

## THE FAITH OF AN ENGINEER—By Lewis R. East, M.C.E., M.Inst.C.E.

(Mr. East is Chairman of the State Rivers and Water Supply Commission of Victoria. This article is abridged from his presidential address on retiring from the chairmanship of the Melbourne Division of the Institution of Engineers, Australia.)

IF WE take a long range view, over the centuries, we can say that the march of science has been a glorious one of spectacular advancement for the well-being of mankind. If, however, we view the process close at hand, in a single life span, we cannot help but be shocked at the waves of unemployment and human misery which come again and again and spread wider and wider to deny to the masses of men the benefits which so many believe to be within their reach.

I will comment on the widely held but entirely fallacious idea that machines create unemployment. It should not be necessary for me to say much to engineers about this—but I am certainly amazed that so many engineers accept as true the charge that they are constantly creating an unemployment problem.

The truth is that precisely the opposite is true. The scientist and the engineer have provided opportunities for the employment of millions of men and women who have been enabled to attain a standard of living far, far above that of the peasants of countries which have not yet reached the machine age.

The power shovel, the crane and the bulldozer do not, in the main, displace labour; they do work which, in practically all instances, would not be done at all if the machines were not available. For every contractor who buys a power shovel or dragline and sacks a hundred men, there are scores of contractors who had not entered that field of effort at all before who bought machines and engaged additional labour to operate them. Those who build and operate machines far outnumber the pick and shovel labourers displaced.

### Inventions and the Benefits of Progress

The objective of science—whether conscious or not—is to produce new goods or better goods and to produce them at less and less cost in human effort. The conversion of that cost into price is, however, not regarded as a matter for the engineer or scientist at all. I am not suggesting that it should be, but I do suggest that engineers and scientists should follow through their work to see where the benefit goes.

Take the simple case of a modern lift or elevator, a product of the engineer. Whom does it really benefit? At first, one might say that the tenant or shopper is saved from climbing six or ten flights of stairs. On second thoughts, we realise that no shopper would climb six flights of stairs, and few tenants would work or live that high unless there were lifts in the building. That obviously leads to the owner of the building as getting the benefit of the invention of lifts, because he can charge higher rentals for the upper stories of his building. This is true only to a very limited extent, because, if the profit from the high building were considerable, there would be more high buildings erected and competition for tenants would bring the rentals to a reasonable level.

But there would still be some buildings for which tenants would be prepared to pay more than for others because of their situation. This is a matter beyond the control of the owner or prospective owner of the building. It is a matter of geography—the location of the site and its relationship to traffic facilities and to other businesses.

The owner of the site knows all this and values his site accordingly. Even if he was a simpleton and unable to guard his own interests, competition for the site would mean that its price on the open market would contain not only the capitalised value of all the road and railway and other public

services and facilities, not only the advantages of location in regard to the business of the city, but also the capitalised value of the fact that the installation of electric elevators will enable the purchaser to erect and use a ten-story building on the site. All of this will go into the selling price of the land, and all that the owner of the building will be able to retain ultimately as net profit will be not more than five per cent. on his overall investment.

In the outer suburbs, benefits from the construction of a new tramline, or the extension of water or sewerage facilities or of electrical power lines are too obvious to need stressing. The land naturally becomes more attractive for residential, industrial or commercial purposes, and competition for it between those who are seeking home or factory or shop sites quickly brings the offers for land up to what the least hungry of the owners will accept. The competition is made much more acute, and the price rise more rapidly because of the presence in the market of speculators who have no intention of using the land themselves and employing labour to build upon it, but whose idea is to hold it unused until the need for land in those areas becomes sufficiently acute for them to sell again at an enhanced price.

### Speculation and Taxation

The investor or speculator in vacant sites is undoubtedly "Public Enemy No. 1" as far as housing and industrial development are concerned. That description may shock some of you, who have never tried to ascertain the distribution of benefits from public expenditure, or to track down the leakage that seems always to deprive the masses of the people of the advantages which they might reasonably expect to receive from scientific and technical progress.

Many country towns and townships have been marred by the activities of speculators in township lots. Development has been unbalanced and the provision of services such as paved roads and footpaths, drainage, water supply and sewerage made more costly—and in many cases impossible—because of the numbers of vacant lots between buildings.

