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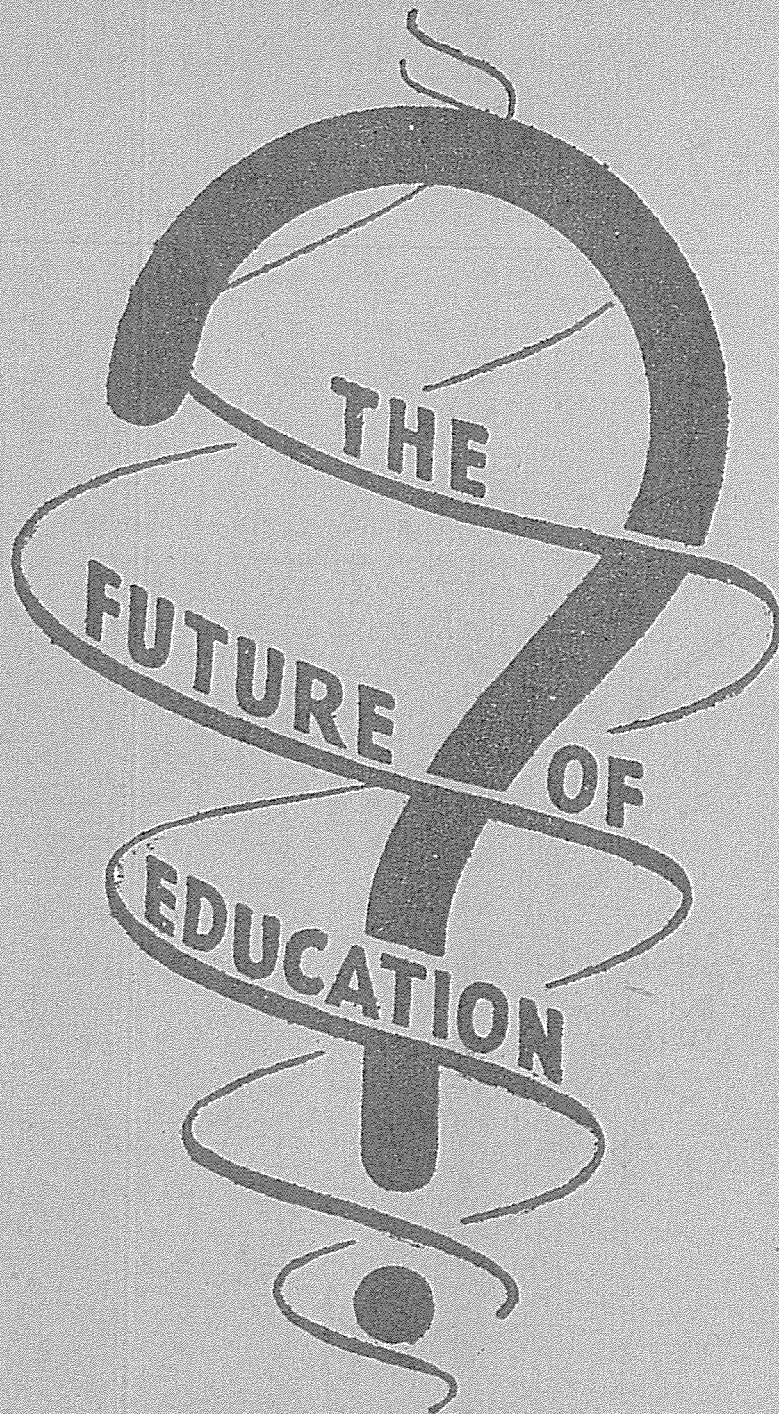
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No. 10

EDUCATION FOR LIVELIHOOD

L. W. PHILLIPS and K. S. CUNNINGHAM

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THE AUSTRALIAN COUNCIL FOR EDUCATIONAL RESEARCH

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EDUCATION FOR LIVELIHOOD

THE FUTURE OF EDUCATION

No. 10

EDUCATION FOR LIVELIHOOD

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AUSTRALIAN COUNCIL FOR EDUCATIONAL
RESEARCH

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EDUCATION FOR LIVELIHOOD

EVERY normal citizen is faced with the problem of acquiring some skill for which the community is prepared to reward him. He may, like the engineer, add years of special study to the normal years of schooling, or like the unskilled labourer learn on the job to use a pick and shovel, or like the artist live on a crust in the hope that society will eventually recognize his talent.

With the passing of the old home crafts where son learned from father the community has had to give more and more direct attention to the training of people for livelihood. This has to be done not merely for the sake of the individual. The welfare—indeed, the very existence—of the community itself depends in these days on the technical efficiency of its members. Broadly defined, the technical education necessary to produce this efficiency includes all forms of systematic training for livelihood whether it be in the plumbing class at the technical school, in the anatomy department of the university, or in the training college for teachers.

It is obvious that educational planning must take special account of this problem of preparing for livelihood. The problem has many different facets. At what age should preparation commence? Should it, or can it, be clearly marked off from general education? At what sort of institution should it be given? Should we require or should we discountenance early specialization in such training? By what

means and at what age should young people decide what particular form of livelihood-training they will seek? Should it be under the same form of administrative authority as general education? Should it include compulsory part-time training after entering into a job? What proportion of our youth at present fail to receive any specific training for their life work? Can we have too many trained men?

These are not merely academic questions. They are answered in one way or another by present day practices. Every parent is vaguely aware of some of them. He comes up against such questions personally when deciding whether to send his daughter to the university or to a business college; whether to assume that his son will do best to leave school at 14 and, like himself, work his way up in a business from messenger boy to manager.

The need for thorough examination of these questions lies in the fact that our present practices are not based on any carefully thought out plan. They arise from the accidental accretions of history, from bits of planning here and there, from advocacy of special needs or interests, from imitation of what has happened elsewhere. With due deference to certain principles which hold good anywhere, our answers must be based on an over-all study of our own particular Australian needs and on a forecast of the kind of economy we shall have in the future. If we are to face the problems which lie ahead we must raise the standard of citizenship in Australia. The aspect of citizenship with which we are here concerned is that of vocational efficiency.

Is there a Conflict?

There is much confused and confusing argument on the supposed antithesis between the 'cultural' and the not-so-cultural in education. It is often implied that technical education provides us with our clearest illustration of the not-so-cultural. Let us try to look squarely at the matter.

To begin with we cannot avoid the necessity for distinguishing between higher and lower forms or stages of learning. In doing this, however, we must make clear the sense in which 'higher' and 'lower' are used. The danger of a prestige word like 'cultural' is that merely by applying it we tend to beg the question as to what is higher and what is lower. We suggest, indeed, that we have made an analysis which in fact we have not made.

In human learning we are concerned with the acquisition of two forms of skill—skill of mind on the one hand and skill of body on the other. Do we find here the distinction between the cultural and the not-so-cultural?

Bodily skill ranges all the way from habitual muscular movement, as in the use of a typewriter, to the delicacy of movement involved in a surgical operation or the use of tools by a sculptor. These latter examples serve to remind us that we must not push too far the distinction between the muscular and the mental. The essence of the surgeon's skill lies not so much in accuracy of movement as in the knowledge which directs the movement. The sculptor needs steadiness of hand less than he needs subtle appreciation of form and design. In general,

then, it seems impossible to define the 'cultural' in terms of the predominance of mental as contrasted with bodily activity. The routine work of the bank clerk possibly merits the label 'cultural' less than does the work of the blacksmith.

