REPORT

OF THE

COMMITTEE APPOINTED TO SURVEY SECONDARY EDUCATION

IN

NEW SOUTH WALES

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Submitted to the Hon. R. J. Heffron, M.L.A., Minister for Education, October, 1957.

We have to submit, for the consideration of the Minister for Education, our Report on Secondary Education in New South Wales in accordance with the terms of the Minister's reference to us of September, 1953.

H. S. WYNDHAM, Chairman.

H. F. HEATH.

A. W. HICKS.

W. G. HILLIARD, Bishop.

C. R. McRAE.

P. G. PRICE.

J. F. SLOWEY.

C. G. STEVENSON.

M. A. TELFER.

E. H. VINES.

28*th October,* 1957

The findings and recommendations of this Report are submitted by the Committee as a whole. Reference is made in the text to some matters about which there have been differences of opinion or emphasis on the part of individual members of the Committee.

MEMBERS OF THE SURVEY COMMITTEE

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MR. L. S. THOMPSON, Secretary until September, 1954.

MR. H. L. YELLAND, B.A., Dip.Ed., Secretary thereafter.

MR. T. J. CONWAY, Assistant Secretary until February, 1956.

MR. P. E. JONES, B.A., Assistant Secretary thereafter.

TERMS OF REFERENCE

1. To survey and to report upon the provision of full-time day education for adolescents in New South Wales.

2. In particular, to examine the objectives, organization and content of the courses provided for adolescent pupils in the public schools of the State, regard being had to the requirements of a good general education and to the desirability of providing a variety of curriculum adequate to meet the varying aptitudes and abilities of the pupils concerned.

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INTRODUCTION

In September, 1953, the Minister remitted to the Committee:—

1. To survey and to report upon the provision of full-time day education for adolescents in New South Wales.
2. In particular, to examine the objectives, organization and content of the courses provided for adolescent pupils in the public schools of the State, regard being had to the requirements of a good general education and to the desirability of providing a variety of curriculum adequate to meet the varying aptitudes and abilities of the pupils concerned.

Since that time, the Committee has met on ninety-two occasions, of which fifty-seven were public hearings held in Sydney, Newcastle and Armidale. The Committee has considered oral and written evidence submitted by two hundred and twenty-six persons and institutions, and has had prepared for it some forty-nine special reports on specific questions associated with its Survey.

The Committee has assumed that the ultimate objective of the Survey was that, after due consideration, action be taken to ensure the provision of a scheme of education which, in organization and content, would be appropriate for adolescents living in this, the second half of the Twentieth Century. The Report has therefore been designed so that an appraisal of the present position and recommendations for the not distant future might, with the approval of the Minister, be read and discussed as widely as possible as a prelude to action.

This objective has determined the form of the Report. From among the wide variety of evidence upon which the Report is based, the Committee has deemed it wise to present, in an appendix, certain material of more than ordinary significance for the discussion which, it hopes, will take place. At the same time, the Committee wishes to place on record its conviction that, despite the amount of research carried out specially for this Survey, there are particular features of secondary education which require further investigation and upon which little systematic research has yet been completed.

The Committee has accepted the fact that, in regard to one major issue, its position has in large measure been determined by its terms of reference. Having been invited to examine the educational provision made for *adolescents* in this State, the Committee has assumed that secondary education is to be regarded as "the education of the adolescent" and that its concern was with the whole of the teenage population, not some selected part of it.

It will be noted that, in respect of the second of its terms of reference, the Committee has not made recommendations in detail as to the content of the curriculum in public secondary schools. Certain principles have been enunciated in the Report, which should serve as the basis for curriculum construction. The Committee has considered that the detailed work thereafter should be the task of appropriate syllabus committees. The Committee is unanimous in its opinion as to broad principles, but it assumes that in regard to the curriculum, as in regard to some other matters, there must be room for variation in the determination of matters of detail.

CHAPTER I

HISTORICAL REVIEW

In order to set in proper perspective our appraisal of the nature and scope of secondary education in New South Wales today, and to avoid retracing our steps in regard to specific matters, we have thought it desirable briefly to review the history of secondary education in this State.

The most vivid impression arising from any dispassionate review of our educational history is one of the extent and variety of what has been achieved in a comparatively short time. Secondary education of any kind in New South Wales is less than 150 years old and Departmental secondary schools which now enrol the majority of adolescents are, for the most part, less than 50 years old. Yet today, by law, all boys and girls attend school to the age of fifteen; during their last three years at school they may follow a variety of secondary school courses, and 10,000 of them stay on to present themselves for examination at the end of five years of secondary education.

It is significant that within the relatively short span of Australian history falls a period of unprecedented expansion in public education in many parts of the world. This was the period, furthermore, during which the whole concept of secondary education was the subject both of experimentation and of controversy in many countries. Secondary education in Australia has in many respects benefited from these developments overseas, but the fact that secondary education in New South Wales can in any sense be compared with secondary education in other countries—in Great Britain or the United States of America for example —sometimes leads both professional critic and the general public to overlook the fact that so much has been achieved in a young country in so short a time.

Nevertheless, it may fairly be said that only gradually and implicitly are we developing a characteristically Australian secondary school. In New South Wales, as in other Australian states, we have drawn heavily upon ideas and practices from overseas, particularly from Great Britain.

The derivative nature of our secondary education is the outcome of our history, but it has its dangers. We have not only inherited or adopted ideas from other countries, but we have also tended to reproduce their forms and practices. Few educational practices can be transplanted successfully to a new social soil. Moreover, when the idea upon which the practice was originally based becomes outmoded, either through the passage of time or by social change, or is modified in its new environment, the practice is likely to become sterile. For example, although conditions in New South Wales have changed considerably since the re-organization of secondary education in the State in 1912, the outward forms of secondary education, transplanted at that time for the most part from Scotland—the Qualifying, the Intermediate and the Leaving Certificates, for instance—have persisted here years after their disappearance in the land of their origin.

The persistence of the practices adopted in an earlier day has had other effects. New and native growth has taken place in secondary education in this State, but it is not always readily discernible to the layman, nor can it fully develop amid the dry stems of an earlier planting.

Nineteenth Century. The "Elite" Concept of Secondary Education.

During the Nineteenth Century, few people in New South Wales or elsewhere would have spoken about "secondary education". The term itself belongs more to the Twentieth Century. Certainly it betokens a concept of public education which began to emerge, in British communities at least, only as the Nineteenth Century drew to a close. As a phrase in general use today, "secondary education" assumes that primary education of some kind has been made available as a definable first stage in a longer sequence of schooling.

Especially during the first half of the Nineteenth Century, the chief concern of those interested in education in New South Wales, as in England, was illiteracy. Even when the scope of the curriculum had broadened with the years, the extent of schooling provided for most children was best described in the English term "elementary education". For most of the century, so far as education was concerned, public attention was absorbed in the recurrent controversy in regard to the relationship of the Government to the schools maintained by the churches.

Nevertheless, by 1840 there had been firmly established in New South Wales three schools(1) which can be regarded as the pioneers of secondary education in Australia. It is important, however, to bear in mind the fact that these schools were not "secondary" schools in the sense that they provided a stage of schooling distinct from and following upon "primary" schooling. The King's Schools proposed by Bishop Broughton(2) were to enrol boys from the age of nine to sixteen. They were indeed "Grammar" schools in the contemporary English sense of the term. Their purpose was to give "a good classical, scientific and religious education to the sons of parents in the middle and higher ranks of society".(3)

Secondary education, in this sense, had two chief characteristics. First, within its milieu of religious education, it was predominantly academic. The founder of the King's School looked forward to the day when the colony would have its own university; the grammar school would provide the path to that university. The second, and perhaps more significant, characteristic was that such a school was designed to serve and reproduce a social as well as an intellectual élite. This purpose, so far as Bishop Broughton was concerned, was explicit; he advanced it as one of his arguments in claiming Government subsidy for the school.

It is true that in some schools, as they developed during the century, the lines were not so sharply drawn. The personal influence of notable headmasters and the fluctuating financial position of many of the schools were enough to ensure this. Yet the assumption that secondary education, classical, or later, scientific in content, was a type of schooling

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(1) These were the King's School, Lang's Australian College, and Sydney College, forerunner of Sydney Grammar School. Note that two King's Schools were established, one at Sydney and one at Parramatta, but by 1840 that at Sydney had been closed.

(2) The first Anglican bishop in Australia.

(3) Johnstone, S.M.: *History of the King's School*, p. 77.

to be enjoyed by the few, was in accord with the educational thought of the day and in keeping with the socio-economic pattern of the community. Archdeacon Scott's early proposal(1) of free places in his Grammar School for needy children showing ability and industry, had met with objections typical of Sydney society in 1825. While this attitude of exclusion, against which Scott protested, was not consistently maintained, the background of secondary education in New South Wales for the next fifty years was the general assumption that those children received secondary education whose parents were prepared, and in a position, to pay for it. This assumption was shared by the Government which, under changing forms of administration, concerned itself entirely with elementary education.

Throughout the century, private schools under headmaster-proprietors were established, often by men of outstanding calibre, but they all tended to succumb once the initial stimulus of their establishment was spent. Sydney Grammar School is the unique example at this time of a school which, after the vicissitudes of its early years, emerged as an independent, corporate school. The main stream of the history of secondary education during the remainder of the century, however, is the story of the foundation and development of schools in nearly every case under the auspices of a Church.

As a group, these schools owed almost everything to the spirit and tradition of contemporary English secondary education. They were, of course, influenced by the increase in number and by the crystallization of the tradition of the English public school, which were significant features of the years after 1840. While it was inevitable that, in a society less stratified or stable than that in England, this influence should be modified, it served further to emphasize both the selective nature of the schools and the classical bias of their curriculum. These schools enrolled the sons of parents who prized what the schools had to offer, and who could afford to pay the fees. Their avowed purpose was to produce the educated Christian gentleman. During most of the century under review they were the only schools with this avowed purpose. That they produced, and still produce, many of the leaders in the community, is their lasting monument.

The Public Instruction Act, 1880. A New "Elite".

In the community at large, the outstanding educational issue continued to be that of the provision of and responsibility for elementary education. The passing of the Public Instruction Act of 1880 meant that the provision of elementary education was recognized as the responsibility of the whole community, to be discharged through a Minister of the Crown. At the same time, the Act left churches and other bodies free to establish and maintain their own schools.

Despite this preoccupation of the public mind, the Act of 1880 did provide legislative authority for an extension of public school facilities. In so doing, the Act reflected a change in the socio-economic pattern of the community and recognized a growing, if sporadic and ill-defined, demand.

(1) Thomas Scott, who first came to Sydney as Secretary to Commissioner Bigge (1819-21), returned to New South Wales as Archdeacon in 1825. His proposed school was an attempt to put into effect his plan for the establishment of church schools endowed by a Crown Land grant.

Between 1840 and 1880, the population of New South Wales had not only increased in numbers, but had changed in composition. Transportation had been abolished in the former year. In swift succession, the discovery of gold had brought new and varied elements into the community, fresh opportunities had attracted artisan migrants, the assisted migration schemes between 1851 and 1870 had added not only to the size of the population but also to its variety.

Against this social background, the Public Instruction Act of 1880 provided that, under certain circumstances, a public school might be proclaimed a "superior public school" in order to provide additional lessons in higher branches of education. The Act further provided for the establishment of high schools for boys and for girls.

It must be borne in mind, however, that the passing of the Act did not mean the establishment of a system of secondary education. The superior public school provided an ill-defined extension of elementary education; the high schools were thought of as a not very considerable supplement to the group of Church and independent schools which hitherto had provided by far the greater part of senior school facilities.

On the other hand, it must be remembered that, before 1880, in many schools both public and denominational, where the age of the pupils and the scope of the curriculum had been limited only by the interest of the parents and the willingness and capacity of the teacher, many boys, at least, had pursued studies which today we would regard as secondary, some even to matriculation level. Thus, from its institution in the 'sixties, successful candidates at the University Senior Examination had come from schools which were ostensibly elementary schools. After 1880, it was from the superior public schools that these candidates came. Indeed, towards the end of the century, Fort Street School was presenting more matriculation candidates than all those from the four high schools.

The brief and precarious life of half the high schools established between 1880 and 1884 was the result of a complex of immediate causes, but, in the larger perspective, the history of these schools is to be recognized as evidence that, for all the aspirations of the few, there did not yet exist a consistent demand in the community as a whole for secondary education as it was understood at the time.

In 1883 six high schools had been established, two each, one for boys and another for girls, in Sydney, Bathurst and Goulburn. In the following year, two schools were established in Maitland. But, in 1886, the high schools in Goulburn closed, followed in the next year by the Bathurst Boys' High School. By 1895, only the high schools in Sydney and Maitland remained.

The immediate causes were not far to seek. In the first place, the Department of Public Instruction itself was hesitant. It was taken for granted that a high school should be large, yet the demand for such schools did not appear to exist. When the first high schools were established, they were housed in borrowed or temporary buildings. Moreover, the Department sought to avoid building up enrolments by "improperly withdrawing senior pupils from Public Schools". An entrance examination was instituted, an examination which proved exacting for

many candidates. Parents who could afford to do so preferred to enrol their children at the established schools with their greater prestige and their lack of an entrance examination. For some parents, the high school fees were still an obstacle, despite the institution of a scholarship scheme. Such parents were attracted towards the superior public school which, with its nominal fees, offered pupils the possibility of success at the Junior, the Senior and the Public Service examinations.

