

STATEMENT BY TEACHERS' UNION See page 134

To the Editor

Sir—I have carefully examined the statement about High Schools prepared by the Teachers' Union, and am sorry to find that it is marked by narrowness of mental outlook. The union reflects on the chairman of the Education Committee, Mr. Wallace Sandford, who, I feel pretty sure, never sought the position. Probably the Minister of Education found it imperative to appoint a sound business man to the post, and found that man in Mr. Sandford, and associated with him a man who is well versed in the different phases of primary, secondary, and university education, Professor McKellar Stewart. It is a pity that the union descended to poor and unworthy tactics. Members of Parliament are invited to ask themselves certain questions set out by the union. They need not trouble themselves, for the simple reason that the committee was not asked to overhaul such a vast department as that of education. It was asked to make recommendations for economies. To do this it was not necessary to visit a number of schools, nor, indeed, to find out what is being done in Australia or other parts of the wide world, nor to visit schools in the other States. The union wants to know if publicity has been given to the comparative costs in the other States. This is the usual fallacious argument so fondly cherished by teachers. Because the far wealthier States spend more, it is ridiculous to contend that South Australia ought not to reduce the outlays she cannot afford. The union proceeds to a long dissertation on the wrecking of High Schools and on the case of the child of poor parents. The cost per head of the mean population is given in order to make an attack on the University.

The figures are for the year ended December 31, 1930, not June 30. This attack is, to say the least, not generous. For many years (I believe 30) the University has granted free admission to all its examinations, to all lectures and to degrees, to any person connected in any way with the Education Department. How many thousands of teachers have thus benefited! Where does gratitude come in? Comparison is drawn between the amount (per head) given by the Governments of the different States to their universities. Those of Sydney and Melbourne get less than half that given to Adelaide; but not a word is said about the very much larger populations of New South Wales and Victoria. Nor is reference made to the very large and numerous bequests by private benefactors to those two universities, which enable them to carry on with a comparatively smaller Government grant. The conduct of the Teachers' Union may be described as "not playing the game!"—I am, Sir, &c.,

CITIZEN.

TEACHERS' UNION'S REPLY TO

"CITIZEN" 20-8-31

To the Editor

Sir—It is not our usual practice to reply to anonymous contributors, but "Citizen's" letter is so very wide of the mark that we make the following comments:—The Education Committee was not merely "asked to make recommendations for economies," the terms of reference being:—1. The general policy of education in relation to the economic resources of the State. 2. Whether the present system of education is effective, and whether some modification of it would meet the requirements of the community. 3. Concerning the cost to the State, and whether it is capable of reduction.

Recommendations under 3 should, in our opinion, only have been a result of investigations made pursuant to 1 and 2. The State-wide protests against the recommendations contained in the majority report point to the fact that due regard was not given by the committee to the requirements of the community. The only reasonable means of deciding whether the cost of education is excessive here, is to compare our figures with those obtaining in similar departments in other States and countries.

No objection has ever been made by the Teachers' Union to the Government grant to the University. We maintain that this grant, as well as the amount spent on high schools, is reasonable when compared with the benefits accruing to the State from those institutions. However, we do object to a professor of the University, without adequate enquiry, recommending the closing of the majority of the high schools, and leaving the institution in which he is interested untouched. If it is merely a matter of economy, as "Citizen" suggests, then the University should not receive preferential treatment. The attendance of teachers at the University is a matter of departmental policy, and no doubt is taken into consideration when fixing the amount of the University subsidy. Does "Citizen" consider it "playing the game" to make attacks from behind the shield of anonymity.—I am, Sir, &c.

F. R. FORGAN,  
General Secretary S.A. Public Teachers' Union

RESEARCH AT CAMBRIDGE

Biscuit Tins and String Used in Experimental Work

Take a glimpse of life at Cambridge, the centre of the English speaking world so far as physical science is concerned; where discarded biscuit tins, string, and parts of Meccano sets are brought into service in experiments of world importance; where scientists labor day and night on atoms and other problems in laboratories which are not so well equipped as those at Adelaide University.

From first-hand experience Dr. Oliphant, who has returned to Adelaide on a holiday after four years at the great centre of learning and experiments, says that Cambridge is no longer the resort of sons of wealthy parents. He went there on an 1851 scholarship and, having been awarded the Messel Research Fellowship by the Royal Society, will continue his work in physics at Cambridge. Before he left Adelaide he was assistant to Prof. Kerr Grant.

By M. L. OLIPHANT

LIFE at Cambridge is far different from what I expected when I left here four years ago. Then I thought I knew practically everything of importance in physical science, but there I found that I was just beginning.