Does the criterion of 'usefulness' help us? Can we say—as some have done—that learning which is directed to some useful end is not cultural, or at least is less cultural than 'learning for its own sake'?

Before discussing this we may distinguish between immediate or direct usefulness and later or indirect usefulness. Most learning partakes in varying degree of both qualities. We must distinguish also between the usefulness of learning as seen by the learner and its usefulness as seen by the external observer, e.g., the teacher. Even more important is the realization that usefulness is not a quality inherent in the activity as such. An activity, to be useful, must serve some human end or purpose; it must be useful for *someone*. From this it follows that learning which is useful for one person is not necessarily useful for another.

It is high time to illustrate. Learning the names of the days in the week is so useful that we do not hesitate to call it necessary knowledge. Apart from its direct application to everyday affairs it has little if any further usefulness—it does not lead beyond itself. Learning the multiplication tables, however, derives most of its importance from the fact that it provides a useful, indeed a necessary, tool towards further progress in the realm of number. There is thus justification for saying that we learn the days

of the week for their own sake but that we teach multiplication tables to children primarily because of their later usefulness. They provide a necessary technique for anyone who is to become competent even in the mathematics of everyday life.

Take now the learning or teaching of a poem. Here too, though in slightly different form, the concept of usefulness must be added to that of worthwhileness for its own sake. The teaching of a poem is educationally justified only if it excites the interest and satisfaction of the pupil. But implicit in our teaching of it is the assumption that it will contribute to the intellectual and aesthetic development of the child, that it will add to his mental capital. In this sense we do not merely teach or learn it for its own sake.¹

On such grounds as these we must reject any argument which suggests that the cultural can be identified with the 'useless.' Indeed in education the useless is worthless. On the other hand we can maintain that the higher forms of learning are those whose usefulness is derived from the increased mastery which they confer in the realm of ideas. The lower forms of learning are concerned with routine skills—whether mental or muscular—which do not lead beyond themselves, and, except in insanity, are employed only as means to some other useful end.

It might be a blessing if we could drop the word 'cultural' altogether. If we retain it we must remem-

1. Truscot in *Red Brick University* uses the phrase 'intrinsic value' to characterize those studies which have most cultural worth. This helpful phrase suggests agreement with the point of view adopted above; but it seems that further analysis would show that the presence or absence of 'intrinsic value' can be determined only along such lines as we have suggested.

ber that in the practice of education we are always concerned not with an abstract concept of culture as something relatively permanent and objective, but essentially with a result in the individual who is 'cultivated.'² In this sense what is cultural for one may not be cultural for another. As already suggested, it is not sufficient for someone else to decide what is 'good' for the learner. Because of our mass education methods we have here the basis of much educational waste or even tragedy. The pupil whose only motive in studying is to avoid the censure of the teacher, or to pass an examination, is no more pursuing learning for its own sake than is the juggler who spends weary hours acquiring tricks merely in order to gain a living. We may go further than this. Because of our 'bookish' approach to education and our consequent neglect of the approach through practical activities many pupils receive an education which for them has little cultural value. Even though we might agree that the study of French has more cultural potentialities than instruction in woodwork or dressmaking, it does not follow that it will have more cultural value for all pupils under all circumstances.

How Does Technical Education Stand?

Technical education in its essential meaning refers to any form of systematic instruction which is concerned with the mastery of technique. In practice

2. The proprietary attitude towards 'culture' adopted by many users of the term as if, like riches, it were something we either possessed or did not possess, reminds us of William James' story of the energetic Chicago woman who, after admitting that her city had not yet achieved 'culture,' nevertheless was convinced that when the time came to be cultured, Chicago would make it 'hum.'

the techniques chiefly emphasized are those which are useful in earning a livelihood.

We have already implied that such education does not cease to merit the label cultural merely because it has this form of usefulness. Whether carried out at the university or at the technical school so called it must be judged as higher or lower in the scale of learning by criteria such as those set out in the foregoing sections.³

The chief practical difficulty is that for many people training for livelihood does not cover more than a small fraction of the intellectual (and muscular) equipment which is needed for living a full life. The development of mass production by machines tends to lower the standards of knowledge and skill required of the many, while the few—the specialists—must know more and more about less and less. The lawyer and the doctor, no less than the chemist, the metallurgist, or the economist are faced with the necessity of covering more and more ground before they can become competent in their particular fields. Even after initial training the professional man may find his hands more than full in keeping up to date.

We conclude that for the great majority of people at all occupational levels we cannot assume that specific training for a livelihood will give that larger view of life and that range of interests which should be provided for all normal individuals.

3. The university concentrates on those 'higher' vocational studies which are somewhat arbitrarily grouped as the professions. It also provides courses—some of them having lost the direct vocational usefulness they once had—which give a more general education. In the main, however, we must regard the university as a vocational institution—and there is nothing *here* to be ashamed about—even if the vocational aims are not as obvious or as immediate as in the technical school.

The immediate remedies which seem to be available are:

- (a) to decrease the proportion of time in each 24 hours which a person has to spend in earning a living, i.e., to increase leisure;
- (b) to educate deliberately for the useful employment of leisure and to provide opportunities for such training to be put into effect;
- (c) to avoid early occupational specialization and to continue general education even when vocational training has commenced;
- (d) to ensure that in the choice of occupation each individual receives guidance and assistance which enables him as far as possible to find an outlet for his interests and abilities.

But having made these 'concessions' to the need for general education we must not be afraid of advocating maximum effort in the achievement of vocational efficiency. The happiness of the individual and the welfare of the community both demand it.

The Separate Technical Institution

In this pamphlet we are concerned specifically with those forms of training for livelihood which are given in the technical school as distinct from the university or other institutions giving vocational training.

The establishment of separate institutions for the giving of technical training has both advantages and disadvantages. Although it makes for the achievement of vocational efficiency, it increases the risk of early specialization in occupational work. It also

provides scope for misinterpretation of the actual state of affairs both in the technical school and in the more general institution. Few of those who adopt a superior attitude towards the technical school have a clear idea of the kind of instruction which goes on in them, of the high levels reached in much of the theoretical work, or of the attention which is given to general education. On the other hand, the existence of the school with a recognized and 'admitted' vocational aim tends to obscure the vocational significance of the work done in the academic secondary school and university.

The establishment of separate institutions has also made possible the not very happy situation in which the technical school is regarded as the place for the slower pupils after the bright ones have been directed to the more general type of institution.⁴ It may be that an unconscious reaction against this accounts for the inexcusably high standards of attainment which appear to be expected even at intermediate or progressive stages in at least some of the present courses in Australian technical schools.⁵

Relationships between General and Technical Education

We may specifically regard technical education as including all those modifications of the educational programme which deliberately aim at increasing future occupational efficiency. But efficiency is not by

4. J. F. Cramer in 'Australian Schools through American Eyes' (A.C.E.R. Research Series, No. 42, Melbourne, 1936) criticises severely what he regards as a tendency to relegate to technical schools the 'second pick' of Australian students.