Behind these circumstances lay more fundamental issues. These early high schools, in some respects patterned on the Royal Edinburgh High School, provided for an élite—an élite of scholastic ability and interest rather than of social status. They lacked the social appeal of the established schools, yet they were too far removed from the predominantly vocational interests of the general population. Their curriculum, followed by pupils at high pressure under the stimulus of examinations set by the University, offered no special inducements to those parents who wanted a broad, general education for their children.

The Public Instruction Act of 1880 has been justly regarded as a landmark in the history of education in New South Wales. The circumstances under which the measure became law and the atmosphere in which it was administered for the remainder of the century were bound to throw its weakness into high relief.

The chief preoccupation in 1880 had been the achievement of some solution of "the denominational issue" and the provision of an adequate number of public schools throughout the State. The Act made no provision for an articulated school system, its stages defined and the smooth transition of pupils assured. Regulations governing the establishment of superior public schools failed, even by exclusion, to define primary education. The term "primary school" is not used in the Act. In the Act and in practice the high schools stood in isolation. If there is any relevance in the frequent description of the Act, during later years, as a measure which provided "the ladder from the kindergarten to the university", it must be said that it was a ladder into which some of the lower rungs had been fitted, but in which there were wide gaps placing the higher rungs beyond the reach of some climbers. What is equally significant is that it was a ladder with no firm resting place at the top.

It was not unnatural that an administration confronted with a task of great dimensions and full of new problems should have concentrated upon the administrative aspects of that task. Nor is it surprising that the officers concerned tended to measure their success in quantitative terms. School enrolments, pupil attendance and examination results provided ready criteria. In terms of enrolments, which increased steadily, the Act was successful; in terms of consistent attendance of pupils, either at public or private schools, the Act was a failure. Meanwhile, despite the misgivings of individual teachers, examination results tended to become ends in themselves. There was no real scrutiny of the curriculum or of the methods employed in obtaining examination results. Under such conditions, the success of schools attended by adolescents, whatever the type of school, came to be measured in the public mind by the achievement of pupils in examinations, especially the Junior and the Senior Public Examinations.

Knibbs-Turner Report.

For two decades, there was little public criticism of this situation. In 1901, however, under the leadership of Francis Anderson,(1) there was an outburst of criticism and education once more became a political issue. A Royal Commission was appointed in 1902, the Commissioners being Messrs. G. H. Knibbs and J. W. Turner.(2)

The Report of the Commissioners was published in two sections. The first examined in detail the serious defects of the elementary education provided in New South Wales. It is of interest to note that the second section was the first public report on "secondary education", as such, in this country.

For secondary education, the significance of the report on elementary education was twofold: not only were pupils ill-prepared for secondary education, but there was a lack of co-ordination between the two stages of education. By way of contrast, the Commissioners pointed to France and Germany where "the whole educational machinery has organic unity".(3)

This lack of co-ordination they found not only between primary and secondary education, but also within secondary education itself. "The only factor really tending to give unity to secondary teaching is a common endeavour to meet the requirements of the Public Examinations held by the University and the matriculation standard of that University".(4) In the absence of a clear recognition of the aims and spirit of secondary education, concentration on attaining success at such examinations led to "cramming" and to a distortion of the curriculum as well as of the method of its teaching.(5)

Secondary education in New South Wales, considered the Commissioners, had failed to achieve the virtues of leading education systems overseas. On the one hand, it lacked the scope and depth of secondary education in some European countries; on the other, it had none of the spontaneity and interest of American secondary education. Even if preparation for the University were the sole purpose of secondary education, the defects of the schools were apparent. "At the present time the state of preparation of the average students on entering the University leaves much to be desired and valuable time is frittered away and opportunity wasted by the necessity of imparting elementary forms of knowledge which should have been acquired in the secondary school. No one who has given the question the slightest thought will assume that the remedy lies in the University arbitrarily raising the standard

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(1) Professor of Philosophy in the University of Sydney. He had already exercised a great influence upon a number of teachers and officers of the Department of Public Instruction who were his students.

(2) Mr. G. H. Knibbs had been a lecturer at the University of Sydney and Mr. J. W. Turner Headmaster of Fort Street Model School and Principal of the Teachers' Training College. After their Report had been submitted, Knibbs was appointed Superintendent of Technical Education and Turner Assistant Under Secretary of the Department of Education. Within a short time Knibbs resigned to become Federal Statistician and Turner was appointed Superintendent of Technical Education in his place.

(3) *Report of the Commissioners, Mainly on Secondary Education. Summarised* Report, p. 6.

(4) Full Report, p. 31.

(5) Cf. Summarised Report, pp. 52-53.

of entrance. What is needed, is the intermediary school, sufficiently equipped as regards the personnel of its teaching staff and as regards its scientific and other educational apparatus to properly discharge the functions of secondary education."(1)

In both sections of their Report, the Commissioners deplored the lack of properly trained teachers, both primary and secondary, in schools of all types.

The Commissioners envisaged a scheme of education which would provide "elementary" education for all pupils to the age of ten years, followed by two years during which pupils would either be afforded "primary" education or be prepared to undertake "secondary" education at the age of twelve. There would be a measure of interchange between the two streams. Those who, at twelve years of age, proved unsuitable for secondary education would proceed to "higher primary" education extending to the age of fourteen. These pupils would provide the artisans and workmen of society. There should be "characteristic differences" between this education and the junior stage of secondary education. Secondary education should provide the pathway for those whose prospects lay either in the higher levels of industrial and commercial life or in the professions.

The tidiness of the Commissioners' scheme was made possible by the assumption, common even in Australia at the turn of the century, that it was appropriate to determine in advance the social and economic future of adolescents. The Commissioner manifestly accepted this view though, in other parts of their Report, they also expressed the view, natural in a new and vigorous society, that secondary education could offer "a career open to talent". Because they were untroubled by modern knowledge of the significance of interests and special aptitudes and because they had at their disposal only the traditional methods of assessing scholastic ability, the question did not arise as to whether such pre-determination of the future of young people, even if acceptable, was possible.

"To a limited extent" they wrote, "the higher forms of education of all countries lend themselves to the accentuation of social differences —a feature most intensely marked in the English 'Public School'. Educational reform in countries where it has been most conspicuous tends rather in the direction of segregating the talented portion of the population, without reference to their origin; and it endeavours not only to afford a cultivation of the intellect and will but also to stimulate courtesy of manner and distinguished address. The ideal aim of secondary and higher education in a State such as this will, of course, tend rather toward the establishment of an aristocracy of intellect and character, than to the maintenance of an exclusive caste founded upon birth or wealth."(2)

The Commissioners saw in the development of a system of State secondary schools the hope of the future. The State, they pointed out. could establish and maintain an adequate scheme of teacher training for their schools, in this, as in other matters, Departmental schools providing a pattern for all.(3)

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(1) Summarised Report, p. 37.

(2) Summarised Report, p. 10.

(3) Summarised Report, p. 56.

Peter Board. The Reorganization of 1911-12.

That there was no immediate administrative response to the Commissioners' Report in the field of secondary education was, in part, an outcome of the order of emphasis in the recommendations of the Commissioners. The first task was clearly that of reorganizing the administration of education. The next was that of defining the scope and purpose of the primary school and of infusing a new vitality into its curriculum.

The reorganization, indeed, it could be said, the new beginning, of secondary education within the Department of Public Instruction took place in 1911-12. In part, that reorganization was derived from the Knibbs-Turner Report but, to a greater extent, it sprang from the views of Mr. Peter Board, the new Director of Education. Board had been one of the officers within the Department who had been critical of conditions and practices at the end of the century. His report, as Inspector of Schools, in 1896, marked him out as a man of imagination, with clear ideas as to what should be done. These ideas were modified and developed by his experience overseas in 1905 and 1909. It was fortunate that, in 1905, as part of the reorganization within the Department following the Knibbs-Turner Report, Board was appointed Director of Education.

In 1905 "district schools" were established in fifteen country towns. These schools were primary schools to which was added a secondary stage. The secondary classes were designed to provide two years of secondary education for pupils drawn from primary schools in the surrounding district. Perhaps their first purpose was to afford boys and girls in country districts the opportunity of preparing to enter the teachers' college. The curriculum provided academic subjects, Manual Arts and Physical Science and, in addition, activities such as Agriculture, regarded as being "in harmony with the local industry". By 1910 these schools numbered twenty-eight.

From the outset, Board's view of secondary education was wider than that exemplified in the existing high schools. He looked forward to being able to provide secondary education for all boys and girls who were willing to stay at school. The majority would not wish to proceed to the University or would be unable to remain at school for four or five years beyond the primary stage. Even of those who remained to complete a full course some would not intend to enter the University. It was necessary, he declared, "to guard against such a course of instruction as will produce a drifting of young people into merely clerical or professional occupations. . . In a young country calling for the development of its natural resources and with its manufacturing industries yet in their infancy, the aim of secondary education should be to combine the liberal elements of a curriculum with such studies as will furnish the student with a body of knowledge, habits of thought and trend of interests that have a distinctly practical outcome."([1])

It was inevitable that, despite his very real interest in higher education, Board should have fought against the assumption that the requirements of the university entrance examination should determine the content and orientation of the secondary school curriculum. He insisted that the University was "not necessarily an authority on the highest form of education represented by the secondary school". He repeatedly

([1]) Annual Report of the Under Secretary and Director of Education, 1905, p. 31.

expressed the view that a curriculum of adequate depth and with its width determined by the interests of pupils should, in turn, determine the nature of the examination. In 1905 the reverse was the case. In particular, Board criticised the retention of Latin as a compulsory subject for matriculation since it was of interest to, and of significance for, only some of the few who would proceed to the University.

Board's view of the curriculum and spirit of the secondary school was based on the belief that its greatest contribution lay in the building of character and in preparation for a responsible citizenship. Part of that character-building lay in work. During his visit to the United States he had been impressed by the public support of secondary education as an integral part of the necessary education of every boy and girl, but he was not so impressed by the quality of the work done. He observed that "there should be no room in a Secondary School, especially a public supported Secondary School, for the boy who fails to put his best effort into his work".(1)

In 1910, new regulations, drawn up to become effective in 1911, introduced certain important changes in secondary education:

> The Qualifying Certificate was instituted as the basis of entry to high school. A course of four years was established leading, at the end of two years, to the Intermediate Certficate Examination and, at the end of the fourth year, to the Leaving Certificate Examination. Fees in high schools were abolished, and a system of scholarships providing textbooks and materials was established.

The institution of the Qualifying Certificate reinforced the new primary school syllabus in defining the scope of primary education. At the same time it provided the means of at least administrative co-ordination between primary and secondary education. It is to be noted, however, that while a secondary school curriculum could now be drawn up on the assumption of the attainment of the Qualifying Certificate by the pupils concerned, it was to prove a curriculum designed in large measure without reference to what had gone before in the primary school.

The *Courses of Study for High Schools* published in 1911, implied the establishment of different types of high school and of "sides" within a high school—general, technical, commercial and domestic science. At the same time it emphasized the fact that, whatever the extent of differentiation between the several types of course, the same core of liberal studies was to be maintained in each high school.

Board's Introduction to the *Courses of Study* is the most significant feature of the publication. Its significance lies both in its exposition of Board's conception of the spirit and purpose of the high school and in the fact that later events conspired to defeat some of his hopes.

> "The purpose of the High School is the education of boys and girls from 13 to 18 years of age. It fulfils this purpose by enabling the pupil to acquire such knowledge and skill, combined with training in their use, and such habits of thought and conduct as will form the foundation for the private and public responsibilities of adult age.
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> "Pupils will be admitted to the High Schools upon completing the primary course of instruction and obtaining the Qualifying Certificate testifying to their fitness to enter upon higher instruction.

(1) Board, P.: *A Report following upon Observations of American Education* (1909), p. 26.

"It should be understood by pupils who thus pass into the higher school that the transition is one that imposes on them a new set of obligations differing in character from those which marked the passage from class to class in the Primary School. The transition is marked by the call for more self-reliant effort on the part of the pupil, and with each succeeding year of the higher course, the character of the school should be such as to demand from him a steadily increasing degree of self-dependence."([1])

Whereas Peter Board had not only written the preface, but had also contributed much of the body of the new *Course of Instruction for Primary Schools,* he wrote only the preface for the *Courses of Study for High Schools.* The individual courses of study were written by subject-matter specialists plainly aware of the university entrance requirements. Read in isolation, the several syllabuses became little more than a series of prescriptions for the new Intermediate Certificate and Leaving Certificate Examinations.

It is of interest therefore to note that, within two years of the first publication of the *Courses of Study for High Schools,* new editions contained a much reduced version of Board's Introduction and that, not long after his retirement, it disappeared altogether. The secondary curriculum became, and in respect of the Leaving Certificate has remained, a collection of syllabuses of study of separate subjects.

In the same year, 1911, Board took up with the University of Sydney the question of the new Leaving Certificate and, with both the University and the independent schools, the question of the constitution of a voluntary body to co-ordinate secondary education, including the determination of the content and standards of examinations and the qualifications of secondary school teachers. The discussions were concluded while Board was absent overseas, and, although his main purpose was achieved, it was not without some concession to university opinion. The University was prepared to recognize the Leaving Certificate Examination, provided that "the University should have the right to nominate for appointment by the Minister of Public Instruction, the examiners in the matriculation subjects, and that an Advisory Council be formed to deal with the work of secondary schools, in which Council a proportion of the members be representatives of the Senate".([2])

In 1912 the University Amendment Act gave statutory status to the agreement. It provided, inter alia, for:—

(1) The recognition of a pass in required subjects at the Leaving Certificate Examination as qualifying a candidate for matriculation.

(2) The constitution of a Board of Examiners of eight persons comprising four representatives of the Department of Public Instruction and four of the University.