There is no way of discovering how much of the present value of land is speculative except by killing speculation. The only way to discover the true value is the practical method of so taxing land values as to prevent the holding of land out of use. If this were done, the value of land would sink to its true economic level.

The development of our towns and cities has been distorted by the operations of land speculators who have been primarily responsible for the housing shortage, in that they have made home-sites too dear for the working man, and they should be taxed out of existence, not compensated at public expense as occurs when land is bought for State housing purposes, at "market" values.

### Victorian Building Industry Concerned

The building industry is beginning to be concerned at the effect of taxation on their operations. Mr. D. B. Doyle, President of the Building Industry Congress of Victoria, in a letter to the Melbourne Division of the Institution of Engineers, Australia, wrote recently:—

"Research reveals that in the Municipalities which rate upon the Annual Value Basis\* the rates in 1940 aggregated to £914,000 upon improvements and only £307,000 on site values. In these cases the rating system imposes in effect a tax of almost a million pounds upon improvements in Greater Melbourne annually. It would appear, therefore, that the transference of these rate burdens from the build-

\*The rental of land and buildings taken together.—Editor, L. & L.

ings on to a land value basis is a matter of vital importance to the building industry. Apart from relieving the industry from a heavy direct tax upon it, the increase in the charges upon land values should tend to make holders of vacant or poorly improved sites build upon or improve their properties with beneficial results to the industry and all connected with it."

### The Land Problem and the Farmer

It is everywhere accepted that, somehow or other, high land values have had a good deal to do with the bankruptcy of farming of recent years, and practically all of the statements issued by "study groups" planning for social reconstruction after the war refer to the problem of land speculation.

If the factors which determine the market price of land were more fully understood by those who endeavour to make a living on the land, farmers would be in a much better position to understand the reason why farming is so seldom profitable. Land occupies a very peculiar position in that it is non-reproducible and hence has no cost of production. The value of land is the capitalised *net* income or "Economic Rent." The selling price of land—or land value—is simply capitalised rent. When land is purchased the payment made for ownership is the present day lump sum paid in lieu of perpetual rent.

There are many factors which influence land rentals and prices in particular circumstances, but few farmers are aware that, on the whole, the market price of land absorbs all the advantages of good land, and that, *if interest on their purchase price is considered*, they have little hope of obtaining a better return for their labour from a very good farm than from a very poor one into which the same effort is put. The difference in gross returns is absorbed in interest.

A reduction in land tax or water rates is of no permanent advantage to the *farming industry*—for the advantages are capitalised in increased selling prices as soon as farms change hands, and the reduction is, therefore, a handicap to the incoming farmers who will have less of their capital left for improvements.

Similarly, subsidies on superphosphate, concessions on rail freights, and even the discoveries of Agricultural Scientists rapidly pass into land values. A news item appeared recently to the effect that the discovery that the application of minute quantities of certain mineral salts to poor lands in South Australia would make up for mineral deficiencies in the soil and increase the carrying capacity of the land had increased the value of the land from 5s. to £5 per acre.

In New Zealand, it has been found that the stabilisation of the prices of primary products had affected land values to a marked extent. E. H. Langford, Secretary and Economist to the Minister of Supply, said in 1942:—

"One of the seemingly incurable variables is land values, and these fluctuations tend to destroy stabilisation no matter how effective other price control machinery may be. Every increase in price to the producer has its effect. All increases in profit margins find their way into land values."

Similar difficulties are being experienced in Australia in connection with the subsidy to the dairying industry, and the Minister has announced that the Government is taking action to prevent the benefits being absorbed in increased land values.

### Financing Public Improvements

"Government has no capital of its own," said Frederick G. Crawford, President, National Association of Manufacturers, U.S.A. "Its only resources are the taxable incomes of its citizens, and the income of citizens depends upon the

productivity of private enterprise. Government financial economic rehabilitation for the world can be undertaken only at the expense of the taxpayer." This should be kept well in mind when considering any governmental project for post-war development—every project will be at the expense of the taxpayer—but *which* taxpayer?

Who is to meet the cost of the tremendous programme of public works now being prepared? Take Metropolitan arterial roads for example—the removal of the bottlenecks that have strangled Melbourne for a hundred years. Is the cost to be met by further crushing burdens on overloaded industries which provide employment for more than half our working population? Are they to be prevented by taxation from improving working conditions, from paying better wages, from enlarging their works, from modernising their plant or from employing more hands? Are they to be crippled by taxation in their production costs and prevented from competing in the markets of the world?

