

No one, I think, will question that the greatest, most wonderful and most useful discoveries are the altogether unexpected, apparently impossible and almost inconceivable beforehand.

The wonders of electricity, photography, spectrum analysis, and a host of others, were never even imagined till they were discovered, and were received with incredulity even then.

The race that has learned how to send a message a thousand miles in a second, to see through closed doors, to transmit waves of force through stone walls and mountains, to take instantaneous pictures by sunlight, to reduce the most complex substances to their primitive elements, to weigh the moon, to find the distance of the sun, to ascertain in what direction an apparently fixed star is moving, may safely be trusted to find food for itself from the as yet uncultivated millions of acres, with ever improving methods and appliances, *once the privileged obstructionist is swung out of the way.*

THE LAW OF DIMINISHING RETURN.

The doctrine in regard to this is, that given so much labour applied to land and so much return to that labour, every additional increment of labour procures a less increase. Doubling the labour does not double the produce; and the inference drawn is that there must be an ever-increasing difficulty in procuring subsistence as population increases.

The doctrine is true; the inference is false.

Subsistence depends so largely on cultivation that people have got into the habit of speaking and (unawares) even of reasoning as if the whole process of procuring subsistence consisted in the cultivation of the soil; whereas, as we all know

but are apt to forget, it consists of a vast complicated network of actions (often not recognised as productive at all), carried on by innumerable people often thousands of miles apart, and having no visible or conscious connection with each other or with the soil—the actual cultivation of the soil forming a very small part indeed of the process.

Take bread as the type of subsistence.

The process of providing a loaf of bread begins far back (or at least we may there take our first glimpse of it) in distant regions where the lumberman and the miner are procuring the wood and iron for the construction of the tools with which the soil is to be cultivated, and is not completed till the baker's boy (or somebody) has placed the baked loaf in the hands of the person who is to eat it. Shipbuilders, architects, carriers, road-makers, merchants, clerks, manufacturers, and numberless other people each carry the work a stage on. Even the legislator, the judge, the policeman, who provide that security for life and property without which this complicated process would at once break down, all help.

You cannot leave out a single factor in the vast array and yet secure your result, any more than you can leave out one step in a journey of 100 miles and yet get to your destination; and every improvement in the tools, or the methods, or the organisation in any one of these countless departments, helps to reduce the cost and increase the facilities of procuring subsistence.

My point is that the facilities in all these numerous departments increase much faster than the increase of return from *the land* diminishes; and, as a consequence, it becomes *easier* every year to procure subsistence, notwithstanding the increase of population; indeed, in great measure *because* of it.

Two men working in combination will do more than twice as effective work as two men working in isolation; and three men in combination will do proportionately more than two in

isolation ; and all work nowadays is combination work—that is, no one attempts to satisfy more than the merest fraction of his wants by his own work direct, but each does but a small part of some great work and buys the great mass of what he wants with the money he thus earns.

Every railway laid down, every improvement in the steam engine, every economy in coal, every discovery of phosphates, every success in tinning or freezing meats, every reaper and binder, double-furrow plough, and other similar mechanical invention helps to cheapen food—helps to make subsistence easier to procure.

Scientific discoveries, mechanical inventions, improved communications, diffused education, co-operation and organisation, all these factors are every day diminishing the amount of labour required to bring the loaf of bread within reach of the consumer, and so relieving an increasing number of people from the task of producing mere subsistence, and setting them free to produce luxuries and enjoyments instead. All which is only another way of saying that to provide subsistence is becoming easier.

The curious thing is that the Malthusian economist sees perfectly well that the production of *wealth* is becoming daily more easy ; but, misled by the Law of Diminishing Return, he thinks that it is that kind of wealth only that consists of superfluities, and does not include subsistence—subsistence being dependant on cultivation, and the increase from cultivation tending to fall off.

But the land and the labour and the capital that are producing all these superfluities (and they all come at bottom from the land) might just as easily be producing bread, if more bread were wanted. But bread (or food stuffs) there always is in superabundance. There is always a good stock standing over, besides what is used up for manufacturing or sporting purposes as distinguished from human food. If more bread is

not being produced it is either because there is a sufficient abundance for all already, or else because, owing to something wrong in our social arrangements, the labourer receives so small a share of the produce of his labour that he has not money enough to buy with; and so the capitalist, whose real object in producing is to make a profit for himself, not to feed other people, will not produce the bread; in short, it is because the man who is in possession of the land won't grow the wheat, and not because there is any difficulty in growing it to any extent that may be required.

Why, then, it will be asked, is population driven to resort to inferior lands?

RESORT TO INFERIOR LANDS.

The orthodox explanation of this movement is that, as population increases, it *presses on subsistence*, and *compels* resort to inferior lands, subsistence becoming more difficult owing to the diminishing return.

The true explanation, we submit, is that as knowledge and skill improve and appliances multiply, lands that formerly could not be cultivated with profit now become worth cultivating, and so *invite* resort to them, no matter whether subsistence be short or not; subsistence becoming *easier* to procure in consequence of the diminishing labour required to secure a given product, and the increasing area rendered available.

According to the orthodox view, capital is the prime mover in industry, and will not move unless it sees its profit ahead; and it is assumed that all the land in a country (except in newly settled countries), which, at any given time, is profitable