(3) Representation of the Government on the Senate of the University.

(4) The institution of one hundred public exhibitions for matriculants.

(5) An increase in the statutory endowment of the University.

([1]) *Courses of Study for High Schools,* 1911, p. 5.

([2]) Minutes of the Senate of the University of Sydney, May, 1911.

In the same year, the Bursary Endowment Act was passed. Under this Act, a fund was established to enable bursaries to be awarded at the secondary and at the university level. The award of these bursaries and the responsibility of administering the other provisions of the Act were placed in the hands of a board comprising representatives of the Department, and of the University and the schools. The Act enabled non-Departmental schools both to present candidates and to enrol bursars provided that they were registered by the Bursary Endowment Board. Registration was based on inspection on behalf of the Board.

The High School: Systematic Provision for the New Elite.

The two Acts of 1912 provided, for the first time in New South Wales, the statutory basis for an administrative framework of secondary education throughout the community. First, a statutory link between Departmental and non-Departmental secondary schools was provided. Second, the way was opened for some co-ordination of curriculum and standards among secondary schools of all types on the basis of what was ostensibly a school rather than a university examination. Third, the new administrative structure of secondary education, already based on the defined completion of the primary school course, was firmly linked with the University. These were noteworthy achievements.

At the same time, two facts cannot be overlooked. First, this administrative structure provided the means of secondary education for a small minority of talented pupils whose ability could be measured in terms of academic attainments. This was most apparent in Departmental secondary schools where incoming pupils had had to gain the Qualifying Certificate. Of 22,000 pupils in the last primary school year in 1911, 2,465 entered high school in 1912. The First Year enrolment in high and intermediate high schools did not reach 4,000 till 1920, and in that year it was drawn from a generation leaving primary school which exceeded 46,000.

Secondary education was still the education of an "élite". The criteria of selection during the Nineteenth Century had been the ability and willingness of parents to pay fees, though many of those enrolled were pupils of high ability. The pupils entering the new high schools established by Board were selected on the basis of their scholastic attainments and ability, irrespective of means. The benefits of the Bursary Endowment Act, the abolition of high school fees and the establishment of university exhibitions went some distance towards ensuring that a career was open, through secondary and tertiary education, to "the lad o' pairts", even of poor circumstances. He and his fellow pupils in high schools constituted a new élite".

In the second place, the educational outcome of these major developments was that, while in both Departmental and non-Departmental schools it was recognized that the majority of pupils embarking upon secondary education would not enter, indeed attempt to enter, the University, the Leaving Certificate, preparation for which had become the dominant consideration in the requirements of the syllabus, took the place of the University's matriculation examination.(1) The terms

(1) The University Junior and Senior Public Examinations were abandoned in 1915.

of the University's agreement to the new regime ensured that this academic emphasis would be strong. Furthermore, the establishment of schemes of bursaries and exhibitions implied both the central significance of external examinations and a high degree of concentration on the requirements of those examinations. The latter, for all their shortcomings, are the only form of test which appears to be acceptable to the public, especially when that public are anxious parents of strenuously competing candidates.

This problem remains with us today. How can a system of bursaries or other grants to assist able students in need be administered without the maintenance of examinations which are external to a particular school? If even some of the members of a year or form are competitors for such awards, how can a school avoid the pressures upon the content and spirit of its curriculum which are exerted, not only by the requirements and procedures of the external examination, but also by the very real interests of the pupils and parents concerned?

Before passing on from 1911-12, it is of interest to note, in the light of a recommendation later to be made by the present Committee, that another element in Board's plan for the high school quickly disappeared. The significance of the following paragraph from the Introduction to the *Courses of Study for High Schools* is to be found in the fact that, originally, only four years were required for the Leaving Certificate course:

> "When it is found practicable, a course for a fifth year may, with the sanction of the Director of Education, be provided for students who have gained the Leaving Certificate and wish to make more advanced study of one or more subjects. This course will as a rule be possible only in the largest schools, and it will be necessary for pupils who desire such instruction to attend for the fifth year at such schools. Such an extended course will be specially serviceable to those who propose to follow up specialised courses of study afterwards at higher educational institutions."

The Superior Public School: Provision for other Adolescents.

Simultaneously with the reorganization of the high schools, the regulations of 1910 gave more definite form and purpose to the work of the superior public schools.

In 1912 a syllabus for these schools was published. They were regarded as day continuation schools but their curriculum, while laying stress upon the importance of English, Arithmetic, History and Geography, clearly had in mind the fact that the boys and girls concerned would, in two years' time, be earning their living in industry and commerce or, in the case of many girls, be engaged in home duties.

The certificate awarded on the completion of the course, especially the Commercial Certificate, soon raised doubts in the minds of employers. Were such certificates equivalent to the Intermediate Certificate? As a result, the syllabus of work of the commercial superior public schools was revised in 1917. The course was extended to three years, at the end of which the Intermediate Certificate, embracing commercial subjects, was awarded.

The Intermediate Certificate—the Common Goal.

In 1925, arising out of the same question from employers, and the anxiety of those concerned with this rapidly growing group of post-primary schools for some parity of status with the junior stage of secondary schools, the courses of the junior technical and domestic science schools were extended to three years, and the Intermediate Certificate, with appropriate variations in course requirements, was awarded to all pupils who completed the three-year course.

The change did much to give status to the post-primary school. Nevertheless, the apparently simple procedure of instituting the Intermediate Certificate as the terminal examination for these schools created its own problems. Though the Intermediate Certificate Examination had, in practice, become the terminal examination for many high school pupils, it had been designed to mark an intermediate point in a complete high school course and the content of the syllabuses of work continued to reflect that intention.

Yet the pupils who were allotted to the super-primary schools were those who, in the majority of cases, had been judged to be unable to attempt a high school course. In 1923 the Qualifying Certificate Examination had been replaced by two tests—the High School Entrance Examination and the test known as the "Permit to Enrol"—which all other pupils must satisfy if they were to be enrolled in a junior technical, commercial or domestic science school. The candidates for this test were generally of lower scholastic ability than those who had passed the High School Entrance Examination. Having been so differentiated, they passed on to study, in accordance with the syllabus for high schools, English, History, Geography, Mathematics and Science, though they were not required to study foreign languages. It is true that the wind was tempered to the shorn lamb by discerning teachers; it is equally true that the orientation of the syllabuses in the subjects mentioned, overshadowed as they were by the subsequent requirements for the Leaving Certificate Examination, did not provide the most suitable course which could have been devised for pupils who were largely of non-academic bent. Part of the reason for the measure of success gained by these pupils at the Intermediate Certificate Examination was the skill and industry of their teachers; part of it, however, derived from the fact that a number of pupils of good ability failed to pass the High School Entrance Examination or, having passed it, would not commit themselves to pursuing the full high school course.

The Basis of Selection for Secondary Education.

At this point, it may be of interest to trace the history of the attempts, from 1911 onwards, to devise a satisfactory method of selecting pupils for secondary education. As we have seen, the Qualifying Certificate was established in 1911; it was intended to indicate fitness to undertake high school studies. The increasing number of pupils remaining at school beyond the primary stage, who were clearly unfit to undertake studies in the selective high schools led, in 1923, to the replacement of the Qualifying Certificate Examination by two examinations—the "Permit to Enrol" and the "High School Entrance" Examinations.

By 1930, the continued increase in the numbers of candidates and the administrative difficulties of providing two examinations and satisfactory means of marking the scripts, led to the institution, once more, of a single examination. All candidates for enrolment beyond the primary stage sat for the "Primary Final Examination". The scripts of candidates seeking admission to high school and for the award of bursaries were marked externally; those of all the others were marked in their own schools.

Though introduced on each occasion on administrative grounds, the changes in procedure arose, in part, from dissatisfaction of a more significant kind. None of the examinations proved effective as a means of selecting those pupils who were likely to be successful in secondary school studies with any considerably academic content. It was not uncommon for as many as one-fifth of the entrants to a high school, selected on the basis of these tests, to fail at the end of First Year and it was common for others to proceed to Second Year only by abandoning the study of Latin.

It was perhaps not until after 1930 that it came to be recognized that this problem was not peculiar to New South Wales and that the predictive value of a single examination at the end of the primary school course must always be low. Research studies which were inaugurated in the Department of Education after 1935 demonstrated that that predictive value could be increased by combining the examination with the results of an intelligence test. The same studies revealed a considerable degree of unreliability in the form and administration of the Primary Final Examination itself.

In 1938, the Department reverted to a dual form of test. The examination was retained as the High School Entrance Examination, in Sydney and Newcastle, for candidates who sought admission to high schools where places were limited, and the entrants were selected. For all other candidates, irrespective of the school or course they sought to enter, admission was based upon the results of an intelligence test, combined with an assessment of their attainments in the Sixth (i.e., the last primary) Grade. Especially in borderline cases, the cumulative record of the pupil throughout his primary school course was taken into account. With experience, this combination of criteria was reduced to a formula and, in 1940, was applied to the High School Entrance Examination also.

Finally, in 1943, the High School Entrance Examination was discontinued and the selection of candidates, where that was necessary, was made on the recommendation of committees comprising the inspectors and head teachers in each high school area. Taking the wishes of parents and the recommendations of primary school principals into account, the committees based their recommendations upon the primary school attainments of candidates in English and Mathematics, the results of intelligence tests and any special features indicated in the school record of the candidates. Parents had, and still have, a right of appeal to the Department of Education for a review of the decisions of these committees.

It is fair to say that the method adopted in 1943 has proved more effective than any earlier method, but it must also be said that the method still falls short of the standard of effectiveness necessary to

justify selection of pupils at the end of the primary school stage. Too many pupils admitted to "selective" high schools prove to be ill-placed and there is a considerable number, excluded at the point of selection who, admitted to non-selective schools, later prove their suitability for academic secondary school studies by qualifying to enter Fourth Year and by proceeding to gain the Leaving Certificate. The irony of the situation is that, in order to do so, many of these pupils obtain admission to the Fourth Year of the very schools they were not allowed to enter in First Year.

In a later chapter we will examine the question of whether the root of the problem lies deeper than the form and method of any selection test.

The New Secondary School Population.

The 1925 decision(1) was made at a time when significant changes were taking place in post-primary enrolments. Both the development of the post-primary schools and the 1925 decision itself contributed to these changes. In the table below, First Year enrolment figures are given for high and intermediate high and for other post-primary schools in the Department of Education, for each tenth year, 1915-1955. With each of these enrolments is given the enrolment of the last primary grade for the preceding year.

TABLE I

Enrolments in First Post-Primary Year, 1915-1955

Year	Last Primary Grade	High	Super-Primary*	Unaccounted†	
				Number	Percentage
1915 ..	30,741	3,567	2,635	24,539	80
1925 ..	56,267	6,300	16,752	33,215	59
1935 ..	55,218	12,320	20,252	22,646	41
1945 ..	36,434	15,808	19,746	880	2·6
1955 ..	42,572	16,998	26,572	−998	−2·3

* Until 1943; thenceforward termed " secondary ".

† Left school or repeating last primary year; in 1955 probably repeating first secondary year.

In 1915 the high schools had not long been established and the superior public schools were relatively few and undeveloped. The great majority of pupils at the end of their primary school course either remained in primary school or left school altogether. Eighty per cent. of the pupils leaving primary school in 1914 were otherwise unaccounted for. Within ten years, the development of the super-primary schools and the more effective administration of the compulsory attendance law

(1) See p. 22.

were reflected in the unprecedented expansion of enrolments in the super-primary schools. Though high school enrolments doubled during the same period, their entrants remained a select minority of those leaving primary school.

During the period 1925-1935, there was an increase, within the Department of Education, in the number of post-primary schools and in post-primary enrolments, but no major changes took place in curricular organization. Transition to the common Intermediate Certificate was not abrupt; as late as 1932 candidates were presented for the Superior Public School Certificate Examination. Nevertheless, in the same year the first candidates from domestic science and from technical schools were presented for the Leaving Certificate Examination, having completed a course of five years' secondary school studies.

By 1935, the effects of the adoption of a common Intermediate Certificate Examination were fully manifest. That certificate had come to serve three purposes. First, in high schools and in many non-Departmental schools it continued to serve its original purpose of marking an intermediate stage in the full secondary course; second, it served as a basis of transfer from intermediate high schools and, increasingly, in junior technical and domestic science schools to senior courses of secondary study; third, the examination served as a terminal examination for all those who could attempt it but who thereupon intended to leave school. In this connection it is of interest to note that, with the statutory school leaving age then at fourteen, many pupils remained at school in order to obtain the certificate.

By 1935, the growth in the "non-academic" secondary school population was reflected in the Departmental schools, not only by the increase in enrolments in super-primary schools, but by an increase in the number of country high and intermediate high schools which enrolled post-primary pupils of all types. The same trend was also to be seen in non-Departmental schools, especially in those maintained by the Roman Catholic Church.

Considerable strain was therefore imposed upon the secondary school system. The main stream of secondary education had been designed to provide for a selected group with academic talent, but secondary schools now had to provide in the junior years for a greater number of pupils who, while they would never attempt the Leaving Certificate Examination, had to face the Intermediate Certificate Examination in company with their more able fellows. This situation was met in part by an increase in the number of subjects recognized for examination purposes for the Intermediate Certificate. It was also met by more diligent teaching of pupils of average ability.

