

THE ECONOMICS OF MECHANISATION

MR. C. BRUCE GARDNER, Managing Director of Securities Management Trust Ltd., was the principal guest at luncheon, at the National Conference on Industrial Mechanisation, 16th January, 1931.

MECHANISATION of industry is not a new development. It was going on throughout the last century and the prosperity of this country during the Victorian era was largely due to the mechanisation that was taking place at that time.

One of the principal troubles with which we are confronted to-day is the unsatisfactory state of our export trade. This is due to many causes and some of them raise questions with which we are not concerned to-day. There is one cause, however, which it is necessary we should examine. One of the most important ways of restoring our markets is by lowering our cost of production. In far too many cases our costs are too high. It is now perfectly well-known that the commodities we buy from abroad have increased in price by about 18 per cent. over pre-war level, but on the other hand we are asking 51 per cent. more for the things we are selling abroad. This movement for the better equipment of British works and factories is one which can do a great deal to improve the position. It is indeed the duty of every patriotic citizen and firm to help in this way, not from the selfish individual point of view, but in order to effect a pooling of all the available information. In this way we shall accomplish a big push in the direction of getting the important things done. I look upon this conference as an instance of firms assembling in order that they may collectively

engage in a constructive advance towards the mechanising of British industry.

A question that is often asked is "What will happen to unemployment if we mechanise?" My answer is that if we do not mechanise industry, employment will be far worse than it is. We cannot retain our position in the world's markets unless we are as efficient as, or more efficient than, the rest of the world. It is my belief that we are as efficient as our competitors, but that does not mean to say that any works or factory can afford to rest upon its laurels. Meanwhile the rest of the world is making great progress.

Mechanisation as I understand it, is the application of science and engineering to everything we do and use in the works and factory. The question of overcoming the natural reluctance of the workmen to mechanisation is a matter to which we must give just as careful consideration as to the instalment of the actual machinery itself. I speak from my own experience when I say that by tact and good will and education the difficulty can be overcome. I would like to illustrate what mechanisation can do by giving three instances. The first refers to the mining industry. During the last three years I have seen revolutionary improvements effected by the application of coal cutting machinery, together with the use of conveyors from the coal face on to other conveyors loading straight into tubs.

In one colliery, without lowering the wage rate, the total wage cost of the coal per ton was reduced from 13/1 to 9/8, whilst the output per man at the coal face was increased from 19 cwt. to 27 cwt. In another case the wage cost was reduced from 11/3 to 6/1, whilst the output went up from 24 cwt. to 56 cwt. In a third pit the wage cost was reduced from 12/- to 7/6, with a collateral increase in the output from 22 cwt. to 39 cwt.

My second instance is taken from a modern blast furnace. I have seen the wages cost per unit of output brought down to the pre-war level, whilst the wages rate was being increased to 70 per cent. above pre-war rate and the hours reduced from 12 to 8.

My third instance is taken from America. I have been over an American factory for making motor car bodies, where the raw material coming in at one end was steel sheets and the finished article went out at the other end as complete motor car bodies. This was a highly mechanised works and the wages cost was only seven and a half dollars per body. Moreover, we must remember that the wage rate in that country is higher than it is here.

If other countries can do that sort of thing, then it must be true to say that we can do it here. But it is not true to say that mechanisation leads to a lowering of wages or earning power. The fact is that it works the other way.

The question of finance leads to knotty problems. I have never yet met the man who felt he had all the money he wanted or all he thought he ought to have. The organisation with which I am connected is primarily concerned with rationalisation. If the big basic industries of this country will rationalise it is part of our duty to endeavour to find and to facilitate arrangements whereby they may secure the necessary finance on the best possible terms. In this category of rationalisation, mechanisation itself must be included. Indeed the money we succeed in arranging for must be employed for such things as the reconditioning or re-equipment of works and factories or for the provision of extra working capital. We

cannot supply money merely to make up losses that have been incurred prior to re-organisation taking place.

Most of the companies you are interested in have probably the ordinary sources of finance to which they may apply. But there is one other form of loan which you would do well to consider. That is what is known as consumer's credit. This means the provision of finance to assist the movement of goods from the merchant or manufacturer to the consumer. The United Dominions Trust has for many years specialised in this kind of finance and has during the last ten years or more provided many millions of pounds in this way. So that those firms which cannot come in the category implied by rationalisation and which have themselves insufficient funds and are unable to make the necessary arrangements through the normal banking channels should examine this third method.

Finally, I say carry on collectively with this big push you have begun towards the restoration of British industry to economic prosperity, and above all apply yourselves to the practical application of it all, in your individual factories and works.

Dr. C. S. MYERS, Principal of the National Institute of Industrial Psychology, was the third speaker at the luncheon session of the National Conference on Industrial Mechanisation, 16th January, 1931.

He said that industrial psychology seeks to elevate the human factor to the dominating position in industry. It does this by taking psychology, the science of the human mind, and physiology, the science of the human body, and applying them to industrial problems.

Dr. Myers, referring to the problem of monotony, said a good deal of it arises from the unnecessarily slow speed of the machines. If these have been adjusted to the capacity of the slowest worker, the others will experience the boredom that comes with insufficiently absorbed attention.

There are other forms of monotony, he said, which arise from vocational maladjustments, and these can be remedied only by a proper selection of workers.