5. Technical Schools. Curricula and Examination Review by the Association of Principals of Victorian Technical Schools, 1942.

any means solely determined by technical instruction so defined. Education for livelihood has indeed three distinct phases each of which must make its appropriate contribution.

Firstly there is general education. Although the extent of general education required varies from occupation to occupation, all technical education must be based on such a general preparation.

Secondly, there is technical education proper. This consists of those theoretical and practical studies directly related to the occupation in question, whether undertaken before or after employment has commenced.

Finally, there is the education gained by actual experience in pursuit of the occupation.

These phases are inter-related. The contribution which experience can make to occupational success is determined largely by the effectiveness of the two preceding phases. The individual of outstanding suitability for the occupation in question may succeed in overcoming weaknesses in both general and technical education. Incidentally, no one is more likely to be conscious of these early handicaps than the person whose later success is based mainly on 'nous' and on force of character.

Educational Functions of Technical Education

Technical education is not necessarily given in schools specially set aside for the purpose. It can readily be seen, however, that convenience, economy and efficiency are catered for by the establishment of the special educational institutions known as technical

schools or technical colleges.⁶ First there is the problem of organizing a staff with special knowledge and experience of the occupational field and subjects of study relevant thereto. Second, and probably more decisively, there is the question of providing buildings specially designed to accommodate the laboratories, workshops, machines and appliances necessary to give special preparation for a wide variety of occupations.

In spite of its vocational bias the special function of the technical institution can be satisfactorily achieved only if it conserves and advances the general education of its pupils. This is partly necessitated by the fact that some subjects found in any general educational programme must be pursued for their vocational importance. For example, English is an essential part of the technical education of a journalist, a secretary, a civil servant, and so on. But equally important is the recognition that vocational efficiency requires more than mere technique. English and the social studies generally should form part of the technical education of the engineer, the chemist, the architect and all other classes of workers as part of the preparation for adult citizenship, including membership of professional institutes and trade unions. All studies contributing to the cultural, social, physical and civic development of citizens should find their place in the technical school. Such schools need, then, to be more than a collection of

6. In Australia the name 'Technical College' was formerly restricted to those technical institutions preparing students for callings such as architecture, engineering, and chemistry which have professional status. Some States are now giving the name Technical College to all technical institutions as an indication that such courses will be introduced as and when needed.

classrooms, workshops, drawing offices and laboratories. They should include well-stocked libraries, well-equipped gymnasia and assembly halls, as well as rooms for the use of the student body under the management of its elected representatives. The technical institution should have social and civic objectives of no lower an order than those pursued by 'secondary' school and university.

F. G. Sublet⁷ argues that present day emphasis on technical efficiency leads to poor results in terms of citizenship. He maintains that the state of the world to-day requires the cultivation of desirable attitudes rather than of industrial efficiency. The events since he wrote substantiate Mr. Sublet's diagnosis, viz., that the world to-day suffers far more from social inadequacy than it does from technical inefficiency. We agree also that technical institutions of all grades have commonly interpreted their task too narrowly, that every educational establishment must accept responsibility for the attitudes and interests of pupils as well as for their skills. It may be doubted, however, whether the disasters which the world has suffered since 1936 could have been avoided by a different emphasis in school work.⁸ If there is any conflict between the pursuit of efficiency and the cultivation of world citizenship it is rooted only in the sorry state of our civilization—it is not in any way inherent in the goals themselves.

Educational authorities are recognizing more and

7. In 'Education for Industry and Citizenship' (A.C.E.R. Research Series, No. 45, Melbourne, 1936). (Out of print.)

8. See Biaggini, 'A New World for Education' (W.E.A. of South Australia, 1944). This pamphlet maintains that the kind of schooling provided within a society is determined by the conditions and outlook of that society.

more explicitly that there are certain cultural elements inherent in all vocations; that one function of technical education is to seek out, liberalize, and enrich these elements; that while technical education must co-operate with industry and commerce it must never allow the educational ideal of preparing for complete living to be sacrificed on the altar of industrial efficiency and industrial competition.

Economic and Industrial Functions

The part that technical education may be made to play in building up the nation's capacity for industrial production has been amply demonstrated during the course of the war. Australia's isolation made it necessary for goods and materials formerly produced overseas to be produced in our own country. This policy of industrial self-sufficiency forced on us by the war could be carried out only by increasing the numbers of skilled workers to man the new industries. These workers had to be selected and trained as rapidly as possible. The armed services also required skilled personnel to maintain and service the special equipment with which modern war is waged.

In a review⁹ of the way in which these requirements for specially trained workers were met, the Director of Technical Training (Mr. E. P. Eltham) has indicated that 50 technical colleges and schools of the various States have been used as Commonwealth training centres. Some 70,000 skilled workers had been trained in the period from December, 1939,

9. E. P. Eltham, 'Technical Education for War and Peace.' Address published by Institute of Industrial Management, Melbourne.

to February, 1943, while at that latter date 10,000 were still in training. The total number by the middle of 1944 was 119,500. Training has been given for over 80 separate callings. These have included the engineering and building trades, tool-makers, foremen and women supervisors, industrial chemists, engineering draughtsmen, canteen managers, canteen cooks and bookkeepers. He quotes the Director-General of Munitions as saying, 'If the war has shown us anything, I think it has shown us the great need for technical education.'

This utilization of technical education as a means of achieving national economic and industrial aims is not new. It was a feature of the policy of Germany through the whole of the nineteenth century in pursuit of her aim of achieving industrial supremacy.

In the reconstruction of those European countries disastrously affected by the last war, technical education was even placed under the control of those government departments concerned with economic reconstruction to ensure that it played its full part in the rebuilding of the economic structure of those countries. France, Belgium and Czechoslovakia all intensified technical education, especially directing attention to technical training in all those new forms of professional employment created by technological advance in industry as well as following the German plan of making compulsory the part-time education of all young workers in industry. Russia, by means of the technical education system specially devised to suit her peculiar need of building up a new cultural life simultaneously with a great programme of indus-

trial development, succeeded in a single generation in converting a nation of peasants into a highly industrialized community adjusted to the new civic code.

After the last war England was a victor nation. In consequence her cities and factories had not to be rebuilt. There was not the same desperate urge to make the wheels of industry turn more swiftly and efficiently to provide food for the people. Technical education was extended and developed not so much to meet the needs of industry as to meet the demand from the people for vocational opportunity. The motivating urge in British technical education remained what Lord Eustace Percy has called the British doctrine of 'vertical mobility of labour,' as opposed to the rigid occupational stratification of the European systems serving the interests of the State rather than of the individual. During the years of apparent peace Britain was slowly but surely moving towards the new and more liberal conception of technical education which we have advocated.

The Structure of Technical Education in Australia

The systems of education provided by the various States are built on the following general pattern. Primary schools cater for the introductory or primary stage of education. At the next stage we have several types of secondary¹⁰ school, of which the chief are the (academic) high school—directed towards pre-

10. It is most unfortunate that the term 'secondary' has so firmly entrenched itself as the name for a kind of school instead of a stage of education. A technical school is a secondary school just as much as is a high school. 'High school' is, however, not available as an alternative term for any secondary school of academic type because it is never used for schools other than those controlled by the State. We shall use it in this pamphlet because in it we are concerned in the main with State provision for education.

paration for university studies—and the technical school which is concerned in the main with preparation for industry and commerce.