Or is the cost to be met by those who, as owners of land, receive the very great advantages which will result from works of this nature? The Honourable Walter Nash, Finance Minister of New Zealand, said to the American Institute of Planners in New York:—

"With all the definiteness that might be required, I affirm that benefits received should be based on services rendered, and the payment should be made by that person or body which receives the service. Values should belong to those who create them. Expenditures of taxes collected from the community should be reflected in services or benefits to the *whole* of the community."

I agree with Mr. Nash, but I might point out that it is not always obvious where the real benefits go. The real profits resulting from irrigation development, for example, lie, not in the sale of water, but in the increases in business activities and in land values resulting from that development—and these increases are not by any means confined to the farmlands on which irrigation is carried out. On the contrary, they are largely in the urban areas.

### "Unearned Increment" in Land Values

The objective of public expenditure should not be to boost land values for the benefit of a few individuals.

The Victorian Parliamentary Public Works Committee drew attention to this problem, and to the American Anti-Speculation Act, in a report on a developmental project in Victoria a few years ago. The Committee stated that:—

"A difficulty with all developmental works such as the proposed storage basin, is to obviate the advantages due to Government expenditure being reaped by landowners to the detriment of those who work the land. Landowners who sell or lease their properties at increased prices, after developmental works have added to the productive capacity, secure an unearned increment, while the new settlers secure little advantage as, having paid for the improvements in the higher prices for rentals for their holdings, they are still called upon to meet water charges."

The problem of unearned increment in land values of irrigated land is, however, not by any means solved by legislation which gives the unearned increment to the purchaser instead of the vendor, for the purchaser will, in time, become a vendor himself and the American Anti-Speculation Laws do not prevent him from then taking full advantage of the market price for irrigated land. It is evident that the long term success or failure of reconstruction in Australia will, in the long run, be determined by the policy which may be adopted for the control of land occupation and of rights in land values. In this regard, rural land cannot be dealt with as a separate problem from urban land in which are



concentrated by far the greater part of the land values created by the whole community.

In very many countries, attempts have been made to collect for the State some part of unearned increment, but, as far as can be ascertained, satisfactory results have never been achieved by any system of levy other than an annual tax or rate on land values.

A uniform tax on land values equal to its rental value unimproved, i.e., its "economic rent" would eliminate speculation altogether, and the revenue received by the State would enable taxation on industry and on earned incomes to be very greatly reduced. If industrialists and wage earners realised this, the reform would be effected very quickly indeed.

It is essential for the community to re-think its attitude towards public expenditure on developmental works, and to decide whether it can afford to subsidise such works largely for the benefit of the limited section of the community which receives practically the whole benefit in unearned increment.

Unearned fortunes are made only at the expense of the community. Is the post-war programme to follow the pre-war practice which might well be labelled "Public Expenditure for Private Profit," or are we going to do some straight thinking on this question of the "Land Problem"?

### Engineers and Economic Laws

Underlying and governing the economic life of the community there are simple unvarying natural laws which cannot be flouted or ignored. The often referred to "Poverty in the Midst of Progress" is simply the consequence of our refusal to recognise these natural laws, and plan our economic and social life accordingly.

"In Nature," someone has rightly said, "there are no rewards and no punishments; there are only consequences." Engineers do not question the fairness or unfairness of the law of gravitation or of the laws that govern electrical phenomena. They do not ignore these laws nor attempt to deny their existence. They endeavour to understand them, and design their structures and their machines to take advantage of what they know will be inevitable. If this were our attitude to economic problems, there would soon be little unemployment and no undeserved poverty; there would be amazingly rapid material progress in all industries throughout the community but there would be no great accumulations of wealth by individuals who had not earned it by service to the community.

A British engineering journal recently drew attention to the fact that increasing numbers of people, who vaguely profess liberty, believe it to be no longer possible, and, to obtain freedom from want, are prepared to accept throughout their lives the regimentation and bureaucracy of socialism. I do not hold that view, nor do I believe that the surrender of liberty to the State is necessary or desirable. The world provides all the resources necessary to satisfy the material desires of all men, and that our failure to take advantage of these resources to the limit of human ingenuity—our failure to distribute equitably even the benefits of our present restricted and handicapped industrial and community effort, and our failure to solve the so-called problem of under-consumption is due to our failure to recognise the "Land Question" as fundamental. We have gone wrong on the Land Question, and everything else has gone wrong automatically.