It is not surprising that there had been a growing demand at this time for a review of all the problems associated with secondary education. Traditionally, however, interest concentrated in the secondary schools preparing pupils for examinations under the authority of the Board of Examiners. There were those who were critical of the standards attained at the Leaving Certificate Examination. On the other hand there was a more general feeling that the requirements for university entrance, through their effect upon the Leaving Certificate Examination, exercised too great an influence upon the whole secondary school curriculum. These critics pointed to the increasing number of pupils

entering secondary schools whose abilities and interests would never lead them to the University. Even then it was not fully realized that the development of the super-primary schools was one sign of the growth of a secondary school population not contemplated in the reorganization of public secondary schools little more than twenty years before. The junior technical school, for example, was still officially known as a "super-primary" school, and there was a tendency to regard the question of its place in the total pattern of schools merely as an administrative problem for the Department of Education. The fact was that schools and courses for adolescents had developed in New South Wales after the First World War without any comprehensive review of the implications of that development. It is unfortunate that, when the review of secondary school problems was ultimately made, it was undertaken predominantly from the point of view of the established secondary schools, i.e., those presenting candidates for the Leaving Certificate Examination.

Review of Secondary Education.

In 1933, the Minister for Education([1]) set up a committee to examine problems associated with secondary education. The committee submitted its report in the following year. Though a number of matters were discussed, the only positive recommendation made by the committee was that a board, on which schools should be represented, should be established for the control and development of secondary education.

A provisional council was constituted pending the passage of legislation. It comprised twenty-nine members, including members of the Board of Examiners. It was also widely representative of the professions, industry, commerce and the teachers. The provisional council recommended as the basis of amending legislation the replacement of the Board of Examiners by a Board of Secondary School Studies. It further recommended:—

> "That the organization of the secondary school curriculum should be directed towards the giving of a general secondary education in four years, with provision for further advanced study in subsequent years.
>
> To this end certain modifications are now advisable, viz.:—
>
> (*a*) Without changing more than is necessary the names of existing examinations and with consequent avoidance of confusion in the mind of the public, there should still be an Intermediate Certificate Examination and a Leaving Certificate Examination, but the latter should be divided into two parts called respectively the Leaving Certificate and the Higher Leaving Certificate, of which parts the first should be taken at the end of the 4th year of the school course and should be a pass examination only, and the Higher one not earlier than one year after.
>
> The Intermediate Certificate Examination should be continued for pupils whose schooling does not extend beyond the Third Year. For these, such modifications as may be deemed necessary should be made.

([1]) Hon. D. H. Drummond.

(*b*) The possession of the Leaving Certificate should be evidence of a good general secondary education completed in a regular school course of at least four years.

(*c*) The possession of the Higher Leaving Certificate should imply an advanced study pursued in subjects selected as most appropriate to the individual intelligence, taste and interests of the pupil. That study should have lasted for a period of at least one year after the Leaving Certificate grade has been reached.

The University should be asked, if the above modifications are adopted, to specify the conditions under which the revised form of Leaving Certificate will be accepted as qualifying for matriculation and the award of exhibitions."

Legislative Amendments of 1936.

In 1936, the University and University Colleges Act was amended to provide for a Board of Secondary School Studies.(1) In terms of this amendment the Board comprised representatives of the Senate of the University of Sydney, the Department of Public Instruction, and teachers both from Departmental and non-Departmental secondary schools. The first of the duties of the Board as defined in the Act is:—

"(*a*) To make recommendations to the Minister in relation to matters connected with or concerning the conduct of examinations for the leaving certificate and the higher leaving certificate, and the award of such certificates."

At the same time the Public Instruction Act, 1880, was amended so as to constitute an Advisory Council of Education.(2) The membership of this Council comprised the Vice-Chancellor of the University of Sydney, the members of the Board of Secondary School Studies, the President of the N.S.W. Teachers' Federation, the Director of the N.S.W. Conservatorium of Music, the Apprenticeship Commissioner, one representative of each Technical Education Advisory Council, together with ten members appointed by the Governor. This section of the Act was proclaimed in 1937 and the ten appointed members proved to be representative of commercial and industrial interests, women's organizations, the professions and the Federation of Parents and Citizens' Associations.

The Advisory Council held only two meetings and thereafter fell into disuse. The precise reasons why the Council became moribund are difficult to determine. It is possible that there was a lack of lively Government interest in the potentialities of the Council. In practice, the Council seemed unable itself to raise matters for discussion. On the other hand, the composition of the Council limited the number of matters which could be remitted to it. The majority of the Council were ex officio members whose responsibilities limited their freedom of action, whilst most of the members who were appointed by the Governor were representatives of associations which already had direct access to the Minister.

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(1) See University and University Colleges Act, 1900-52, VA.

(2) See Public Instruction Act, 1880, Section 18C.

From the point of view of this Survey, the significance of the 1936 amendments lies in the establishment of the Board of Secondary School studies. Since the question of the institution of the Leaving Certificate and the Higher Leaving Certificate remained a matter for debate, a significant feature of the new Board lay in the representation given to schools, though it was a representation less comprehensive than had been recommended by the Provisional Advisory Council.

It must also be borne in mind that, although the Board later became involved in discussions concerning the Intermediate Certificate Examination, the specific task of the Board was to advise the Minister in regard to the final examinations for the full secondary school course, to determine the syllabuses of work for those examinations, and to conduct them. In short, "secondary school studies" were still being thought of as studies leading to an examination which would be accepted by the University for purposes of matriculation. While it was inevitable that, with the Intermediate Certificate in common use in both secondary and super-primary schools, the decisions of the Board should affect all pupils who remained at school for the third post-primary year, the Board was not constituted in a manner that would enable it to advise the Minister or to assume any responsibility for the education of the whole range of adolescents.

Recommendations of the Board of Secondary School Studies.

One of the immediate concerns of the Board of Secondary School Studies was the basis upon which the University of Sydney would be prepared to recognize the new Leaving Certificates as satisfying the requirements of matriculation. It was not until 1942 that the Board knew that, if the two certificates were introduced, it would be the Higher Leaving Certificate that the University would accept as meeting matriculation requirements. The Board therefore submitted proposals in regard to the machinery of the Leaving and Higher Leaving Certificate Examinations. These proposals involved the discontinuance of both the Intermediate and the Leaving Certificate Examinations then in operation.

Intermediate Certificate. In its consideration of the recommendations of the Board, the chief concern of Cabinet seems to have been with the effect of these recommendations upon the Intermediate Certificate Examination. By 1943 the trends already noted(1) had become well-established. The Intermediate Certificate Examination had, in practice, become the terminal examination in secondary education for a large proportion of the adolescent school population. Cabinet was reluctant to approve the discontinuance of this examination, even if that discontinuance would open the way to a more satisfactory secondary school course for those who would proceed to the Leaving Certificate Examination.(2)

At the same time, with the possibility of the two Leaving Certificate Examinations in mind, Cabinet was sensitive to the need for reducing the total burden of examinations likely to fall upon school pupils. It

(1) See p. 22 and pp. 24-26.

(2) It should be observed that in 1943, Cabinet did not have before it the results of a comprehensive survey of the whole post-primary situation. In terms of its constitution, the chief concern of the Board of Secondary School Studies was, especially in its early years, with the pupil who was likely to proceed to the Leaving Certificate Examination.

therefore sought the opinion of the Board of Secondary School Studies regarding the possibility of organizing some form of internal examination for both the existing Intermediate Certificate Examination and the proposed new Leaving Certificate Examination.

The Board debated these proposals and advised the Minister that modified forms of examinations were possible at these levels. It recommended that at these examinations, three subjects, including English, should be tested by external examination and the remainder accredited by schools. Under these conditions, candidates would pass the examination as a whole by meeting requirements in a total of four subjects, a minimum of two being passed at the external examination.

Though Cabinet deferred consideration of the introduction of the new Leaving and Higher Leaving Certificate Examination, it accepted the Board's further proposal as applied to the Intermediate Certificate Examination. The revised form of this examination was introduced in 1944 and at the same time the grading of passes at "A" and "B" standards was discontinued.

During the next few years, schools gained experience in the exercise of their new responsibilities, and the machinery of the examination took a definite form. The mixture of internal and external examinations, however, was considered by the schools to involve too great a disruption of their work and, after discussions which commenced in 1948, the Board approved of a wholly accredited examination to commence in 1949.

From time to time thereafter, problems associated with the institution of the two Leaving Cerificates were discussed by the Board of Secondary School Studies. The Board was aware of the growing number of candidates at the Intermediate Certificate Examination; it was also concerned with the question of standards at the matriculation level. It considered that a secondary school course leading to the Leaving Certificate must be based on principles different from those which would underlie studies designed to prepare for university entrance.

A New Approach.

As a result of these discussions, the Board in 1946 again presented to the Minister(1) and Cabinet proposals in regard to the institution of the two Leaving Certificates. The 1946 recommendations differed from those of 1943 in that they were based on an explicit statement of the nature of secondary education as it had come to be accepted by many people.

"Throughout the discussions," the memorandum stated, "the Board has meant by 'Secondary Education' the education of *all boys and girls* from about the age of 12 till the time when they leave school for work or for some form of tertiary education. Throughout the discussions, too, the Board has agreed that the main principles which should govern the secondary curriculum are probably *four* in number:—

(1) Secondary education should be adapted to the needs and capacities of adolescents.
(2) It should be related closely to the interests and experiences of life.

(1) Hon. R. J. Heffron, Minister for Education.

(3) It should be 'all round', at the same time providing adequate opportunities for the pursuit of individual interests.

(4) It should not be regarded merely as preparation for tertiary education; it should stimulate in all pupils a desire to go on learning."

The Board then submitted, as the basis of a new approach to secondary education, the following proposals:—

"(1) Secondary education should be organized in the two stages—*general secondary education* and *higher secondary education.*

(2) The first or general stage should be four years in duration, i.e., from about age 12 to about age 16.

(3) The first stage should be based for all pupils on a core curriculum comprising English, Social Science, Mathematics, Science, Physical Education, Music, Art, Crafts.

(4) In addition, in the first stage there should be optional subjects such as foreign languages, technical, home science, agricultural and commercial subjects, and subjects of the core curriculum taken to a higher level.

(5) There should be no external examination earlier than the fourth year, i.e., the Intermediate Certificate Examination should be abolished.

(6) At the end of the fourth year, there should be an external examination restricted to English and optional subjects. Not less than five and not more than seven subjects should be taken.

(7) The period of higher secondary education should *normally* be two years.

(8) At the higher secondary level the only compulsory subject should be English.

(9) At the end of the period of higher secondary education there should be an external examination in five or six subjects, of which one should be English."

The Board's memorandum then went on to consider in some detail the consequences of these proposals. The most obvious one was that they would involve the attendance of some secondary school pupils for an additional year.

No decision was made as a result of these recommendations.

Developments in the Department of Education.

Meanwhile, it had become obvious that in the first three post-primary years there were many pupils whose needs were not being met either by the courses recognized for the Intermediate Certificate Examination or by such modifications of those courses as could be made in individual schools. Many of the pupils concerned were leaving school before attempting the examination. More significant than this was the fact that, for many, their experience in secondary school meant a record of failure and, for an even greater number, an experience which had little relevance in terms of their abilities and interest.

In 1939, a series of discussions initiated in the Department of Education led to the organization of classes specially designed to meet the needs of the least able boys and girls about the age of thirteen. A special curriculum, which later was termed *The General Activities Curriculum,* was devised, and has been kept under review ever since. Experience has shown that this new approach has met a real need. The curriculum now covers at least two years and has been introduced into an increasing number of secondary schools. In 1957, 11,835 pupils were enrolled in classes following *The General Activities Curriculum,* i.e., 13.8 per cent. of First and Second Year enrolments.

Provision for retarded adolescents, valuable though it was, left the central problem untouched. It was clear to all observers that, while many pupils in the super-primary schools were capable of meeting the requirements of the courses for the Intermediate Certificate Examination, there were many pupils, of at least average ability, whose special interests and aptitudes were not met by the relatively academic emphasis of the standard courses, especially in the Third Year.

As the result of a series of studies by inspectors and teachers in the Department of Education, an *Alternative Curriculum for Secondary Schools* was devised for this group of secondary pupils and was introduced in 1951. The curriculum was designed to challenge the interest and ability of the pupils of average capacity who did not possess the aptitude for a more academic approach and who did not propose to stay at school beyond the Intermediate Certificate stage.

This Alternative Curriculum was examined by many employing authorities and their response was such that the curriculum was accepted as meeting the requirements of the Intermediate Certificate Examination in cases where the latter was a terminal examination. This curriculum is now followed by pupils for whom it is appropriate, not only in junior technical and home science secondary schools, but in corresponding courses in many country high schools. It was also made generally available, and has been adopted, for appropriate classes, in a number of non-Departmental schools.

Two comments which may be made about the Alternative Curriculum serve to indicate the difficulties which attend any ad hoc or piecemeal attack upon the general problem of secondary education. In the first place, it has been said by many of those who have used it that the courses provided in the Alternative Curriculum would be of value in the junior stage of the secondary education of many more adolescents than can at present be allowed to follow that curriculum. Not only have the courses adequate content, but they have greater reality for boys and girls under the age of fifteen. Under present conditions, however, they cannot provide a basis for studies beyond the Intermediate Certificate stage, since the major determinant of any further study is the standard of matriculation, and this standard begins to make itself felt as early as Third Year.

In the second place, allocation to a class studying the Alternative Curriculum involves pre-determination of a pupil's future at the outset of his secondary school course. Many pupils whose needs would be better served by the new curriculum attempt, and must be advised to attempt, the standard secondary course in case they may wish to proceed past the Intermediate Certificate stage. Such a pre-determination is contrary to the opinion expressed later in this Report and to much current thinking about the problem of the early secondary school years.

