

NATURE

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EDUCATIONAL RECONSTRUCTION (5)

Compulsory Part-time Education

THE Government's White Paper on Educational Reconstruction is headed by a well-known quotation: "Upon the education of the people of this country the fate of this country depends". That, of course, is profoundly true. It states the broad problem of the future in undeniable fashion. But it has been also significantly underlined by the Prime Minister when he said: "The future of the world is to the highly educated races who alone can handle the scientific apparatus necessary for pre-eminence in peace or survival in war". Implicit in that statement is the need to know what *kind* of education we are to provide for those who are to follow us.

The White Paper is necessarily concerned with the machinery rather than the content of education. But the structure of the machinery is obviously not without its indications of content possibilities, since it at least shows us something of the scope of education which the machinery will permit.

Consider the proposals for compulsory part-time education, since the main criticism of our present full-time education arrangements is directed at this aspect. Full-time education ceases about the age of fourteen. What does that mean to us if we are really considering education as something upon which the fate of Great Britain—and that means the fate of the children of this country—depends? Sir Richard Livingstone has summed up its meaning in one vivid phrase: "To cease to be educated at 14 is as unnatural as to die at 14". But in case the phrase be open to any quibble at all, let us use an equally vivid and descriptive phrase which occurs in the White Paper itself. If the effects of education carried on only to the age of fourteen are thin and liable to wear off quickly in the rough and tumble of the industrial and commercial world, the language of photography provides us with the reason. "The process of education for the vast majority of children", says the White Paper, "offers at present an example of 'under-exposure, under-development and insufficient fixing'."

Something has to be done then to remedy the defect, and the first step is to raise the school leaving age to fifteen and, later, to sixteen. But even that is not enough. The full value of raising the school leaving age will not be secured unless the results are consolidated. How is that consolidation to be secured? There must, says the White Paper, be continued supervision of the health of young people after full-time schooling has ceased, and opportunity must be provided to develop their capacities and interests. The present War very quickly showed us that if the provisions for day continuation schools in the Education Act of 1918 had been operated, many of our present problems would not have arisen.

The White Paper therefore makes it clear that "all young persons from 15 to 18 will be required to

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attend an appropriate centre part-time, unless they are in full-time attendance at School or otherwise under suitable part-time instruction". The attendance will be taken from hours of employment and, at first at any rate, will be limited to a day per week or its equivalent. Moreover, we are glad to note that the old title of 'day continuation school' is to be abandoned, and 'young people's colleges' substituted. That, indeed, is not the best title, but it is better than a title which might indicate that what is to be done is a mere extension of previous schooling. The point to be emphasized is that a new phase of life and development is to begin.

We need not enter here into details of variations of a general plan which may have to be made. The rural areas present problems which will have to be resolved. So also do the cases of young persons serving at sea. But these matters are noted and recognized by the White Paper and will, we hope, be brought within the scope of the new proposals without excessive difficulty.

Already we have pointed out that the proposals for this new machinery give indications of the scope and content upon which interest and thought must be concentrated. The indications are clear so far as the young people's colleges are concerned. The young people concerned will be engaged in a variety of occupations. For all of them, however, there are basic elements which must be included in their training. Thus "provision must be made for their well-being through physical training and remedial exercises and instruction in health and hygiene. The school medical service will be extended to cover them. . . . Other essential elements will be training in clarity of expression and in the understanding of the written and the spoken word, together with some education in the broad meaning of citizenship to give some understanding of the working of government and the responsibilities of citizens and some interest in the affairs of the world around them".

If that be achieved, we believe a prime move will have been made to produce people who can "handle the scientific apparatus necessary for pre-eminence in peace or survival in war".

Technical, Commercial and Art Education

We turn now to the proposals for "Technical, Commercial and Art Education", and here we note one of the two major issues to which the White Paper directs attention: the need for the further development of these branches of education.

That need has been heavily underlined by the War. We know now how vital a contribution has been made to the war effort by the technical colleges. They have, to put the matter quite mildly, not only trained munition workers and members of the Forces; they have also worked miracles as production centres. The White Paper recognizes their contribution. They have "made a contribution to the specialized training of the personnel . . . the value of which cannot be over-rated . . . they have shown, notwithstanding the handicaps imposed by war conditions, that they can assist in effective training to a degree and in a way, the possibilities of which industry has not

hitherto generally appreciated". Vast developments in industry and commerce are now envisaged, and we have in these columns already indicated the need which will exist for special training. It is well, therefore, to note that the White Paper suggests that "industry and commerce should review their arrangements for training, and should co-operate in associating the technical colleges and art schools more fully with the industrial and commercial life of the country".

Our present system—and the White Paper interpolates the remark "if it can be called a system"—will clearly be insufficient and inadequate to the calls the future will make. We note, for example, that at present the provision of further education is a power and not a duty of the local education authorities, and technical education has not advanced in concert with the needs of a highly industrialized community. We note, too, that "in particular the standards of the buildings and equipment in use have often been deplorably low, and comparison with what can be seen in other countries which have been our competitors in the world markets, can leave little cause for satisfaction". In pre-war days a programme for the provision of colleges and the expansion and bringing up to date where necessary of others already in existence had been made, and for that purpose capital expenditure of some £12,000,000 was contemplated.

