stitch" for dear life for 1s. a day, and the colossal earnings of a Vanderbilt. The following table may help to convey an idea how far privilege permeates throughout the whole range of human services, so far as reward bears any relation to either time or the amount of muscular energy expended:—

EARNINGS.

	Average per day.		Per cent. Average of and Poor per		of Rich perday.
	S.	d.		Above.	Below. s. d.
1. London Seamstress	1	0	-	-	4 6
2. English Agricultural Labourer	2	0	100	-	3 6
	6	0	200	0 6	-
4. Australian Carpenter	12	0	100	6 6	
5. Average of the Rich Classes in					
	40	0	233	35 6	_
6. Average of Rich and Poor	5	6	_	_	-

This proves that the total income of rich and poor—in one of the richest countries of the world (United Kingdom, £1,250,000,000)—only averages 5s. 6d. per day per breadwinner, and that all those who earn over that rate per day really belong to the "privileged classes;" for even the common labourer of Australia at 6s. per day receives 9 per cent. above the level of equality, which, if once attained, so many vainly dream would procure them a vast addition to their present allotted share in the distribution of wealth. The Australasian carpenter actually receives a higher relative rate of income (not a greater absolute difference, however,) above the London seamstress (viz., 1100 per cent.) than is the average rate of the rich (3·3 per cent of population) above that of the Australasian carpenter—being only 233 per cent. higher.

It follows clearly from this that strikes for higher wages among those who already earn above the standard level of 5s. 6d. per day cannot justify their claims by the appeal indicated by Mr. Ogilvy that it "is a movement of the underpaid against the overpaid." It is not a fact. So far as the majority is concerned, it really would be a movement of the overpaid against the underpaid, or more specifically, it would be a movement of the lower grade of the privileged classes against the masses forming the unprivileged, i.e., all those whose earnings are now below 5s. 6d. a day, or the standard level of equality. Nor can the lower grade of the privileged classes contend with justice that their higher wages are in proportion to greater expenditure of time or muscular energy. On the contrary it can be easily demonstrated that the lowly paid agricultural labourer or common lumper expends far more of his time and muscular energy than the better-paid carpenter, engine fitter, or mason.

ACTIVE AGENTS IN THE PRODUCTION OF WEALTH.

Finally let us examine what truth there may be in Mr. Ogilvy's statement in which he leads us to infer that the "toil" of "the masses," "the lower 10 millions," alone "is the active factor that produces all wealth." Entertaining such a view, it is not remarkable that Mr. Ogilvy should regard the riches of the "upper 10 thousand" as a hoard mysteriously and wrongfully abstracted from the forces actively engaged in

producing wealth.

If by the toil of the masses he means that all the physical forces requisite to transport and transform natural materials to suit the needs of man, he is manifestly wrong. For (exclusive of the more gratuitous forces of nature, such as natural chemical changes, multiplication by the mysterious forces of life, sunlight and heat forces, gravitation, the rain, dew and the fertile soils, and the animal, vegetable, and mineral products in their natural state and position) there are the active forces set in motion—not of the expenditure of muscular energy—but of mental and moral force, exerted by men of forethought, of skill, of invention, and of the provident who designedly saved from immediate personal consumption and devoted such savings purposely to the construction of mechanical and other aids, devised or discovered by skilled minds, whereby the forces of nature, such as gravitation, chemistry, steam, water, wind, electricity, leverage, lower animals are so captured, tamed, and drilled, that they now exert a physical force in the production of man's wealth—whether in the way of transporting from place to place, or in transforming materials from the natural raw state to the highly finished—compared with which the brute

or muscular force actually exerted by all the working men of the globe forms the most insignificant fraction.

I have already pointed out that it is estimated that the steam engines alone now engaged actively in the production of man's real and nominal wealth represent double the potential muscular force of all men in the world at the present time, exceeding the muscular force of men actually engaged in the production of man's wealth by, perhaps, three or four times. The mere muscular pressure of a man, which, on his part, only exhausts his muscular energy by what would be equivalent to the movement of his body by one step, may, and in fact now incessantly does liberate and set in motion a transporting force in one machine equal to the combined total muscular force of from 200,000 to 500,000 men.

At the present moment on the railways of Pennsylvania, in America, a single engine conveys a load of 1,500 tons 29,927 miles in one year. It would, in a primitive stage, say by the strong African carriers of Stanley, take the mere muscular force of 465,360 men, carrying 60lb., and travelling at the rate of 12 miles per day, to accomplish the same work in the same time; and even though they only received wages at the rate of 1s. per day, it would cost £6,980,400; at 5s. per day it would cost £34,902,000. The single Pennsylvanian engine, however, carries the same load, viz., 1,500 tons, 29,927 miles within one year for the sum of £92,721, or $\frac{1}{2}$ d. per ton per mile. That is, a single modern locomotive exerts as much wealth-producing energy as could be effected by the whole muscular force of 465,360 strong men, and at $\frac{1}{376}$ of the nominal cost. Even if we went into refinements, and attempted to abstract the human muscular energy expended in the manufacture of the engine from raw materials, and the consumption of stores and materials consumed in the work, also partly the produce of the muscular force of man, it would be more than covered by the subtraction of the muscular energy of 600 men, leaving still to the credit of the single machine a balance of natural physical wealth-producing energy, i.e., non-muscular, equivalent to the muscular energy expended of 464,960 powerful men during one year.