It is now generally accepted that the primary stage of education finishes, or should finish, at age 12, and many pupils transfer to an academic secondary school or to a technical school at about that age. Others go to a variety of institutions (known in the different States as 'central' schools, higher-elementary schools, intermediate schools, etc.) which in some cases offer a self-contained three-year course, normally without a foreign language, or may provide the first two years of a high school course and act as a 'feeder' to that institution.

We are not here concerned with the general situation except to note that its rather confused and unsatisfactory nature is rendered the more so in that, except in New South Wales where the school leaving age is now 15 years, the upper limit of compulsory attendance falls in the middle rather than at the end of any three or four year course starting at 12 years of age. From 14 onwards there is a continual drift from school to industry, to commerce, to farm or to home. This wastage, in the sense of incompleted courses, affects all schools. Some of those who leave do so because of lack of success in their school courses, but many leave because of the desire—or the necessity—to commence earning a wage.

Technical schools and colleges were established in the first instance not so much as an integral part of a continuous scheme of full-time education but as institutions providing further opportunities for those

who had already left school and entered industry. Although, as we shall see, there has been an extension downwards, it is still true that, in the main, technical education is given in the evenings to young people who have already done a full day's work. It is frequently found that their general education is inadequate for technical courses proper and that even from the technical point of view attention has to be devoted to making good these inadequacies. In this 'leisure' or part-time form of education general studies are of necessity limited to those which are technically relevant. In practice it is found that relatively few students who start off with these handicaps enter or complete the higher technical certificate or diploma courses.

Two developments during the past 25 years have done something to remedy these defects. The junior technical schools established for boys and girls from 12 to 15 years have provided a definite link with the general educational system and have furnished a stream of students not only better prepared for the work-a-day life in industry and commerce, but also more capable of taking advantage of the voluntary courses of evening study in the technical schools and of doing the higher diploma courses. These schools have emerged with but little notice from the educational world but, with their combination of general and practical subjects, they exemplify much that is planned for in the 'modern' type of secondary school or the multi-lateral secondary school. The purpose underlying their establishment could be described in the striking terms used in the first Report of the

Federal Board of Vocational Education in U.S.A. This board defined its duty as 'to extend and democratise the secondary school system so as to offer a broad practical training for useful employment to the growing millions of our boys and girls who for want of such training are going unprepared for their life's work into agriculture, industry, commerce and the home.'

The second development has been the establishment of apprenticeship commissions or their equivalent in all the States except Western Australia. In this State the Court of Arbitration carries out many of the functions of an apprenticeship commission. In all States the supervision of apprentice training is becoming more effective. Programmes of technical education have been prescribed, the yearly progress of apprentices is assessed, and the training given by employers is made to conform to schedules prepared by the apprenticeship authority. Technical education in the employer's time (so far not exceeding half a day a week) is provided in most of the States for at least the first three years of apprenticeship. In Western Australia this provision applies for the full five years. Thus we have in industry a group of young workers whose educational and vocational progress is under the continuous supervision of a State authority until adult age is reached. This is sound not only from the industrial but from the educational and social angles as well. It is still true, of course, that apprenticeship or other authorities should give more attention than at present to the general education and physical well-being of apprentices. There is indeed a much needed field of development here.

But the apprentice group forms a very small proportion of the total number of young people working in industry. For every apprentice there are possibly five youths of the same age working in industry without any of the advantages arising from the supervision and training which the apprentice receives. Some of them work in factories offering little or no opportunity for adult employment. They are subject to 'hiring and firing' at the whim of employers or according to their positions on the 'age-wage' schedules.

In the relative neglect of this group we find the great weakness of our Australian systems of technical education. Probably no single group is in greater need of help in preparing for life; yet the junior worker finds all kinds of restrictions preventing his access to technical education. Admission to many of the present courses is based on qualifications which the typical junior worker does not possess. As we shall see, the raising of the school leaving age will force us to face up to the problem. The problem must be faced if we are to reach a satisfactory degree of community efficiency.

Technical Education at the Secondary Level

Junior technical schools in most of the States offer a three-year course for pupils from about 12 to 15 years of age. They cater for children who will enter into industry not more than a year or two after the age for compulsory attendance at school. They also act as feeders to the senior technical schools, especially in Victoria, where both senior and junior technical

schools come under a single branch of administration. The curriculum of the junior school aims at continuing the general education of its pupils as well as introducing them to those sciences and crafts that are common to large groups of related callings in industry. This strong practical bias gives a general preparation for industry without preparing for a particular vocation. Their great strength seems to lie in the close relation of the practical side of the curriculum to the actual facts of industry and the strong appeal made to young adolescents who are more interested in 'life' than in books. Although a balance between the general academic side of the curriculum and practical subjects is aimed at, some critics contend that the practical side outweighs the academic.

We have already recognized the danger of early specialization. In some junior technical schools there may well be a tendency to admit somewhat grudgingly to their place in the curriculum subjects such as English and social studies. Especially if the content of such courses is not well adapted to the intellectual needs and interests of the pupils will they suffer in prestige in comparison with subjects of which the vocational significance is so readily seen.

Full-time Technical Education at the Higher Secondary Level

In all States there exist senior technical schools offering courses in preparation for careers in engineering, chemistry, architecture, household management, institutional housekeeping, etc. These schools

offer many courses for students who wish to take single subjects or to do work at a sub-diploma level; but they also offer for qualified students diploma courses which are equivalent to three or four full years' study at an advanced level. Precise arrangements vary considerably. The courses are often so designed that after two or three years of full-time study students may enter industry and complete their diplomas by attending part-time evening classes. Two years of such study is usually required after three years of full-time work. Thus students are about the age of 21 years by the time they complete diploma courses. This deferment of entry into industry as compared with entry at 14 or 15 years of age has very great advantages. The student's scientific and technical background is sufficient to ensure that his experience in the vocation has much greater educational benefit for him. Many holders of technical school diplomas to-day hold important positions in Australian industry. In some States variations of industrial awards are still needed in order to encourage the taking of diploma courses. Entry into industry of these older students as cadets or by means of shortened apprenticeship would secure this end.

The present tendency is towards the establishment of full-time diploma courses lasting for either three or four years. In four of the States such courses function very successfully at the present time. The principle of day diploma courses has the endorsement of the Australian Educational Council¹¹ as revealed

11. The Ministers for Education in the six Australian States formed themselves into the Australian Education Council in 1936. It has a standing committee of State Directors of Education and Superintendents of Technical Education. The Council meets biennially.

in the following resolutions passed at the 1943 conference:

1. That *diploma courses* established within the technical education systems should prepare students for professional status.
2. That *the standard of entrance to diploma courses* should be the satisfactory completion of at least the higher Intermediate Technical Certificate or a four years' approved secondary school course or their equivalents. The specific subjects of the secondary course to be dependent on diploma desired. (It is understood that the primary school course finishes at the end of the sixth grade, approximately at 12 years of age.)
3. That this conference is strongly of the opinion that *diploma courses* in the several States should be of equivalent standard. These should be provided for by means of:
 - (a) *Day courses* of not less than 3 years. Before being awarded this diploma, a candidate must provide satisfactory evidence of having completed at least twelve months' practical work in an approved industrial establishment or establishments.
 - (b) *Evening courses* of not less than 5 years, provided that the student is following a vocation appropriate to the course of study he is undertaking.(a) and (b) courses to be of equivalent standard.
4. That in drawing up *suitable courses of study for diplomas* consideration be given to the educational and professional qualifications for admission to membership of the professional bodies concerned.