So far as physical science is concerned Cambridge is the centre of the English-speaking world. It is a place of pilgrimage for the leading men from all parts. You meet them as equals. They come to see you and your work. It is in that way that the Cavendish laboratories at Cambridge are such a force, as there the work of so many other countries is co-ordinated.

More constructive work is done there than in the whole of the American continent, yet the laboratories are not so well equipped as those in Adelaide. The buildings are obsolete. There are 56 rooms, but only one woman is employed to keep them in order. And the windows are cleaned perhaps once a year. Still the work goes on.

Except for vacuum pumps and things that have to be up to the mark, we improvise our own contrivances for experimental work. We bring into service biscuit tins, string, parts of Meccano sets, and any other apparatus which may suit our purpose.

A GREAT advantage over other places is that when working on a particular problem one has always several people with whom to discuss it. Success at Cambridge arises not so much from any teaching received as from the inspiration gained from the dons.

In Adelaide or any other Australian university there is perhaps one professor of a subject and one lecturer, who divide between them the whole of the teaching work. They are unable to look anywhere except to the technical journals for inspiration and advice on any of the points which they encounter in their investigations. At Cambridge there is usually a man handy who can, in a few minutes, solve a technical point which may be holding up another. But, working in isolation in Australia, one might spend a year or more on something that has been already solved elsewhere.

It is unlikely that really first-class men will ever be attracted from Europe to Australia unless opportunities for original research work are improved. The equipment exists in Australia, but the opportunities do not. It is also futile to train young men to become research workers and not be able to offer them work in that line when they have completed their studies. And this happens again and again in Australia.

Chemical and electrical firms of England draw their own research workers almost exclusively from Cambridge and other laboratories.

REDUCTION of the education grant in South Australia, so far as it applies to the University, would be a retrograde step. To curtail the small amount of work done under difficulties in Adelaide University would be to commit a sin to be regretted in the near future. If Adelaide is to take a place among the great universities of the world it must not stop short at having had Sir Horace Lamb and Sir William Bragg on its staff. It must multiply men of their calibre.

There is talk here of going back 20 years and reorganising the University on the lines of what was done in those days. If this is permitted Adelaide will drop from the world of constructive effort.



DR. OLIPHANT

The present staff of Adelaide University has had its work seriously cramped by having had to spend the greater part of its energy in teaching and administration, and it would be iniquitous to expect these men suddenly to blossom forth as Rutherford's or Einsteins.

Lord (formerly Sir Ernest) Rutherford, a New Zealander, who is director of Cavendish laboratories, is one of the hardest working men in the world. Not content with what he does at the laboratory in the daytime, he works far into the night at home. He was president of the Royal Society, chairman of the Council for Scientific and Industrial Research, and chairman of the National Physical Laboratory,

and now takes a seat in the House of Lords, in addition to his work at Cambridge.

He is investigating the properties and nature of the long-range "Alpha" particles from radium and other radio-active bodies, and is obtaining startling information about the structure of the inside of the nucleus of the atom.

Dr. J. Chadwick (assistant director) is continuing work, which was begun in conjunction with Lord Rutherford, on the disintegration of the atom, and in an academic way making possible the old dream of the alchemists of the philosopher's stone. By bombarding the atoms of various materials with "alpha" particles they are able to change them into atoms of another material, the process often being accompanied by the release of tremendous quantities of energy.

AUSTRALIANS working in the laboratories include Drs. F. Arnott (Sydney) and J. Roberts (Melbourne), Messrs. H. Webster (Tasmania) and J. Cairns (Western Australia). They are investigating problems of the nature of those tackled by Lord Rutherford and Dr. Chadwick.

Work on which I am engaged is slightly different. I investigate the properties of atoms of matter which carry electrical charges. The great importance of these particles is that they are the carriers of electricity in the discharge of electricity through gases. For instance, the problem of the lightning flash is essentially the problem of the movement of charged particles. Electric signs used for street advertising are dependent for their action entirely on the discharged particles.

Sir John J. Thomson, generally referred to as "J. J.," is now 74 years of age, but is still actively investigating these problems. Inspiration which is gathered from "J. J." Lord Rutherford, Dr. F. Aston, and other famous workers is wholly responsible for the quality of work turned out in the Cavendish laboratories.

Cambridge is now a place where serious work is done, especially on the scientific side. Such men as Prof. Eddington help publicly to popularise this work, but other workers whose names are never heard outside the laboratories are laying the foundations for future discoveries in mathematics, astronomy, physics, chemistry, and other sciences.

One sees little of the moneyed men who go to Cambridge to secure the social standing which three years there gives them.

*M. L. Oliphant*