The White Paper indicates that this is to be remedied. The cost will be considerable. That is recognized: "The post-war cost of such a programme will inevitably be higher [than the £12,000,000], but it will be of the first importance that these plans should be revised and expanded to meet the new requirements, and, as soon as possible, carried into effect". With that in mind provision will be made to place a duty on education authorities to provide adequate facilities for technical, commercial, and art education, both full-time and part-time.

So far, so good. In general the White Paper's proposals must be regarded as satisfactory up to that point. But it is here we must turn to the appendix to the White Paper which deals with the financial implications of all the proposals. We are warned that "it is not proposed to introduce any of the proposals until after the war". Thereafter there is a plan which will occupy some four years, and "the development of technical and adult education is not included among the matters to be dealt with in the first four year plan". Nevertheless "some allowance has been made for preliminary expenditure in respect of technical education".

How much? The allowance for "preliminary expenditure" is to be made two years after the White Paper scheme begins to operate, and it will form only 1.11 per cent of the total educational expenditure. In the succeeding years this percentage falls to 0.82 per cent, and then, in successive years, becomes 0.58, 1.21, 2.45 and 2.98 per cent. Thus, seven years after reconstruction has begun, less than 3 per cent of educational expenditure is concerned with technical education.

The Parliamentary Secretary to the Board of

Education, in a recent debate, said that the figures represent the capital charges on new buildings. We wonder what new buildings are to be secured for an expenditure of these dimensions. And, in the meantime, what is to happen about the equipment which so clearly must be provided? What estimates are envisaged to secure the greatly increased recruitment of the highly qualified and experienced teaching staff which will be necessary?

We can provide no answers to these questions. We record, as of course anyone must record if the need for educational reconstruction be clearly known and appreciated, our admiration of the broad sweep and character of the proposals which the White Paper has adumbrated. But we cannot help expressing the fear that, if so much time must elapse after the War before the real and concrete work of educational reconstruction can begin, there will be a very clear danger that the high hopes the educational proposals have raised may very easily be disappointed. We do not pretend to ignore the difficulties. Of course there will be difficulties. No one knows when the War will end. There will be many things to be done when it does end; things which will be called priorities and which indeed will be noble and inescapable priorities. But when we talk of technical education we believe we talk of something which is inextricably linked with the welfare and success of that vital industry and commerce upon which will rest the possibilities of so many of the social improvements the country expects. There must then be no lapse of time in reforming our present system so that it may meet the demands which will be thrust upon it.

We hope, then, that the Government will review its time-table of educational reconstruction and give swift and real meaning to the proposals we have noted and long to see put into effect.

THE FUTURE OF TECHNICAL COLLEGES

THE correspondence which has been proceeding in the columns of *NATURE* under the heading "The Future of Technical Colleges" is both timely and important. Recent publications, such as the White Paper on Educational Reconstruction, and the still more recent report of the Parliamentary and Scientific Committee on "Universities and Research", show a growing awareness of the fact that if Great Britain is not to be overwhelmed by the rising tide of science, it will be necessary to mobilize all the scientific and technical ability the country can muster. We shall need all the pure scientists we can discover, a far greater number of first-class technologists, and an innumerable host of skilled technicians. In the education and training of this army of reconstruction, both the universities and the technical colleges must play a part, and the task is, quite frankly, beyond their present resources. Before public money is spent, as it must be, on increasing those resources, it is clearly desirable, in the interests of economy of both money and man-power, that the

respective functions of the universities and the technical colleges shall be clearly defined, and each of them equipped for their appropriate functions.

It is unfortunate that a single rather emphatically worded sentence in Dr. Lowery's letter in *NATURE* of August 21 should have been construed as an attack on the quality of the instruction given in the technical colleges of Great Britain, since the volume and vigour of the quite natural reaction has rather swept the discussion from its most fruitful channels, and has caused the many admirable suggestions made in that letter to fall somewhat into the background. No one would question that, in days when universities were few and university scholarships both hard to come by and inadequate in amount, technical colleges performed a valuable service by stepping into the breach, and enabling men of high ability, who through lack of funds were unable to obtain the university education which their talents would have justified, to establish themselves in the scientific world by means of an external degree. The system whereby such men should have to depend for their education on the classes available in the local technical colleges, often after the end of a full day's toil, cannot be regarded as more than a temporary expedient. It no longer satisfies either the social conscience or the urgent needs of the times. As the White Paper states, "high ability should not be handicapped by accidents of place of residence or lack of means in securing a University education". Courses in technical colleges, however efficient the instruction and equipment, do not constitute a university education; nor can the matter be entirely rectified by affixing the stamp of an external degree to the product. The fact that in some of the larger cities of Great Britain a university and a technical college may be found flourishing side by side, shows that the two types of education are not felt to be identical (City Fathers are not usually guilty of extravagance in matters of education) and that in a complete educational system each is needed to supplement the other.

It is important that this duality of function should not be overlooked in planning the reorganization and extension of higher education. It is an expression of a similar duality in human interests: on one hand, the desire to understand; on the other, the desire to construct. Each is essential to human progress. Each requires its appropriate type of training. The primary function of a university is the conservation and extension of learning, and the training of men and women who shall carry on this tradition. Every university department is, or ought to be, a research department, and it is for this reason, rather than for any supposed superiority in equipment or standard of teaching, that it is important that students whose interests and aptitudes mark them out as the research workers of the future should receive their education within a university.

From a utilitarian point of view—there are, of course, others—the importance of such students lies in the fact that the science of to-day becomes the industry of to-morrow. Relative to the large number of technicians and technologists who will be required