*37205—2

The fact that the pre-Intermediate Certificate requirements of the Leaving Certificate course affect the life of all secondary schools, at present limits the possibilities of the Alternative Curriculum.

The last two years have witnessed a further extension of the activities of schools once known as "super-primary". The increasing tendency within the Department of Education to recognize the latter schools as an integral part of secondary education was reflected in the official adoption in 1943 of the term "secondary" for junior technical and for home science schools. Since 1935 some home science and junior technical schools have presented selected pupils for the Leaving Certificate Examination. The tendency, however, has been, as the number of their Leaving Certificate candidates increased, to constitute certain of these schools as high schools, that is, schools organized on a five year basis providing courses approved by the Board of Secondary School Studies, including one foreign language for some pupils. In 1955, however, two secondary junior technical schools were authorized, without formal reconstitution as high schools, to provide courses for their pupils who wished to remain beyond the Intermediate Certificate stage. These were pupils who had not studied a foreign language. In 1956, these schools presented, with some success, their first candidates for the Leaving Certificate Examination.

The significance of this development lies in the fact that the pupils concerned failed, on leaving primary school, to qualify for entrance to a high school; they entered a school originally designed to cover only the first three secondary years. Awakened interest and developed talent made them potential senior secondary pupils. Their only avenue of advancement would formerly have been by transfer to the senior (and more selective) years in the very high schools which they had not been allowed to enter at the age of twelve. Continuing at their secondary junior technical school, many of them demonstrated that, in appropriate subjects, they could meet the requirements of the Leaving Certificate Examination.

Once again, however, an ad hoc development, wise though it may be, is proving to be limited in its scope. It is serving to emphasize the need for a more comprehensive review of the purpose, structure and content of secondary education.

SUMMARY.

In this chapter we have traced the history of secondary education in New South Wales. While few comparative statistics have been given, that history has perhaps served to indicate the substantial achievement, especially of the last forty years, in providing secondary education for an increasing number of adolescents. It may have served, too, to demonstrate the fact that the problems and shortcomings of to-day, which none can deny, have their origins in that same history of development.

During the last century, secondary education was almost entirely the privilege of a social lite. Towards the end of the century, efforts were made to provide secondary education for selected pupils of talent, irrespective of means. The response at that time was not encouraging. The reorganization of secondary education in 1912 was a specific expression of the new point of view: secondary education was the education of the élite of potential scholarship among adolescents. In the circumstances, it was natural that the path of these secondary school

pupils should lead to the Leaving Certificate Examination and to University entrance, the nexus between secondary school and University being provided by the Board of Examiners.

After the First World War, a renewed interest in education, a more efficient administration of the compulsory attendance law, and a marked growth in the enrolments and the scope of super-primary schools combined to create a new situation. Educational authorities were confronted, in a manner and to a degree not known before, with what has been termed "the dilemma of secondary education". Together with the adolescents for whom secondary education was then intended—the minority with scholastic aptitude—appeared, in increasing numbers, adolescents for whom a course leading to the University was unreal, even if it were within their ability.

It is significant that it was at this time that educational opinion was becoming hospitable to a conception of secondary education which meant that the community had an obligation to both groups of adolescents. It was in 1927 that, in England, the phrase "the education of the adolescent" was first officially used to describe secondary education. In this view, secondary education must serve the needs not only of the few of scholastic inclination, but of all boys and girls in their teens.

The implications of these changes in the post-primary school population and in educational thinking did not receive full expression in the 1936 amendments to the University and University Colleges Act. It is of interest to note that the history which we have traced from 1912 onwards made it inevitable that legislative provision for a change in secondary education should have to be effected through an amendment to the University Act. The constitution of the Board of Secondary School Studies did not make provision for the new "non-academic" adolescent school population though, by 1936, that population had come to constitute the majority of the secondary school enrolment. Nor does it appear that the scheme of examinations embodied in these amendments took adequate account of the capacities and prospects of that majority of adolescents who would never attempt to enter the University. It is likely, however, that, had the recommendations of the Board been accepted in 1943, a more coherent programme of secondary education could have been developed in high schools and in all secondary schools presenting candidates for the Leaving Certificate Examination. At the same time, it is not certain that, without a more comprehensive review of the situation, the 1943 proposals would adequately have met the needs of the larger group of pupils who were spending at least three years of their adolescence in schools and courses which, in large measure, lay outside the scope of the Board of Secondary School Studies.

The new conception of secondary education was more clearly reflected in the Board's proposals of 1946, proposals which the Board has been unable to translate into practice.

Meanwhile, within the Department of Education, schools have been organized and curricula developed, by means of which it has been possible for the Department to meet the needs of the generality of adolescents in a fashion not provided for in the legislation of 1936. Experience has shown the value and promise of these developments, but it is clear that they cannot be carried to their logical conclusion or made to yield the results of which they are capable, while they remain piecemeal modifications of the status quo.

CHAPTER II

THE PRESENT SITUATION

The first task remitted to the Committee was "To survey and report upon the provision of full-time day education for adolescents in New South Wales". We have therefore not included in our Survey the secondary education provided in evening colleges or in technical colleges. Nor have we systematically examined the vocational training being provided for adolescents by the Department of Technical Education.

Neither medical nor psychological evidence has been of great assistance in defining the age limits of the term "adolescence". We have therefore interpreted our task as embracing those years which lie between the age at which most boys and girls complete their primary education, namely twelve, and the age at which the oldest of those who remain at school present themselves for the Leaving Certificate Examination—about eighteen years. Both these age limits are arbitrary, of course, on account of differences in ability among pupils and variation among schools as to the basis on which pupils are promoted from grade to grade.

In the present Survey, we have not taken into account the provision made for adolescents who are markedly subnormal in mental ability or those who must receive their education under special conditions because of physical handicaps. Both these groups, in our opinion, represent community responsibilities, but the manner in which those responsibilities should be met has appeared to us to constitute a special problem which might well be examined after the findings of this Survey have been considered.

The present position, then, is that all pupils who complete their primary schooling in New South Wales pass on to some form of secondary education. Of these pupils, 78 per cent. complete their primary education in schools conducted by the Department of Education. Beyond the primary school stage, the proportion of pupils in Departmental schools during recent years has been approximately 72 per cent. (1) Differences in school organization, rather than in curriculum, make it necessary to describe separately the provision of secondary education in Departmental schools on the one hand and in non-Departmental schools on the other.

I. Schools and Courses.

(*a*) DEPARTMENT OF EDUCATION.

(i) *Entrance to secondary school*:

In Departmental schools, pupils commence their secondary education at an average age of twelve years six months, though the range of ages is as much as two years. None is admitted before the age of eleven years.

(1) As will be pointed out later, (p. 43 ff.), enrolments in Departmental secondary schools fall off rapidly in the senior years; these schools present a little more than half the candidates for the Leaving Certificate Examination.

The method of allocation of pupils to type of secondary school or course has already been described.(1) It will be recalled that the allocation is determined on the basis of the wishes of the parents, and the results of scholastic tests in schools and of two intelligence tests conducted two years apart. Use is also made of a cumulative record of personal and non-scholastic factors of the pupil's career throughout the primary school.

If it is assumed that it is possible to determine, in advance, the type of secondary school course a pupil should follow, it must be agreed that the method adopted in public schools in New South Wales affords a better prognostic basis than would be afforded by any single test. This conclusion is based upon follow-up studies made over a number of years. We consider that, in itself, the procedure adopted by the Department of Education for the allocation of pupils to secondary courses is as satisfactory as can be devised under the circumstances.

However, for reasons set out in a later chapter, we do not consider that the initial assumption is sound. The faults of present practice lie, not in the details of the procedure adopted, but in the attempt to determine the educational future of pupils at so early a stage and in so final a fashion.

Any discussion of a form of examination or assessment at the end of the primary school stage involves a discussion of the level of attainments which might be expected of pupils leaving the primary school. It is necessary, however, to make a distinction between this important question of reasonable attainments and the question of the basis upon which the future schooling of pupils is to be determined as they enter the secondary school.

On the question as to the standards attained by pupils leaving the primary school, opinions of qualified witnesses differed and a full examination of the matter would involve a review of the content, spirit and purpose of the *Curriculum for Primary Schools*. We are of the opinion, however, that consideration should be given to the development and use of standardized tests of basic skills, particularly towards the end of the primary school stage. We make this observation, fully aware of the danger which could arise if such tests were used in a manner which would disturb the balance of the curriculum, or rob the primary school of the spontaneity and interest that the present curriculum has made possible.

(ii) *Types of Secondary schools and courses—Metropolitan*:

In Sydney and Newcastle, the pupils deemed most suitable on the composite basis of selection are admitted to high schools. In both Parramatta and Wollongong there is a high school where admissions are also made on this competitive basis. The majority of such "selective" high schools offer courses which include English, Mathematics, one or more sciences, History and/or Geography, and languages. Pupils in these schools must take one language (usually French) but the more able tend to take Latin also. A minority may commence a third language in their second year. It is to be noted that the curriculum of these schools, in common with that of other secondary schools, includes Music and Physical Education and at least one year of home science or manual arts. All of these high schools provide a five-year course leading to the Leaving Certificate Examination.

(1) Chapter I, pp. 22-24.

In addition to these general high schools, there are, in Sydney and Newcastle, technical and home science high schools, entrance to which is competitive. Such schools normally omit Latin, substituting on the one hand, full courses in Woodwork, Metalwork and Descriptive Geometry and, on the other, a range of home science subjects. The home science high schools also provide a commercial course.

In Sydney, the Conservatorium High School enrols pupils who manifest a particular aptitude in Music and who receive musical tuition from members of the staff of the Conservatorium. This high school provides courses leading to the Leaving Certificate Examination in English, French, History, Geography, Mathematics and Art.

In the Sydney Metropolitan area, as in the country, there are intermediate high schools. In Sydney these schools provide the first three years of the high school curriculum, the courses differing within each school according as pupils study two, one or no foreign languages. Generally speaking, intermediate high schools enrol pupils who appear to have less academic aptitude than those who have gained places in full high schools. Nevertheless, a significant number of the pupils of these schools not only gain their Intermediate Certificate, but also pass on to complete further years of secondary education at the nearest full high school.

In Sydney and Wollongong it is possible for boys who have gained their Intermediate Certificate and who show aptitude for the skilled trades, to complete a fourth year in which a programme of general secondary education is linked with specific technical training to provide a systematic introduction to a wide range of skilled trades. The boys are selected on the basis of school record, personal qualities, general ability and special aptitudes, and placed in classes known as pre-apprenticeship classes. The academic curriculum embraces English, History, Social Studies, Mathematics and Physics, designed so as to be articulated with the Qualifying and Matriculation courses of the Department of Technical Education. The trades courses are provided in a neighbouring technical college.

Pupils who are admitted neither to the selective high schools nor to intermediate high schools, and those who elect not to follow the more academic course of these schools, are admitted to junior technical or to home science secondary schools. These schools generally provide a secondary course of three years to Intermediate Certificate standard. In regard to the courses in English, History, Geography, Mathematics and Science, pupils in junior technical and home science schools may follow either the courses provided for the first three years of the high school—courses drawn up and approved by the Board of Secondary School Studies—or the Alternative Curriculum, to which reference has been made in Chapter I([1]). In addition to the foregoing subjects, the curriculum provides for junior technical schools courses in Woodwork, Metalwork and Drawing, and, for home science secondary schools, Needlecraft and Home Economics. After the first year, girls in home science schools may elect to choose between home science subjects and the commercial subjects: Business Principles and Practice, Shorthand and Typing. Where there is a sufficient demand, a similar election is possible in junior technical schools.

([1]) See Chapter I, pp. 30-32.

In these schools also, special provision is made through the general activities curriculum for pupils of less than average ability, many of whom may not have attained full Sixth Grade standard but who, on account of age, are better taught in a school for adolescents.

We have seen, in Chapter I,(1) that the orientation and purpose of junior technical and home science secondary schools have been modified since the superior public schools, out of which they grew, were reorganized in 1912. While of many of the pupils of these schools it can be said, with some certainty, that they will leave school to find places in commerce and industry, Peter Board's clear distinction of purpose between these schools and high schools would not be made today. Despite their title, they are not vocational schools. Rather are they designed to provide a general education for those adolescents whose abilities and interests are less academic than those of their contemporaries, especially in the study of foreign languages. The extent of the school achievement of some of the pupils of these schools beyond the Intermediate Certificate stage and the measure of their later success in the adult community, may be regarded as evidence of the difficulty of achieving reliable selection at the point of entry to secondary school, but must also be accepted as a tribute to the atmosphere of the junior technical and home science schools themselves.

(iii) *Recent developments*:

It is necessary to draw attention to the fact that, especially in Sydney, there are some variations of our general statement of the present position and that the position is not static. Thus, for example, for some time boys attending secondary junior technical schools who wished to stay at school beyond the Intermediate Certificate stage have been provided for either in Fourth and Fifth Year classes in junior technical schools or in non-language classes in certain high schools. We have pointed out in Chapter I(2) that at least two schools, originally junior technical schools, have recently been recognized as five-year high schools.

Again, comprehensive high schools designed to provide the full range of secondary subjects over a five-year course have begun to appear in the fast developing outer areas of Sydney. While, by tradition, the high schools at present under review(3) have been separate schools for boys and for girls, some of the new schools in the outer suburban area are, in effect, "twin" schools. In these, separate buildings for boys and for girls are placed on the one site so that facilities such as assembly halls may be shared in common and the pupils may combine for certain activities.