Need for Extension of Advanced Training

The professional courses referred to in the preceding section will meet the requirements of those young people who aspire ultimately to reach professional status and have the ability to master the

academic content of a diploma course as defined in the foregoing resolutions. There is, however, a great range of non-academic abilities which, if developed by full-time training, would enable young people to find employment in vocations that would give satisfaction to themselves and be of great benefit to the industries in which they may be engaged.

There are artistic occupations associated with such industries as building and decorating, furniture making, dressmaking and millinery, the production of textiles, pottery and chinaware, etc. In these there is great scope for the designer possessed of natural artistic ability cultivated to suit the special demands of the craft medium as conditioned by modern methods of factory production. There is need for courses in applied art which in addition to giving art training on conventional lines will include training in the techniques of special crafts or trades and the modifications imposed by present production methods. Evidence of the results of high training in the application of art to mass production could in more normal times be found in the showcases of our city stores. Generally those examples that most excited our admiration because of their artistic design were imported goods. Possibly Australian industry prior to the war was obliged to confine its main attention to utilitarian production lines. The tremendous industrial development due to the war can be maintained in competition with overseas production only if the designer is given his proper place in industry. The cost of reproducing goods to artistic design in modern materials and by modern methods is in most

cases very little more than that of the production of goods designed to meet purely utilitarian needs; but in Australia little or no encouragement has been given to young people to train themselves to meet this post-war need of the art designer in industry.

Technical Education at the University

To complete the picture of technical education in Australia reference must be made in outline at least to the work carried out in the universities. In the days when higher education was in the main the prerogative of the leisured classes, university studies were provided and were often undertaken without any specific vocational intention. This 'non-attachment' of university studies still constitutes their most essential element. Its degrees should be evidence of a broadly based education, rich in intellectual content as well as in human and social values. Its graduates should reveal a capacity for honest thinking and a willingness to serve the community which has made their education possible. As the nursery of new ideas the university must have control of its own curriculum so that it may be free to achieve in its own way all that conforms to the university ideal.

But in this more equalitarian age in which almost all persons must work the typical university student must regard his university studies as a preparation for an occupation. This means that courses in law or engineering, teaching or medicine, economics or agriculture should provide a real training for the occupations which are based on these studies. They must recognize the principles already enunciated—adequate academic preparation, attention to the theo-

retical background of the occupation, and effective contact with the practice of the occupation, including the experience gained after entry to it. Only those occupational studies have a rightful place at the university which require an academic background extending beyond the secondary level. The occupations concerned must also depend on principles where the frontiers of human knowledge are still moving forward.

In Australia there is a tendency for the university to accept only partial responsibility for the experience or in-service aspects of its vocational courses. Such education may be gained as a junior professional worker in a hospital or a solicitor's office, as a probationary teacher or as a junior research officer. The trend overseas is for this experience to be given under controlled conditions within the university in order to ensure its maximum contribution to the occupational success of the trainee.

Perhaps it is a reluctance frankly to acknowledge the vocational training aspect of their work which leads universities to tolerate at times standards in buildings, scientific equipment, libraries, opportunities for research, etc., which are far below those needed for effective preparation for future occupations. Obsolete equipment has its proper place in the historical museum, not in the classroom and laboratory. A visit to any of the large laboratories concerned with the production of munitions and war equipment followed by a visit to any of our universities will demonstrate how inadequate are the present equipment standards of the latter.

The question of actual or possible overlapping between universities and technical colleges is a vexed one. Yet the solution is not impossible. Both institutions, for example, offer courses in engineering and chemistry. But this does not necessarily mean that both institutions prepare for the same occupations within the professions concerned. If, for example, we consider the functional classification of engineers and chemists it will be found that each profession has occupational sub-groups — such as those concerned with research, designing, consulting, and teaching— for which the more academic training of the university gives a better preparation. The technical college can more conveniently give courses for the groups concerned with maintenance, construction and production. For such groups workshop practice should replace part of the course necessary for those whose work is to lie in research, designing or consulting. In chemistry the technical college can appropriately provide for those groups concerned with works-control, with analytical work, or with testing.

This difficulty of overlapping becomes accentuated where full-time day courses are conducted at both technical colleges and universities. If we accept the historical *raison d'être* of the technical institution the person already employed in industry will continue to look to the technical college for his training. Part-time day and evening courses in engineering and chemistry must therefore be maintained within the technical colleges. The advantage of professional day courses in the technical college is that they provide a means of technical education to the pro-

fessional level for the boy or girl who cannot attend a university for a full course but who may attend the shorter technical college course either for the full term or part of it and then leave for suitable employment and complete the professional training by part-time study. It should be possible for the universities and the principal technical colleges to arrange for co-ordination of courses so that on the one hand the technical college student whose special abilities and progress are such that he could successfully transfer to a university course might be assisted to do so; and on the other, the university student who finds it necessary to relinquish his studies and seek employment might be able to complete either a degree or diploma at a technical college. This arrangement could with advantage be extended even into a reciprocal exchange of lecturers so that between the two institutions there will be a maximum spread of specialist teachers available for both institutions. This has already been effected in one capital city. Possibly it was more easily arranged because the technical institution in question was an autonomous body. The same arrangement should be possible even when the technical college is under direct Government control.

The Future of the Australian Technical School

The foregoing sections have given a general account of the present day situation, interwoven with some discussion of principles. Although a sound start has been made in many aspects of the problem of educating for livelihood, much obviously remains to

be done. In particular, we need to consider the co-ordination between general and vocational education.

It is here proposed to recapitulate and to support the proposals relating to technical education contained in 'A Plan for Australia,' the second number in the present series. These proposals may be summarised as follows:

- (a) That compulsory attendance of all children from 12 to 16 years be provided for in multi-purpose secondary schools.
- (b) That half-time compulsory (or full-time voluntary) attendance be required at senior technical schools or at academic secondary schools which would provide a two-year course aiming specifically at preparation for university studies.
- (c) That senior technical schools be controlled by locally elected school councils possessing a reasonable measure of autonomy so as to ensure a strong link with local industry.
- (d) That in strategic country centres such schools be established with a marked rural bias (e.g., the biological sciences would partly replace the physical sciences of the city technical school).
- (e) That adequate and specially staffed guidance services be established in order to advise young people on their choice of school courses and later on their choice of careers.
- (f) That the Federal Government should subsidise technical education at the tertiary level.

The Junior Technical School

The first of the foregoing recommendations would mean that junior technical schools as such would merge with the present academic type of secondary school in the establishment of a common school for pupils from 12 to 16 years.