When in addition we think of the Spinning Jenny, the electric telegraph, the sewing machine, and the thousand complicated forms of machinery—such as the Naismith Polka. Hammer, which by the slight pressure upon a handle a small boy can instantaneously pour 100 ton blows upon ductile masses of iron—we can have some faint conception of the immense mechanical and natural forces ever at work in civilised countries—outside of the muscular force exerted by man—and contributing its giant share of the physical agencies.

which give commercial value to man's wealth.* It is clear therefore that nothing can be further from the truth than the assumption by Mr. Ogilvy that the energy of "the lower ten millions" or the "masses" alone represent the active factor that produces all wealth.

The brains of man can alone be credited with invention and discovery, not his muscular power. It is to the accumulations of savings from personal consumption by the labourers of former times that we are indebted for the stores devoted to the construction of the powerful mechanical and other auxiliaries now engaged in aiding the current labour of men, and not, as falsely assumed, to the mere energy exerted by those who happen to be the labourers or workmen of the present moment.

The large body of the capitalists of to-day are, broadly speaking, really the natural descendants and inheritors of the savings of former workmen, who not merely worked but saved; and it is specially because of the savings of former workers that we have now a vast accumulation of capital invested in labour-saving appliances, and in works of permanent utility to all men, and not generally because those who saved were indebted to labour for their savings. All labourers in the past, as well as in the present, did or do not accumulate savings, and the descendants of those who did not save have no just claim to the capital or accumulated savings now largely in the possession of those who saved, or their natural descendants.

Of course the children of the former savers of capital are thereby now often raised above the social scale of their fathers. But this is natural; for it must not be forgotten that the affection and solicitude of parents for their children are ever the active motive forces which induce parents to sacrifice Present personal gratification, and to save up in order that their children may enjoy a larger amount of the world's material satisfactions than their parents permitted themselves to afford out of the fruit of their own labours. Take away this powerful motive and you destroy the main source of the savings which make capital accumulation a possibility. Capital wealth, therefore, has not been wrongly abstracted from the labourer as such. It is a real addition to the world's power and wealth, solely built out of the savings of those who providently abstained from consuming at the time the whole of the fruits of the labour to which they were entitled, which otherwise would have been as much lost to the world as if it had been destroyed by fire.

^{*} See also p. 40-44 Root Problems, 1st series, which also demonstrates that "Improvement in the Condition of the Individual is largely due to the Savings of Anterior Labour (capital) skilfully applied as instruments aiding Production."

It is not because nominal wages are much higher to-day in Australasia than at the close of the sixteenth century in Europe that the present workman is so much better off in every way than his predecessor of three hundred years ago, but mainly because of the great increase of capital wealth invested in labour-saving appliances, whereby the annual wealth created for consumption and real wages or purchasing-power over wealth have so improved that the workman of Australia can, by the expenditure of $4\frac{1}{3}$ days' labour, command a much larger share of the world's wealth or satisfactions than could be done by the accumulated savings of $40\frac{1}{4}$ days' labour amidst the dirt, discomfort, and almost enslaved condition of the labourer 300 years ago.

I think Mr. Ogilvy's objections to my former paper on strikes have been shown by these observations to be based upon assumptions which cannot be sustained when subjected to close scrutiny, and I can only re-affirm that it is by increase of savings properly applied in the creation of instruments which will still more greatly multiply the powers of man that any marked improvement to the condition of the masses can be successful. Without this the mere raising of wages can only benefit a few industries at the expense of the many.

DISCUSSION.

Mr. Ogilvy said that Mr. Johnston had rather drifted into the ethics of the question, which were expressly excluded in his paper, and discussion confined to the question whether strikes, as a matter of fact, really improved the condition of the masses. He had tried to show that they did, and Mr. Johnston had tried to show that they did not. It was for the members to judge. Mr. Johnston had based his argument principally on the theory of Ricardo, but he differed with him in thinking that that authority had expressed the whole theory of rent. Although later economists had adopted it, the British Parliament had virtually repudiated the theory by the establishment of Land Courts in the Highlands of Scotland, and in Ireland, thus introducing an artificial element into what was held by some economists to be a natural law. In regard to what Mr. Johnston said about the rent forming a part of the price of agricultural produce, there were some farmers present, and he asked them if they had to pay twice as much as they now did for their labour could they afford to pay as much rent?

Mr. W. E. Shoobridge said that there were two points which occurred to his mind. One was that the actual amount of wages was not so much the question as that of facility of exchange. Mr. Johnston had pointed out in his original

paper, and he agreed with him, that it was not the actual amount of wages paid that benefited the workman, but the satisfactions that could be procured by the results of the labour of the workman. Mr. Johnston had shown what was an undoubted fact, that owing to increased production the working man was able now to get better satisfaction of his wants with his wages than was the case a few years ago. He attributed the origin of strikes to the combination in the first place of capital, which ruled prices. Of late years, through the improved condition of labour, some of the labourers had been able to make savings which accumulated so that they could do for a certain time without actual labour. They were, therefore, to a certain extent capitalists, and by combining they had been able to demand their own terms. He thought that this was the secret of the source and success of all strikes. There was no question but that the product of individual labour had greatly increased, but the question was how this increased product was to be divided if it was the case that, owing to the combination of capital, the amount paid by the consumer was too great in proportion to the amount paid to the labourer. This was a difficult question, but he hoped that it would be settled in the future without resorting to such barbarous methods as strikes. He considered that the main question at issue was whether it was possible by the present appliances to produce a great deal more of the articles necessary for life and coinfort than was produced previously; if so, by labourers having the means of getting a larger share in the products their condition would undoubtedly be improved.

Before offering any further general observations. I shall

office works of the plant glabrons: leaves neather out to

trucking brackfiles, securitanes, amenima, amenimas, devoid of colours

Implicible beaserings of three appreciations appear a