These developments do not, however, dispel the doubts we feel as to the wisdom of segregating adolescents in different types of secondary school in so final a fashion at the age of twelve years. Evidence tendered to the Committee, both educational and psychological, indicates the large margin of error which attends any forecast of the standard or pattern of achievement of an individual pupil, even three years ahead, if that forecast is made before he enters the secondary school. We are also aware of the feelings aroused in many families by this segregation,

(1) Pp. 21-22 and p. 28.
(2) P. 32.
(3) With the exception of Parramatta and Wollongong High Schools.

especially as it is based on measures of ability which, though valid, are not readily understood by many parents. These considerations will be taken up again in a later chapter of this Report.

(iv) *Country*:

In country centres in New South Wales there are sixty-nine high schools and twenty-seven intermediate high schools. In three ways these schools stand in contrast to similar schools in Metropolitan areas. First, with the exception of the historic high schools in Maitland, they are all co-educational in the sense of enrolling both boys and girls. Second, they provide as much of the full range of secondary courses of all types as is justified by local demand or made possible by availability of staff. Thus, in a country secondary school, one may expect to find courses as diverse as Latin and Metalwork, French and Art. Third, all the pupils of the district who have completed the primary school course, together with those whose needs are best met by the General Activities course, are enrolled in the same school. Entry to such secondary schools thus carries with it no sense of social stratification; as communities of adolescents, they embrace the full range of ability and interests.

It cannot be said, however, that these schools are, in the full sense of the term, "comprehensive" secondary schools. Within the schools themselves, First Year classes are organized on a basis similar to that adopted for determining entrance to metropolitan high schools. Thereafter, pupils tend to proceed through the school in "streams" which can be recognized as providing two-language, one-language, junior technical, home science or commercial courses. It is true that, because transfer from one school to another is not involved, it is possible for the headmaster to make adjustments of courses to suit individual pupils, but this possibility is limited by discrepancies in syllabus requirements and the need to make an early decision in regard to language study.

In eleven country centres(1), district schools, now called district rural schools, remain. These schools have carried on the tradition initiated in 1905; they provide three years of secondary education leading to the Intermediate Certificate, including general cultural courses as well as courses with a local bias. Special courses for girls are not easily distinguished from those provided in home science schools but, for boys, Agriculture—both theoretical and practical—is a prominent feature of a course which also includes Manual Arts and Business Principles. Entrance to these schools is elective but, in two or three country centres, their existence makes enrolment in the neighbouring high school seem more selective than would otherwise be the case.

It is to be noted that, in a number of country primary schools, post-primary classes are maintained where there are not enough pupils to justify the establishment of a separate secondary school. These classes provide as much as possible of the range of secondary courses. In general these schools lead to the Intermediate Certificate Examination, but a few of them also present candidates for the Leaving Certificate Examination.

Generally speaking, the pattern of the small country school at the secondary level reflects a desire to extend to the pupils concerned the opportunities available to those in larger towns.

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(1) Also at Carlingford in Sydney.

The Correspondence School, which caters largely for the isolated pupil, provides courses in all Intermediate Certificate subjects except those involving laboratories or workshops, and in English, Mathematics, Latin, French, History, Geography, Art and Economics to the Leaving Certificate standard.

To the foregoing country schools must be added the three agricultural high schools—Farrer, Hurlstone and Yanco. These schools select pupils from applicants in their respective areas in the State. All are boarding schools, though some day boys are accepted. They are five-year high schools offering a choice of one-language or non-language courses leading to the Leaving Certificate Examination, together with a compulsory training in the elementary theory and practice of farming.

Again, it must be said that these schools, whatever the original purpose of the first of them, Hurlstone, are not narrowly vocational schools. Some of their pupils return direct to the land, others proceed to agricultural colleges or to a university and ultimately make their contribution to rural technology. There are some, however, who, in later life, are not associated with rural pursuits.

(*b*) NON-DEPARTMENTAL SCHOOLS.

In a typical year, 28.5 per cent. of the secondary school population is enrolled in schools other than those conducted by the Department of Education. Most of them are registered under the Bursary Endowment Act, 1912.

Among the non-Departmental schools, those maintained by the Roman Catholic Church differ from the remainder. In the first place, the number of Roman Catholic schools is much greater and they enrol 20.5 per cent. of the total secondary school population. In the second place, only in the Roman Catholic system is there a specific organization of types of school and course comparable to that in the Department of Education. In the third place, the Roman Catholic schools maintain their own schemes of inspection in addition to the visits paid by inspectors of the Department of Education under the relevant Acts. Finally, there is in these schools a more definite separation than in other non-Departmental schools between the primary and the secondary stage of education.

Non-Departmental secondary schools provide courses leading to the Intermediate and Leaving Certificate Examinations as approved by the Board of Secondary School Studies. Differences of ability and interest among pupils result in their separation into different courses which may be described as two-language, one-language or non-language courses. The last of these includes technical, home science or commercial subjects according to the size and nature of the school. In a few schools, Agriculture is also studied.

In cases where Board of Secondary School Studies courses prove unsuitable for pupils, variations in curriculum and in the organization of courses are to be found in individual schools. In some of these schools, use is being made of the *Alternative Curriculum for Secondary Schools*.

No registered non-Departmental secondary school in this State is co-educational. A large proportion of these schools are boarding schools, though nearly all of them enrol day pupils as well.

II. Examinations and Standards.

The history of the development of secondary education in this State, which we have sketched in Chapter I, will have indicated that, during the past thirty years, there has not only been a great increase in the number of pupils in schools beyond the primary level, but that there has also been a change in the connotation of the term "secondary education". In 1912, only a minority of pupils were enrolled in schools regarded as secondary schools; today all pupils beyond the primary stage are enrolled in secondary schools or courses. The diversity among these pupils has been reflected, to some extent, by the development, within the Department of Education, of new courses at the secondary level,(1) and in other schools, by the modification of existing courses.

The two examinations established as part of the reorganization of 1912, the Intermediate Certificate and the Leaving Certificate Examinations, have survived these developments. We have already referred to the abortive attempt, in 1925, within the Department of Education, to provide some means of public recognition, at the "Intermediate" level, for pupils who have not completed the academic course for the Intermediate Certificate Examination.(2) It will also have been noted that both the nature of the new secondary school population and a proper anxiety that the weight of formal examinations should not become excessive, were part of the reason for the reorganization in 1949(3) of the Intermediate Certificate Examination as an internal examination.

There is little doubt that there is a considerable degree of variety in the content and standards of work done in the junior classes of secondary schools. To the extent that this indicates that the system has attempted to adapt itself to the varying needs of pupils we would regard it as desirable. On the other hand, the consequences of the history of secondary education in this State since 1912 cannot be ignored. One of them has been that elasticity of courses has been restricted by the examination system.

Whatever the scope for initiative enjoyed by the Departmental and non-Departmental schools, the only body with general authority in the field of secondary education, as it is now understood, is the Board of Secondary School Studies.(4) Yet, in terms of the Act, the function of that Board is "to make recommendations to the Minister in relation to matters connected with or concerning the conduct of examinations for the leaving certificate and the higher leaving certificate, and the award of such certificates . . . to determine the course of study to be followed in secondary schools by candidates for such certificates and to authorize the issue of such certificates . . . ." In practice, this

(1) See Chapter I, pp. 30-32.
(2) See Chapter I, p. 22.
(3) See Chapter I, pp. 28-29.
(4) It is a common misconception that the Department of Education controls the Leaving Certificate Examination. This is the function of the Board of Secondary School Studies, though, through its membership, the relationship of the Department to the Board is close and the Department provides secretarial and administrative services in connection with the work of the Board. In making recommendations as to the registration of schools under the Bursary Endowment Act, inspectors of the Department of Education act as agents of the Bursary Endowment Board. Similarly, in regard to their other activities in non-Departmental schools, inspectors act as agents of the Board of Secondary School Studies.

means that the decisions of the Board of Secondary School Studies not only determine the content and orientation of the senior years of the secondary school course, which have the Leaving Certificate as an obvious goal, but have a major influence on the work of the junior years.(1) It is not surprising then, that, because of its concern with the earlier stages of the studies of candidates for the Leaving Certificate Examination and because of the absence of any other authoritative body, the Board of Secondary School Studies is also the governing authority in regard to the award of the Intermediate Certificate.(2)

To anyone ignorant of the history of the past fifty years, it would seem strange that, in order to obtain recognition at the Intermediate Certificate Examination for its Alternative Curriculum, it was necessary for the Department of Education to submit it to the Board of Secondary School Studies. A curriculum designed for pupils certain not to be candidates for the Leaving Certificate had to be recognized by a Board responsible, by statute, for the determination of courses for the Leaving Certificate and for the conduct of the examination for the award of that certificate.

That the Board of Secondary School Studies has functioned successfully during the past twenty years, amid the rapid growth in numbers and variety in the secondary school population, has been due to the wisdom of its members, to the degree of latitude made possible by the introduction of the internal Intermediate Certificate Examination, to the initiative of those who have developed variations in courses of study, and to the professional understanding and commonsense of teachers in schools. The fact remains, however, that the structure of public examinations, and the constitution of bodies for their control, have not kept pace with the changing situation in schools. Only by elasticity and understanding has it been possible to develop a broader pattern of secondary education under legislative provisions which substituted for the earlier Board of Examiners a body which, while it included teachers among its members, still has for its ostensible purpose the control of courses and examinations acceptable for purposes of university entrance. It seems clear that, before further progress can be made, both the examination structure and the constitution of the authorities concerned must be reviewed on the basis of a frank re-assessment of the task which schools must undertake to meet the needs of the very diverse adolescent school population now enrolled.

III. Some Administrative Features.

The present situation may be surveyed from a third point of view, that of certain administrative features considered as indicators of the achievement or of the shortcomings of the existing regime.

(*a*) THE SIZE OF THE TASK:

A description of schools and courses providing secondary education in this State does not convey an adequate impression of the magnitude of the task which has already been undertaken, or of the extent to which the community is likely to be committed, through its school system, in the near future.

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(1) Cf. Public Instruction Act, 1880—Reg. No. 5 (Part II): "A Leaving Certificate shall be awarded to a pupil who has complied with the conditions: (1) That he has graduated through the whole course specified for High Schools . . ."

(2) See Public Instruction Act, 1880—Reg. No. 3 (Part II).

Trends in secondary school enrolments on the basis of the existing organization are indicated in the following table.

TABLE II

(a) *Enrolments in Secondary Schools and Courses*, 1915-1955

Year	Departmental	Non-Departmental	Total
1915..	11,415	4,420	15,835*
1925..	40,169	12,279	52,448
1935..	65,451	17,234	82,685
1945..	86,492	32,662	119,154
1955..	109,034	43,514	152,548

* Estimate, including post-primary.

(b) *Estimated Enrolments*, 1956-1965

Year	Departmental	Non-Departmental	Total
1956*	117,211	48,469	165,680
1957..	126,500	52,000	178,500
1958..	136,000	58,000	194,000
1959..	146,000	60,000	206,000
1960..	158,000	65,000	223,000
1961..	162,000	66,500	228,500
1962..	165,000	67,500	232,500
1963..	168,000	69,000	237,000
1964..	171,500	70,500	242,000
1965..	174,500	71,500	246,000

* Actual.

The figures reported in Table II set present secondary school enrolments in proper perspective. Since the beginning of the First World War, secondary school enrolments have multiplied tenfold. In itself, this is a great achievement, over a period of forty years, on the part of a community which has seen two wars and an economic depression. The next decade, however, will present a still greater challenge. While the rate of growth in enrolments will not be as great as during earlier years, the very numbers to be coped with will make great demands upon the financial resources of the community and the ingenuity and imagination of those immediately concerned with education.

One feature of secondary school enrolments during the coming years is not made clear by the statistics in Table II. In that table, the number of new pupils is, to some extent, offset by the number of pupils leaving secondary schools. In 1959-60, however, there will be an upsurge of new enrolments because in that year children born in 1947 will turn twelve. Whereas, in 1939, the birthrate in New South Wales was 17.46 per thousand, in 1947 it rose to 23.26 per thousand and has remained greater than 21.0 per thousand ever since.

The whole situation points, once more, to the urgency of a decision as to the nature and structure of the secondary education to be provided in the years so close upon us. Any adequate provision will be costly,

but to attempt to make that provision by means of a structure whose basic design has not been altered for a generation is likely to prove not only unsatisfactory, but more costly.

(*b*) EXAMINATIONS:

While examinations are a means, not an end, in any educational programme, their conduct constitutes an administrative task which must always be taken into account. The statistics presented in Table II therefore have a further significance. They raise the question as to whether it will be possible, quite apart from any consideration of desirability, to maintain the Leaving Certificate Examination in its present form for many years longer.

In 1925, 1,468 candidates sat for the Leaving Certificate Examination; by 1955 this number had risen to 7,050. The 1925 candidates represented 2.79 per cent. of the total secondary enrolment; the 1955 candidates 4.62 per cent. In Departmental schools, from which we were able to obtain detailed statistics, there is a small but very consistent tendency for a greater proportion of each school generation to remain to become Leaving Certificate candidates. In 1956 the total number of candidates was 8,054; it is estimated that by 1960 that number will have risen to 12,000.

Already, the Board of Secondary School Studies is concerned at the magnitude of its task. When every available device has been used to simplify and to facilitate the clerical work involved in the examination, the central problem of marking the scripts remains. The urgency of this problem is increased by the fact that the calendar imposes strict limits upon both the time at which the examination can be held and the time by which results must be available. Every addition to the panel of examiners in any one subject increases the difficulty of retaining a standard of reliability which is recognized by the Board as being fundamental to the examining system. Extraordinary safeguards are adopted, but it is difficult to see how they can be maintained if the number of candidates facing the one Leaving Certificate Examination rises to 12,000.