The most serious objection to the present junior

technical school is the segregation of its pupils from their contemporaries in the high school. In theory the present differentiation is based on the vocational aptitudes of the two groups concerned. By the age of 12 years it is possible to make fairly reliable differentiations on the basis of general intelligence as judged either through educational attainments or through the use of special tests. It is, however, impossible by this age to make reliable assessment of those additional capacities and interests on which success in various occupations also depends.¹² The net result of any differentiation which can be made at 12 years is to direct or guide to one type of school a group which is of higher average intelligence than the other. As already seen, there is evidence that this does happen in Australia, although the recently enhanced prestige of technical education has probably affected the situation. The only other factor which can come into the situation—and ideally it should not be allowed to enter—is the parent's ability or willingness to defer the time when his child will commence to support himself. This is a serious matter for the individual student and his parent in as far as academic studies have to be pursued for several years longer than do technical ones before they have an appreciable effect on wage earning prospects. To put the matter in blunt form, the separate junior technical school easily becomes a school for children whose average intelligence is

12. See the important article by Cyril Burt in the *British Journal of Educational Psychology*, Vol. XIII, Part III, Nov., 1943, p. 130. He shows clearly that the suggestion made in the Norwood Report that we should classify the minds of the young into three types (which with suspicious neatness fit in with the proposal for separate academic, technical and modern schools) is not supported by the scientific evidence.

below that of the community as a whole, provided further that their parents fall into the lower income groups.

With separate institutions the primary school teacher is placed in an impossible position if he is expected to advise the pupil of 11 or 12 years where to go. Even the vocational guidance specialist would hesitate, as we have seen. But over and above this the primary school teacher must feel very diffident about recommending courses leading to careers of a type he does not understand and which, however democratic he may profess to be, he secretly regards as inferior to those callings for which academic qualifications are passports of entry. It is little to be wondered at if he assumes that all pupils who are bright enough to do a high school course should be directed to that institution.

In the multi-purpose school all pupils could be expected to take some workshop subjects. This would serve to remedy the present over-bookish nature of the high school curriculum. While some provision would have to be made from the outset for varying abilities, all pupils in the early part of the course would, in the main, work to a common programme. This should be sufficiently wide in character to make it a genuinely exploratory course. As the desires and aptitudes of pupils reveal themselves, so emphasis could be placed on academic or on practical subjects respectively. Thus in the final year—from 15 to 16 years—the courses could become pre-vocational in character.

In the period of transition, while waiting for all

the new buildings demanded by such a programme, it is probable that the existing junior technical schools will have to be used for those courses preparing for the industrial occupations, just as certain high schools may be fully taxed to accommodate all those wishing to continue their education beyond 16 with a view to preparing for university entrance; but the full social value of this universal higher level of secondary education will not be attained until it is possible for these various forms of education to be given within a single institution. The school then will become more representative of society and thus give training better suited to a democracy. As long as society itself gives special prestige to certain classes of occupations and inferior status to others there will be a tendency for the various school courses to take on a parallel hierarchy. This will lessen as time passes, and as teachers and pupils realize more and more the value to our culture of those skills and aptitudes demanded by occupations to which society by tradition has assigned an inferior status. Is it too much to hope that in the post-war period this particular form of social snobbery will disappear?

Technical Education from 16 to 18 Years

We have already discussed the need for extension of advanced technical courses so may here limit attention to the proposal that all young workers between 16 and 18 years should continue to attend school half-time.

This may appear revolutionary until we remember that, as far back as 1918, the principle of part-

time education one day per week for all workers between the ages of 14 and 18 was embodied in the Education Act of Great Britain. It has never been repealed, although orders made under the Act applying to certain areas were rescinded soon after the experiment had commenced. It was contended that the interference with the organization of workshop or factory was too great. The young worker in industry, it was claimed, usually formed part of a team and the absence of a member of the team one day per week had a very adverse effect on production. This may or may not be true, but it is significant that even to this day Great Britain's Education Act of 1918 still applies to all young workers employed within the educational jurisdiction of the County Borough of Rugby. The non-suspension of the order in that area is almost entirely due to the active support of the scheme by the managements of the principal firms of the districts — manufacturers of electrical machines and electrical components of the most modern type.

Works Continuation Schools in various commercial establishments of England are also maintained in accordance with that Act. The continuation schools at the Bourneville and Tootal works have become famous. Hence there must be two sides to the dictum that education one day per week of young workers interferes unduly with production.

If, however, we accept the validity of this contention, the proposal to extend the school period to half time should overcome the difficulty. This will lead to the employment of young people in pairs so

that one member of the pair will always be in the workshop or factory while the other is at school. In America this plan of half-time education for the benefit of groups of students in vocational schools has operated successfully for many years and is known as the 'co-operative plan.' While the student is not at school he engages in productive employment. Usually students are paired so that while one member of the pair goes to school the other works at the job. At the end of a fixed period the members of the pair change places; thus the educational programme and the job are carried on without interruption. This plan has no statutory authority and is usually developed by the personal efforts of the vocational school supervisors. This has the merit that the type of employment can be carefully selected by school authorities so that it and the school programme give an effective preparation for the type of occupation in which the young persons expect eventually to engage. The absence of authority for the plan means, however, that in some cases the 'wages paid to co-operative plan trainees are so low as to constitute an exploitation of the pupils as well as a menace to sound labour standards.'¹³ If, however, this type of education were made compulsory for all young workers in industry the wages payable would need to be determined by our industrial tribunals.

Should all young workers be educated? At present in all the Australian States technical education of trade apprentices is compulsory in accordance with

13. 'Vocational Education,' J. D. Russel—Staff Study No. 8, U.S. Office of Education (1938), p. 183.

either the regulations of the various Apprenticeship Commissions or awards of the Arbitration Courts. Unions of employers and employees recognize this continued education as essential for the well-being of the industry, the apprentices and the industrial groups to which they belong. But, as previously stated, trade apprentices constitute a very small proportion of the young workers in industry. Our technical education systems cater extensively for trade apprentices and induce them to pursue higher courses that will help to qualify for 'vertical advancement.' But little is done for junior workers, i.e., the future rank and file workers in industry.

We repeat that this is the great weakness of our Australian systems of technical education. The junior worker finds all kinds of regulations restricting his rights to technical education.¹⁴

Few adults, whose first days in employment in office or workshop have long been forgotten, realize the effect of the monotony of continued office or workshop routine on boys and girls straight from school. After the first novelty of the new surroundings has disappeared they find irksome the discipline imposed by routine office procedures and by the production machine. It is only human nature if rebellious attitudes develop. Managements have not the time—or think they have not—to give beginners the help needed over this period. The result is that the young person either finds relief from tedium in his own way, which may be harmful, or leaves to

14. Many of the courses in technical schools are open only to those with appropriate occupational qualifications, thereby excluding the junior worker. Specially designed courses are necessary.

find another job. Unless helped by one of the voluntary youth organizations he may through lack of sympathetic handling become a recruit to the army of drifters. This if known to a prospective employer is usually sufficient reason for non-engagement except for casual and dead-end jobs. Ultimately the youth may become 'unemployable.'