There is no greater or more urgent task of leadership for the engineer than to help the Community to a clear understanding of the simple economic laws that govern the distribution or benefits from human activities.

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## LIBERAL LIBERTY LEAGUE

THE ANNUAL General Meeting of the members of the League will be held in the Livingstone Hall, Broadway, Westminster (nearly opposite St. James's Park Station), on Thursday February 28, at 5.15 p.m. It will be followed at 7.15 p.m. by a Public Meeting at which the Chairman of the League, Mr. Ashley Mitchell, will preside, the speakers being Messrs. Wilfrid Harrison, T. Atholl Robertson and A. W. Madsen.

In the posters and other advertising, the subject of the meeting is announced as follows:

CAN WE SOLVE THE HOUSE FAMINE  
THE SHORTAGE OF GOODS AND FOOD  
AND CREATE PROSPERITY  
BY LIBERTY AND  
PRIVATE ENTERPRISE?  
YES!

Members are particularly requested not only to attend the Business Meeting, where important decisions will be taken, but also to help to ensure the success of the Public Meeting, especially by displaying the posters and distributing the (free) tickets by which, in addition to Press announcements, it will be advertised. Please also provide names of interested persons, with their addresses, to whom invitations may be sent.

In a reference to the League's Tunbridge Wells meeting on January 26, *Motor Transport* of February 9 said: "Support for the haulage industry in its campaign against the Government's proposals was urged at a meeting convened by the Liberal Party League. The subject was 'A Call to Freedom—Planned Men or Free.' Mr. George Winder, a farmer, said it was intolerable that thousands of small private owners should be robbed of an interest in and reward for their industry and their freedom to earn their own living in the way they wanted. Mr. Stephen Martin said that nationalisation, simply put, meant State monopoly, and whereas the people had power to compel their Government to take action against monopoly, they were powerless against a Government which was the monopolist."

Lady Rhys-Williams has resigned the chairmanship of the Publications and Publicity Committee of the Liberal Party Organisation as a protest against the leadership of the Party in the House of Commons. In her letter to the Chairman of the Executive, published in the *Manchester Guardian*, February 13, she took exception to the speeches of the present leaders which could not be reconciled with Liberal principles and in particular she found it impossible to defend the statement by Mr. T. L. Horabin, the Chief Whip, in the debate on the Land Acquisition Bill that he favoured the nationalisation of the land, which he must know had never been accepted as Liberal party policy. Lady Rhys-Williams, the *Manchester Guardian* remarks, was signatory of the report on coal published by Mr. Seebohm Rowntree's Liberal Committee which favoured a reconstructed coal commission as the best means to revive the coal industry. The Liberal M.P.s on the other hand voted for the second reading of Mr. Shinwell's bill to nationalise the mines. These are the divided counsels which have brought the party to its present pass, its leadership false to the principles of Liberalism. And, at last, within the hierarchy itself, comes this sign of revolt.

The League calls for adequate financial support for the extension of its campaign, contributions being sent to the Hon. Treasurer at 4, Great Smith Street, London, S.W.1. It invites new members, the minimum membership subscription being 5s. yearly with addition of whatever extra donation the subscriber may be disposed to give. From a number of members the renewal of subscription for 1946 is now due and the Hon. Treasurer cordially reminds them of the financial needs of the League when they are making remittance.

**2d. HOW THE ENGLISH PEOPLE BECAME LANDLESS. And How to Regain the Land.**

**3d. Each. LECTURES AND ADDRESSES BY HENRY GEORGE: The Crime of Poverty; Moses; Scotland and Scotsmen; Thou Shalt Not Steal; Thy Kingdom Come; Justice the Object, Taxation the Means; The Land for the People.**

**3d. THE LONDON COUNTY COUNCIL AND SITE VALUE RATING. Debates on the Bill and Discussion in the Press.**

**3d. UNEMPLOYMENT AND THE LAND. By W. R. Lester, M.A.**

**3d. THE NEW POLITICAL ECONOMY. By John B. Sharpe.**