Yet it is certain that they will. One obvious solution would be to divide the task and to cease attempting to examine, by means of the one instrument, pupils who seek recognition of the completion of their secondary schooling and those who seek entrance to a university.

(*c*) HISTORY OF A SCHOOL GENERATION:

Even in terms of enrolment statistics, the record of a generation as it passes through the secondary school throws much light upon the group of problems which has been the concern of this Committee and of which, we feel, the community should be aware.

In Table III is set out, in successive years, the history of the group of pupils who, entering secondary schools in 1952, provided the candidates for the Leaving Certificate Examination of 1956. The statistics cover pupils of both Departmental and non-Departmental schools. They conceal a degree of error, which cannot be calculated, caused by those pupils who repeat a year at some stage of their secondary school course.

The pattern is so consistent with the records of other generations, to which we had access, that we are convinced that Table III can be read as a representative record.

TABLE III

Enrolments in Successive Years of the Secondary School: The History of a School Generation

Year	Enrolment	Per cent.
1952	50,575	100·0
1953	42,225	83·5
1954	28,050	55·5
1955	9,730	19·2
1956	8,120	16·1

The most arresting feature of Table III is the rapid wastage of the school generation as it passes through the secondary school. By Third Year, a stage which we might expect pupils to have reached in their fifteenth year, little more than half remains of the group that entered the secondary school. The reason is not to be found in any laxity in the administration of the compulsory attendance law. In the great majority of cases, these pupils who have left school before the Intermediate Certificate stage have left at, or close to, the age of fifteen.

An examination of the distribution of ages in each grade of the school system confirms this view. Here we may cite statistics from Departmental schools, in respect of the generation reviewed in Table III, not because they are exceptional, but because they have been available to us in greater detail. By the time of the annual school census, that is six months after the beginning of the school year, 56 per cent. of the First Year pupils were over the age of thirteen. Already, 315 were over the age of fifteen in First Year. In Second Year, the Departmental schools retained 1,760 pupils over the age of fifteen, but 2,200 of the same age-group left school at the end of First Year. The cumulative effect is that, even if we set aside the pupils following the General Activities course in organized classes, the ages of a typical Third Year throughout the school system range from thirteen to over eighteen years.

This situation may be assessed on a more exact basis. If we accept as normal a range of ages within any school grade of the order of one and a half years, we would expect to find most First Year pupils in Second Term with ages ranging from twelve years three months to thirteen years nine months. This is, in fact, what we do find. But we also find that 32.5 per cent. of First Year, 29.3 per cent. of Second Year, and 24.0 per cent. of Third Year are older than the expected age-range. The major contributing factor in the wastage of a school generation over the first three years of its secondary school experience would therefore appear to be scholastic retardation. Pupils leave secondary school before the end of Third Year because they are old enough to leave and despite the fact that they have completed only part of a recognizable course of study.

We cannot but feel that the common explanation of the fact that many pupils leave secondary school at an early stage, namely because they are attracted to jobs at which they can earn a wage, probably reverses the order of events in many cases. The reasons why a pupil leaves school are rarely simple, even in the individual case. Yet, while it is true that the possibility of earning a wage is, in itself, a potent lure in many cases, we believe that, if an adolescent is among the 24.32 per cent. of retarded pupils whom we have noted, if his record at school is one of failure and if he has reached the age of fifteen, many of the causes of his leaving school have already begun to operate; they have served to make the most "dead-end" job alluring.

In short, the statistics of the ages of secondary school pupils which lie behind the first three rows of figures in Table III, appear to us to emphasize the need for a review, first, of policies of promotion of pupils from primary to secondary school, second, of the type of curriculum provided in the junior years of the secondary school, and third, of the organization of courses during those years.

Our views have been both confirmed and amplified by the results of a close examination carried out by the Research Division of the Department of Education into the histories of 516 pupils who lived in a representative metropolitan area, and who entered secondary school in 1949. Beyond the facts already revealed by Table III, this study indicated that the more intelligent the pupil, the more likely he was to complete Third Year. More than one factor may be at work here. It may be that the more intelligent pupil has a better appreciation of what the school has to offer; it may be, however, that, despite their apparent variety, the courses available in the junior years of the secondary school are better suited to the more intelligent pupil.

Indeed, when the data is examined from the point of view of type of course taken, this study does indicate that the more intelligent pupil is better served by existing courses. It demonstrates also that satisfaction gained from a course is a real factor in retaining pupils in the secondary school. This satisfaction arises both from the feeling that the most appropriate available course has been chosen, and from actual success at school examinations.

Among the pupils studied, few girls repeated a secondary school year but almost a third of the boys repeated at least one year. This repetition did not seem to be followed by ultimate success in secondary school; on the contrary there was a marked association between the repetition of a year and leaving school early.

The study demonstrated the need for further research into the multiple causes of early abandonment of secondary school studies. It served to indicate, however, that while more needs to be done to adjust the content and organization of secondary school studies to the needs of the variety of adolescents, the shortcomings are not all to be found within the schools. "Apparently early leavers have unfavourable home backgrounds, are poor in attendance, frequently lack 'application' and are not very well adjusted to school and to their fellows."([1])

([1]) Report of Research Division, Department of Education.

Returning to Table III, we note that its second major feature is the sharp decline in numbers once the Intermediate Certificate stage has been passed. Less than one in five of the generation continue to undertake senior secondary school studies. This fact throws into relief the comments we have already made(1) in regard to the significance of the courses approved by the Board of Secondary School Studies and to the function of that Board. Among the generation under review, the Leaving Certificate course proper was attempted by only 19 per cent. Yet the requirements of that course had already made themselves felt in the earlier years and, in a variety of ways, had affected the studies of that great majority of pupils who did not remain beyond the Intermediate Certificate stage.

At this point, we may take the story told in Table III one step farther. Of the 8,120 reported as Fifth Year pupils, 6,455 gained the Leaving Certificate. Of these successful candidates, 59 per cent. matriculated. This means that of 100 pupils commencing secondary education in 1952, 7.5 qualified for entrance to a university in 1957. We have been unable to ascertain, with accuracy, how many of these matriculants actually entered a university in that year, but our impression is that far from all of them did so. We know that the total first year enrolments of all three universities in the State represented only 4.4 per cent. of the total seventeen and eighteen year age groups in the community.

Even if all the 7.5 per cent. mentioned above actually commenced university studies, this final stage of the history of the 1952 secondary school entry challenges the older concept of the purpose of secondary education. Here again the facts of the situation emphasize the need for viewing the curriculum and organization of the secondary school in proper perspective.

(*d*) PRESENT TRENDS:

The senior years of the secondary school pose their own special problems. Before considering them further, it may be of value to add to the record of Table III a somewhat more comprehensive analysis of the progress of school generations in secondary schools within the Department of Education. This analysis is set out in Table IV.

TABLE IV

Progress of School Generations through Departmental Secondary Schools, 1948-1956

Year of Entry	1st Year	2nd Year	3rd Year	I.C. Sat	I.C. Pass	4th Year	5th Year	L.C. Sat	L.C. Pass
1948	100·0	79·1	46·3	42·9	38·4	13·2	9·4	9·2	7·4
1949	100·0	78·8	47·3	43·4	39·1	13·6	10·0	9·8	8·2
1950	100·0	80·8	49·1	46·1	41·0	14·8	10·7	10·5	9·1
1951	100·0	82·4	51·9	48·0	41·9	14·5	10·5	10·4	9·0
1952	100·0	82·8	51·5	49·0	42·6	15·3	11·6	11·5	9·7
1953	100·0	83·1	52·4	50·2	43·8	16·3	..	..	..
1954	100·0	85·8	56·7	51·2	45·6	..	..	..	..
1955	100·0	87·2	..	..	..	..	..	..	..
1956	100·0	..	..	..	..	..	..	..	..

(1) See Section II above, pp. 40-41.

It will be recalled that Table III reported the progress of one generation (the 1952 entry) for all secondary schools. In Table IV the progress of a number of generations is reported in respect of Departmental schools alone. The similarity in trend is obvious; the differences may be discerned by reference to the 1952 entry in Table IV. The wastage of the generation within Departmental schools is greater than that of the generation taken from all schools(1); on the other hand, a higher proportion of the generation in Departmental schools gained their Leaving Certificate.

The new and interesting feature of Table IV is the small but consistent increase, at all levels, in the holding power of Departmental secondary schools over the last decade. The causes of this overall trend are difficult to determine with accuracy. It is not the result, as we will show later, of any decline either in ability or in attainments among pupils in the senior years. It does point, however, to an increasing readiness on the part of pupils to undertake a longer secondary school course, and of parents to agree to their doing so.

(*e*) THE SENIOR YEARS:

It will have been apparent from our examination of the progress of a generation through the secondary school, that any attempt to provide a sound general education for adolescents, even to the end of the statutory period of schooling, must, under present conditions, be seriously affected by the fact that so many pupils leave secondary school at an early stage. We have seen that, when due account is taken of other factors, educational retardation stands out as a major cause of this loss of adolescents from the secondary school. Despite what has been done to provide a variety of courses of study, the prestige of the courses authorized by the Board of Secondary School Studies and the need for caution on the part of pupil, teacher and parent in electing to depart from them at an early stage, has meant that it is the pupil of high average ability who is most at home in the secondary school at present.

If, then, it must be admitted that the curriculum and organization of the junior secondary years call for review in terms of the needs of the generality of adolescents, can it be said that, nevertheless, adequate provision is made for the minority who remain to become candidates for the Leaving Certificate Examination and for university entrance?

(i) *Too small a minority in the senior years*:

We do not propose to examine the question as to whether a general extension of school life would be good, in itself, but we would draw attention to the fact that there is, in our community, a growing demand for young people who have gained a Leaving Certificate and who will occupy positions or undertake courses of training which do not involve attendance at a university. On these grounds alone, we consider that a survival rate of only 16 per cent. to the final year of the secondary school course, if it is to be the pattern for the future, will not provide for the needs of our community and is likely to produce frustration and dissatisfaction among a significant number of young people.

(1) This may be seen more clearly by reference to Table III. Of the 100 in First Year, 30 were in non-Departmental schools, yet they produced 8 out of the 16 in the final secondary school year.

Even if we were to adopt the traditional view that most Leaving Certificate candidates might be expected to be "of university calibre" the number of pupils in the final secondary year appears to be dangerously small. We have been reminded by our witnesses of the increasing need for university graduates and for young people who have completed other forms of tertiary education. While we may feel that part of the answer to the problem lies in what happens to students at the university, we consider that part of it lies in the fact that the "pool" of Leaving Certificate candidates is not large enough. The task of providing an adequate supply of teachers serves as an illustration of this fact. We have noted that, during recent years, one in four of those who have gained a Leaving Certificate has entered a teachers' college. If there is a need, as appears obvious, to increase the number of qualified teachers, it cannot be met, in our opinion, by drawing upon a still greater proportion of the restricted number of those who pass the Leaving Certificate Examination.

From the point of view of university graduation, the number of Leaving Certificate candidates is too few. Studies in the University of Sydney and in other Australian universities(1) have demonstrated that students who ultimately graduate generally have an Intelligence Quotient in excess of 115, the mean being about 125. Factors such as industry, special interests and favourable study conditions, are obviously important elements in university success, but the pattern of general ability among undergraduates is significant for our present discussion. In the community in general and in a complete age group, the percentage of persons with an I.Q. of 115 or better may be taken to be 16 per cent. That this happens to be the same as the survival rate of a typical secondary school generation, we consider, provides a warning rather than any reassurance.

To be assured that all secondary school pupils of the requisite ability were reaching the stage at which they could present themselves for university entrance, we would need to know that all pupils in their final secondary year were in the top 16 per cent. of general ability and that they all matriculated at the end of the year. Neither of these assumptions can be made. We know, in fact, that only 7.5 per cent. of a school generation matriculate and evidence from Departmental schools indicates that while, over a decade, the average Intelligence Quotient of Fifth Year pupils has remained remarkably constant at 119, in a typical year 32.4 per cent. of them fall below an Intelligence Quotient of 115. These pupils constitute 6 of the 16 reported in the final year in Table III. In short, not all secondary pupils in their final year, under present conditions, are likely to succeed at the university on the basis either of attainments or ability. On the other hand, one of the most significant aspects of the "wastage" of a school generation is the number of pupils who have the ability to succeed at the university but fail to complete their high school course. In the study to which reference has already been made, 22 per cent. of the individual cases examined were in this category.

(ii) *Quality of Fifth Year study*:

Our conclusion that the proportion of pupils in the final secondary school year is too small and that it includes pupils who cannot be expected to undertake university studies, was arrived at after we had

(1) See, for example, Sanders, C.: *Student Selection and Academic Success in Australian Universities*—Sydney, Commonwealth Office of Education, 1948.

accepted, for the time being, that entrance to the university was the primary goal of senior secondary school studies. It is perhaps necessary to make clear our opinion that there are other reasons why secondary school pupils should be encouraged to complete their senior years. If this opinion is accepted, it is even more obvious that too few pupils remain beyond the Intermediate Certificate stage.

We are aware of an opinion held by some, that the quality of senior secondary school studies has declined. Our experience has been that this opinion was implied, or stated in general terms; no specific evidence was submitted by our witnesses. We have found evidence on this matter, however, in a study carried out by the Research Division of the Department of Education. An analysis was made of the results of the Leaving Certificate for every tenth year from 1926 and for each of the years since 1946. Over the thirty-year period, the percentage of passes at the examination has risen from 71.7 to 76. A closer examination of the results in representative subjects showed no decline in either the standard of marking or in the marks gained by candidates; on the contrary there has been rather a moderate but definite improvement.