The continued supervision of the school would help the youth in this transition period. The curriculum for the education of the junior worker is not an easy one to determine. It must certainly give a training in the discipline involved in those subjects which are required for proficiency in his present or future vocation. There should, however, be complete freedom for the development of individual interest in that part of his education directed to training for leisure. Physical education and civic training should be specially emphasized components of this scheme of half-time education. Actually some pioneering work has been done in the type of educational programme that should be offered in the non-technical subjects. In the 'depressed areas' of England, Juvenile Instruction Centres for unemployed youth were held, up to the outbreak of the war. Payment of insurance relief was made contingent on attendance for five half days per week. Although the technical sides of these centres were poorly developed because of the 'emergency' nature of the type of school, excellent work was done in physical and social education. Teaching these young people how to use their leisure, how to interest themselves by methods other than mass production, how to utilize crafts as hobbies with

utilitarian or artistic values, gave results that, had they been achieved in institutions not associated with the unemployment evil, might possibly be much better known.¹⁵

Those boys and girls entering the wholesale and retail distribution trades and the various clerical occupations would, under the programme, be enabled to complete the fundamental studies essential for efficiency and advancement in their occupations. At present they can do this only by attending evening classes in their own time or by means of correspondence courses usually available only at their own expense. While technical studies related to their occupations would be given more or less in the form in which they are now being given in the existing evening courses, physical education, social and literary studies should be included in the half-time school programme.

Trade apprentices at present do receive the benefit of continued education in their employer's time. It will probably be found that although apprenticeship has no legal age for commencement, it will be convenient to industry for all registered trade apprentices, whether their employment commences at 16 or later, to have at least two academic years in the trade apprentice school either half-time or its equivalent in full-time study should this be more convenient to a particular trade or industry. Under these conditions there would be time for the introduction of social studies relating to citizenship, the

15. Vide W. Howarth, *The New Junior Instruction Centre*. Chapman and Hall.

history of crafts, the organization of industry, arbitration laws, as well as readings in modern English and Australian literature.

The chief resistance to the idea of either full- or half-time education to 18 years is likely to come from those individuals or groups who would fear the loss of a considerable amount of cheap juvenile labour. We believe that ultimate gains would more than offset immediate losses. But even if they would not, we cannot agree to the sacrifice of the welfare of youth to the profit-making motive.

Technical Education Beyond 18

Voluntary education beyond 18 should continue without restriction. Apart from the limited numbers engaged in full-time study at the universities and the central technical colleges, education after 18 will be in the main by means of voluntary evening classes. Full-time secondary education for all to the age of 16 and either full- or part-time education for all to the age of 18 will effect radical changes in the student population of our evening technical colleges and schools. There should then be little demand for those courses aimed at repairing the deficiencies of general education or at giving preparation for the more serious technical studies. The main body of students will consist of those seeking more advanced studies in order to complete special certificates and diplomas. There will be a demand for post-diploma courses in specialized branches of science and engineering. Technological advance is so rapid that if our industries are not to lag behind those of other

countries technical colleges must always be ready to introduce special courses as and when they are necessary. There should, therefore, be special courses to enable journeymen to become familiar with the new skills and the modifications of old skills demanded by the use of new materials and the introduction of new processes in their respective callings. There should also be courses in industrial administration, works organization and foremanship if our industries are to be conducted efficiently. All these courses exist in our technical colleges at present, but because of inadequate general or technical education there is much student wastage. With the reforms suggested this should be reduced. Through the better preparation of students the effectiveness of our evening school work would be enormously increased. Even under present conditions there is a considerable demand in technical schools for literary and social studies and for other courses not having any direct relationship to employment. This should be encouraged.

Some technical schools in Australia have added agricultural studies to their curricula. These studies should be developed much more adequately than at present. Transport and the condition of farm labour are very real difficulties. The efforts made by young farm workers to attend such classes where principals of schools have been prepared to ease difficulties by arranging for classes to be held in rural halls or schools on the district weekly half holiday, are sufficient evidence that the young farmer is hungry for the new knowledge relating to soils, plant nutrition,

plant pathology, animal husbandry and scientific farm management generally.

Physical education could and should be incorporated into technical school education. Every technical school should have at least one well equipped gymnasium. This should be used not only by the full-time and half-time students, but also be a recognized class-unit for evening students. Because in country districts youth organizations are usually poorly developed, the technical school gymnasium should be open to all the young people of the district even though they are not taking a formal course of study.

Vocational Guidance

Educational and vocational guidance should be available for all young people so that they may make the best possible choice of a career and of courses of study leading to the career selected.¹⁶ As already indicated, final choice should be deferred until at least 15 or 16 years, by which time special abilities and disabilities will be more likely to have revealed themselves and vocational interests will tend to take on a more permanent character.

Under an ideal system all young people would be given preliminary advice at the age of 13 or 14 years as the results of expert psychological and medical examination, with a further examination and final recommendation a couple of years later. A technical school in particular should be equipped with an effective guidance service of its own or should at least have ready access to a bureau giving such service.

16. See O'Neil, 'From School to Work,' No. 6 in this series.

Such services in order to be effective and progressive should be kept up to date by the information supplied by a specially staffed and equipped research bureau operating for the Commonwealth as a whole and maintained by Commonwealth funds.

Local Participation in Technical Education

One of the general weaknesses of Australian education is the lack of local participation in educational affairs such as one finds both in Great Britain and the United States. In senior technical education in particular it is important to maintain the closest possible contact with local industry. Care must be taken to ensure that local interests do not press for premature specialization. If this possible danger is avoided, everything is to be gained from having a school strongly based on local support. We very much doubt whether local interest of effective character can be maintained without having locally appointed persons on the controlling body of the school. The allocation of powers as between the central authority and the local school board or council must also be such as to give the latter a genuine voice in the affairs of the school.

The Commonwealth and Technical Education

The Commonwealth turned to the State educational institutions for assistance in the training of technical personnel to be employed in the armed services, in the munition factories, in the aircraft production workshops and the ship repair yards. It plans to use the same facilities for the post-war training and re-training of men and women so as to

rehabilitate them into peace-time avocations. It may confidently be assumed that the same co-operation will be given the Commonwealth in this special post-war reconstruction period as was given during the course of the war itself. There is a false impression that in this co-operative work the Commonwealth is financially assisting State technical education as such. This is entirely incorrect. Funds for Commonwealth technical training are provided in accordance with an agreement between the Commonwealth and the States whereby the Commonwealth meets all the additional expenditure involved. The funds can be used only for training authorised under the scheme; any surplus is to be returned to the Commonwealth. All equipment purchased in respect of a Commonwealth department's training programme remains the property of that department and not that of the school or college in which the project was carried out. Additional workshop units have been built with funds provided by the Commonwealth, but these have to be taken over by the States at a valuation at the end of the war, when a Board of Survey is to be appointed and adjustments made as between the Commonwealth and each of the various States. It is hoped—possibly with some justification—that in this final adjustment the Commonwealth will treat the States generously. The fact remains that no contribution is being made towards the cost of the normal technical education services of the States. Indeed every care has been taken to ensure that this co-operative work will not create a precedent for granting Commonwealth aid to technical education.

This is in accord with the Commonwealth Constitution, under which education is a function of the State Governments and not of the Commonwealth. But can the matter be left there? The Commonwealth is responsible for all those forms of national economic policy by which new industries are fostered, thus in turn creating demands for new forms of technical education which have to be met by the States. Can it be assumed that the States without Commonwealth aid will extend and modify their technical curricula in conformity with technological advance so as to be of the same assistance should this be again required? Possibly the more populous States may be able to do this satisfactorily without any external aid. The less populous States will not be able to do so. From the defence standpoint the major technical institutions of the Commonwealth should not be permitted to fall below a given standard of training potential. It is significant that the central governments of the United States of America, the Dominion of Canada and the Union of South Africa all assist in the support of technical education.

The Commonwealth, however, is not only concerned with defence. The Commonwealth should also be influenced by the desire to equalize occupational opportunities as much as possible. For example, industries in one part of the Commonwealth should not be denied opportunities for securing personnel as well trained as are those available to the same industries located elsewhere. Neither should individual citizens in one part of the Commonwealth be deprived of occupational opportunity merely be-

cause the States in which they live cannot or do not develop an adequate system of technical education. By a system of grants conditional on the maintenance of certain standards the Commonwealth could ensure the existence of a defence training potential and reasonable equality of industrial and vocational opportunity for its citizens. Any such system should be supplemented by bursaries or scholarships enabling qualified students from any one area to proceed to special central institutions. It is not desirable, even if it were possible, unnecessarily to duplicate facilities of a highly specialized nature.

Other Problems

It would take us too far away from the present purpose of this pamphlet to discuss in detail such problems as the organization and control of technical institutions, the training of technical school teachers, the technical school curricula and examinations. We have already indicated that some degree of local autonomy is necessary, and in certain States considerable decentralization of control of technical education has been effected. At the same time there must be external direction to ensure an avoidance of unnecessary duplication of function.

The adequately equipped and staffed technical institution is costly to maintain and can be established only where the community to be served is sufficiently large to ensure that staff and equipment, etc., will be fully employed. On the other hand, if our democratic ideals mean anything to us as a people it is necessary to ensure that the diffusion of educational

opportunity is so wide that no young person will be denied the opportunity of education for a livelihood because of his or her location or financial circumstances. The State education authority must be responsible for determining for each district or area the extent to which technical education is to be carried to the people and whether this should be by the building of special technical schools, servicing by mobile technical workshops or technical correspondence courses; and, conversely, the extent to which the young people are to be assisted to attend regional or central technical schools by means of travelling allowances, bursaries or scholarships.

The training of teachers for technical schools is just as necessary as for any other type of school. The real problem is the method of effecting this training. Technical teachers are usually appointed because of their special qualifications and experience in the profession or calling which they are to teach. If training as a teacher is insisted upon prior to appointment, the recruitment of experienced specialists would be difficult if not altogether impossible. The training of qualified juniors for positions as teachers of technical subjects would mean a divorce of the technical school from the practical day to day requirements of industry. This is another problem which must be left to the educational authority to resolve in the light of local circumstances. Some States have adopted a system of 'in service' training for some categories of teachers while recruiting the trained teacher for others.

Probably in no branch of education is research more necessary than it is in the case of technical school curricula. Technical education must take cognisance of the educational requirements of those professional institutes and the many registration authorities that have been established by State statutory authorities. At the same time it must be recognized that meeting these requirements frequently leads to unbalanced curricula. Representation of technical education authorities on such bodies may improve the position, but curricula research by bodies such as the Australian Council for Educational Research may prove to be the most effective method of ensuring that sound educational aims are kept in view by registration boards and similar bodies when prescribing their requirements for their registration examinations. The report, 'Curricula and Examinations' of the Association of Principals of Victorian Technical Schools, already cited, suggests that in striving after 'recognition' of technical courses by professional institutes, the curricula have become overcrowded, while examinations are conducted from the standpoint of ensuring recognition of courses rather than the normal attainment level of the students at the various intermediate stages. This undue emphasis placed on 'recognition' may possibly explain why a State which has made so great a contribution to the accrediting system of examinations in its secondary schools should maintain a system of external examinations for its technical school students even at secondary school levels.

Conclusion

We have attempted to set out the main issues involved in equipping the citizens of a democracy for effective vocational life. We have implied that mere efficiency in earning a livelihood is by no means a complete and satisfactory goal for the educational procedures to which the individual is subjected. We wish finally to emphasize that it is important to keep constantly in review the still deeper issues of present day civilization. Such issues underlie all our decisions whether or not we are conscious of them.

Of basic importance is the status of the individual in the highly technical community of the present day. Industrialization has ushered in an age of plenty. But at a price!¹⁷ We have perhaps overdramatized the contrast between the craftsman of the past and the automaton who spends his time attending to a minute process in a production line. We forget the dull routine of the pre-industrial era; we forget the fascinating new occupations. If the truth be told we really do not know how the balance sheet would work out. No one could say with assurance whether the proportion of the population engaged in 'soul-destroying' labour is larger or smaller to-day than it was 400 or 500 years ago. Then, too, other factors such as shorter hours would tend to tip the scales. Nevertheless no one can feel happy about the work some are to-day compelled to do or the conditions under which many earn their livelihood.

Fortunately there are many signs that what we may call the human values are coming into their own

17. See for example Lewis Mumford, *The Culture of Cities*.

again, even though the cynic might claim that this is only because those who are responsible have at last realized that 'it pays.' The changed point of view is well illustrated in the difference between Henry Ford's *My Life and Work* (1925) and his *Moving Forward* (1931). It is no longer possible for the enlightened employer to neglect the general interests and welfare of his employees. He now sees that he employs a given number of persons, not 'hands'; that the employee has the right to obtain far more from his work in the way of satisfaction and personal recognition than can be enclosed in a pay envelope at the end of each week.

It is considerations such as these quite as much as extra benefit to the community which lead to the importance of guidance for young people in choosing their careers. Nothing is more 'soul-destroying' than a distasteful job, whether it is keeping ledgers or milking cows; nothing is more satisfying or beneficial than a suitable one. We are a shortsighted community if we begrudge the cost of adequate guidance services. Such considerations, too, lead us to the view that everyone is entitled to have an intelligent understanding of the processes on which he is engaged, to know where his contribution fits into the total pattern both in his own works and in society as a whole.

The kind of education which we provide for efficient livelihood will depend on our views on such questions as the foregoing. It must depend, too, on the constant recollection that livelihood is only one aspect of citizenship.

AUSTRALIAN COUNCIL FOR EDUCATIONAL
RESEARCH

“THE FUTURE OF EDUCATION” SERIES

The Australian Council for Educational Research is publishing, under the above general title, a series of pamphlets aiming to show the need for, and to provide a plan for the reconstruction of education in Australia.

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1. 'Education for Democracy' J. D. G. Medley
2. 'A Plan for Australia' A.C.E.R. Staff
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J. M. Braithwaite, C. R. McRae, R. G. Staines
5. 'Universities in Australia' Professor E. Ashby
6. 'From School to Work' W. M. O'Neil
7. 'Education for Parenthood' Zoë Benjamin
8. 'Adult Education in Post-War Australia' . . C. R. Badger
9. 'The School Leaving Age' Elwyn A. Morey
10. 'Education for Livelihood'
L. W. Phillips and K. S. Cunningham

Other pamphlets are in course of preparation.