This analysis was accompanied by an examination, from the point of view of scope and difficulty, of both the courses of study and of the examination papers for each of the years under review. Here the evidence pointed to the fact that, in what might be termed the "Arts" subjects, the tendency has been to produce both syllabuses and examination papers that demand more mature thought and greater discrimination and understanding than was formerly the case. On the Science side, the work has not only expanded in scope, but now involves concepts of which pupils were unaware thirty years ago. This evidence, taken with the fact that the average mental ability of Leaving Certificate candidates has not declined, leads us to the conclusion that there has not been a decline, but in fact an improvement in the standard of the Leaving Certificate over the past thirty years. Indeed, we feel that the extent of the demands made upon the candidate today is not fully appreciated by many people.

Some of our witnesses drew attention to the degree to which students fail in their university studies, especially in their first year. It is clear that an adequate examination of this problem would need to be initiated within the universities and that it is a task which lies beyond the scope of our Committee. We cannot, however, ignore suggestions that the causes of university failure lie in lack of ability among students, lack of background knowledge, poor habits of work, and unsatisfactory attitudes.

Nevertheless we feel that, when due account is taken of the shortcomings of students, no solution to the problem can be given without some examination of the nature of university teaching and of the extent of facilities for study within the university. From the point of view of the readiness of students for university study, we would say, first, that two-thirds of students passing from the secondary schools do not lack the requisite mental ability. Second, in regard to attainments, we would point to the results of the Leaving Certificate Examination and would observe that the close liaison between the University of Sydney and the schools made possible through the Board of Secondary School Studies, especially by the appointment of Chief Examiners and the

constitution of syllabus committees, should have afforded the university the opportunity of safeguarding university entrance standards. Unless the universities require higher entrance standards than those they have established, the schools would seem to have satisfied their requirements.

On the other hand, the view has been expressed that something more than the attainment of matriculation standards is necessary for successful work at the university. Attention is drawn to the university failure rates. In the University of Sydney, while these vary from faculty to faculty, the tendency is for more than 30 per cent. of students to fail in their first year. We will return to a consideration of this problem in a later chapter, but would say here that we have been unable to assess the significance of these failure rates or to determine their cause. We would agree that the transition from the life of the school to that of the university presents a problem, indeed, a variety of problems, for many students. We would agree, too, that both school and university should take steps to make the transition less difficult for the young people concerned.

Our examination of the course of secondary education at present provided over five years leads us to the conclusion, however, that more cannot be done, within that course, to safeguard the interests of those proceeding to the university. Rather do we feel that, having the generality of adolescents in mind, the needs of those who may proceed to the university exercise perhaps too great an influence upon the general pattern of secondary education. It is possible that, as the result of the events traced in our earlier chapter, the secondary school system is attempting, with too little elasticity of curriculum and organization, to meet the needs of dissimilar groups of adolescents and that, in the circumstances, the needs of none are fully met. If this were so, the proper approach would be a comprehensive review of the whole task, not an attempt to alter conditions for one group. Indeed, we have come to the view that the present pattern of secondary education is so closely knit that to attempt to alter one part of it will inevitably lead to a review of the whole.

(iii) *Length of School Life*:

In our examination of this senior stage of the secondary school, two sets of facts have become apparent. In the first place, the repetition of at least one year in the secondary school seems to be more common than has generally been supposed. It has not been possible to obtain exact statistics on the matter, but a number of enquiries yield results which point in this direction. Reference has already been made to repetition of years in connection with the case-study of school leavers. Of the cases studied, 19 per cent., nearly all boys, repeated at least one year. An estimate made throughout Fifth Year in Departmental schools indicates that 4 per cent. are repeating their final year. We do not think that the proportion would be less in non-Departmental schools.

We have been informed that the records of the University of Sydney show that rather less than half of first year students qualified at the Leaving Certificate Examination of the year before. When students entering on the basis of the Matriculation Examination and those who can be regarded as "special entries" are set aside, it would appear that 20 per cent. of first year university students spent more than five years in secondary school.

The incidence of repetition has obvious significance in relation to the ability of secondary students, and secondary standards and courses. This is another avenue of research which we have not been able to explore. We would point out, however, that if a significant number of pupils is spending six years in secondary school, often as the result of inadequate achievement, the lot of these pupils could be improved if the whole system were reviewed.

The second set of facts was brought to our notice following discussion of the statement from some of our witnesses that students who entered the university were often too young and immature. Though we are inclined to the view that, in individual cases, the "young bright" student should be allowed to progress at his own pace, we appreciate the fact that relative maturity is an asset in making the transition from school to university.

With this idea in mind, an examination of the distribution of ages of pupils in the Leaving Certificate year in Departmental schools was made. At first sight, there seemed to have been little change in regard to the age of pupils over the years: over a period of thirty years the average age of entry (twelve years six months) and the average age in Fifth Year (seventeen years two months) have fallen, at the most, by two months. A closer examination, however, threw a different light on the situation. This examination is reported in Table V in terms of percentages of the total candidates for a series of years.

TABLE V

Distribution of Ages of Fifth Year Pupils, Departmental Schools, 1920-1955

Year	14.0-14.11	15.0-15.11	16.0-16.11	17.0-17.11	18...	Total
1920 ..	·3	5·4	27·9	41·6	24·9	100·0
1925 ..	..	6·3	31·1	36·1	26·4	100·0
1935 ..	·2	8·8	37·2	33·8	20·0	100·0
1945 ..	·1	8·5	56·6	29·8	5·0	100·0
1955 ..	..	4·6	60·6	30·0	4·8	100·0

Table V demonstrates that the maintenance of the same average age for Fifth Year pupils arises from a compensating shift in the distribution of ages. Whereas, thirty years ago, one quarter of Fifth Year was eighteen years of age or over, today only about one in twenty has reached that age. At the same time, the group between the ages of sixteen and seventeen has changed from being less than one-third to becoming the predominant group in Fifth Year. In short, since the last war, the most common age for proceeding to the university (six months later than the time at which these statistics were recorded), is now little more than seventeen years.

It is possible, we consider, to attach too much significance to chronological age in itself, but we cannot escape the feeling that the trend recorded in Table V must result in an increasing number of relatively immature, though academically qualified, students entering the university.

Another aspect of this situation may be mentioned here. The community may well have become accustomed to their children leaving secondary school about the age of seventeen. It is worth noting that this was not always so and that it is only since the last war that a fifth of the final secondary school year did not stay at school until they were about eighteen and a half years of age. Even now, as an analysis of the 17.0-17.11 group would show, approximately 15 per cent. are eighteen years of age by the end of the year and another 5 per cent. as much as a year older.

SUMMARY.

Our task in this chapter has been "to survey and report upon the provision of full-time day education for adolescents in New South Wales." Our findings may be summarized thus:

Enrolments.

1. At present, more than 175,000 pupils are enrolled in secondary schools and courses in New South Wales. About 72 per cent. of these pupils are enrolled in schools conducted by the Department of Education.

2. This enrolment represents more than a tenfold increase in the secondary school population over a period of forty years. In itself, the provision of schools and teachers to meet this growing demand is a noteworthy achievement.

3. A total enrolment of approximately one-quarter of a million secondary school pupils is to be anticipated by 1965.

Schools.

4. In 1956, there were 323 secondary schools or departments maintained by the Department of Education. In the same year, there were 137 non-Departmental schools registered as secondary schools under the Bursary Endowment Act.

Organization.

5. Within the Department of Education, the organization of secondary schools differs as between city and country. In Sydney and Newcastle, and in respect of one high school in Wollongong and one in Parramatta, the pupils deemed most suitable from among primary school applicants are admitted to high school. These high schools provide a five-year course leading to the Leaving Certificate and the policy has been to require their pupils to study one foreign language (usually French), though the more able tend to study Latin also.

The other pupils pass from the primary school, either to another secondary school offering languages or, in the majority of cases, to a secondary school in which languages are replaced, for boys, by manual arts and descriptive geometry, and, for girls, by domestic arts and commercial subjects. With some exceptions, these are three-year schools, those pupils who wish to go farther transferring to the senior years of a high school.

Junior technical and home science schools are secondary schools; despite their titles, they are not vocational schools. Their development over the past forty-five years has been significant. The success of many of their pupils at the Intermediate Certificate Examination and beyond, raises in our minds the question of the reliability of the selection of pupils before the commencement of secondary education.

6. In the country, where the majority of high schools are now found, all pupils passing from the primary school are enrolled in the local high or intermediate high school. There they are allotted to courses corresponding to the different types of secondary school in the city. Though there is some opportunity for adjustment within the country secondary school, pupils tend to remain in the courses to which they have been allotted. The country secondary school houses a number of separate courses under one roof; it does not provide the elasticity of the "comprehensive" school overseas.

7. Among the non-Departmental schools, those maintained by the Roman Catholic Church are generally organized in specific courses somewhat akin to the pattern of Departmental organization. In the remainder, variations in the pattern of courses are to be found but, since they are individual schools, no general statement of the details of their organization can be made.

Selection for High School.

8. Behind the method adopted for selecting pupils for admission to high schools in metropolitan areas lies a history of dissatisfaction with a number of types of attainments tests used for this purpose between 1911 and 1943. The present method combines the results of primary school attainments, and of intelligence tests, with the overall school records of the pupils concerned. Due weight is given to parents' choice and to the judgment of teachers.

In itself, the method is as satisfactory as could be devised in the circumstances. We do not consider, however, that a fully satisfactory method of determining, in advance, the secondary school course for a pupil of about twelve years of age can be devised, especially if the organization of the secondary school thereafter makes it difficult for a pupil to change his course.

Courses of Study.

9. School principals may vary courses, but the opportunity of doing so is limited. Furthermore, the general pattern of the secondary curriculum is largely determined by the requirements of syllabuses approved by the Board of Secondary School Studies. These syllabuses are designed, in their senior stages, to prepare candidates for the Leaving Certificate Examination, which may also serve as the basis for university entrance.

10. The effect of this situation is twofold. On the one hand, Leaving Certificate requirements have an anticipatory effect upon the work of junior years, though many of the pupils involved have no intention of being Leaving Certificate candidates. On the other, the regard which has had to be paid to less academically inclined candidates for the Intermediate Certificate has probably restricted the scope and content of work for the more able.

11. Under present conditions, when all adolescents proceed to the secondary school, the extent of the influence of the Board of Secondary School Studies is, in view of its limited authority under legislation, somewhat of an anomaly. That the anomaly has not become more apparent has been due to the wisdom and understanding of the Board over the past twenty years.

12. In addition to the general pattern of secondary schools described in (5) above, there are high schools, termed "technical", "home science", and "agricultural high schools", in which a group of courses corresponding to the title of the school is substituted for a second language in the curriculum. The Roman Catholic Church maintains a small number of agricultural secondary schools.

13. The Department of Education has developed two courses at the secondary level, designed to meet the needs of pupils for whom post-Intermediate studies are not contemplated. The first, the General Activities course, is designed for the least able group of adolescents; the second, the *Alternative Curriculum for Secondary Schools,* is designed for pupils of average ability who seem likely not to remain in school beyond the Intermediate Certificate stage. Variations are made in courses to meet the needs of similar groups of pupils in non-Departmental schools, though not necessarily by means of these organized courses of study.

14. Despite all that has been done in so many schools, the predominant pattern of organization makes it difficult for the secondary schools of the State, as a whole, to provide a programme of education completely satisfactory for all types of adolescents.

Examinations.

15. In Departmental schools and in approved non-Departmental schools, candidates who are not applicants for bursaries and scholarships gain their Intermediate Certificate on the basis of conduct and attendance and an "internal" examination on an approved course of study. The "internal" examination is set and marked within the school. Other candidates sit for an external examination, the arrangements for which are approved by the Board of Secondary School Studies.

16. The Leaving Certificate Examination, conducted by the Board of Secondary School Studies, is an external examination. In view of the steady increase in the number of candidates and of the expectation that that number will reach 12,000 by 1965, doubts are felt as to whether, solely on administrative grounds, that examination can continue to be maintained much longer in its present form.

Holding Power of Schools.

17. The consistent feature of secondary schools in New South Wales, as in other states, is the small proportion of the group entering the schools in any year which remains to complete the course. Pupil wastage is more marked in Departmental than in non-Departmental schools. Though the former enrol almost three-quarters of all First Year pupils, they present only half the candidates for the Leaving Certificate Examination. Since the last war, however, there has been a small but consistent annual increase in the holding power of Departmental schools.

Perhaps the more significant aspect of the fact that little more than one-half of pupils entering secondary schools complete three years of the course is that, among those who leave during the junior years, there is a considerable number of pupils of undoubted talent.

18. Our analysis of the background of early leaving casts some doubt upon the common assumption that it is almost entirely the result of economic pressure upon parents. The most obvious fact disclosed is that, although few pupils leave before the age of fifteen, they turn fifteen before they have progressed very far in the secondary school.

19. This, together with the fact that many pupils repeat at least one secondary school year, leads us to the conclusion that the situation reflects some measure of retardation of progress in the primary school and a need for a review of the nature and organization of studies in the secondary school.

Relation to the University.

20. We have not questioned the assumption that universities in Australia should be selective institutions and that their matriculation requirements should reflect this fact. We point out, however, that there is a growing demand in our community for young people who have remained at school to the Leaving Certificate stage, but who may not wish to proceed to the university.

21. Taking both points of view into account, we consider that a "survival rate" of 16 per cent. to the final year of the secondary school, if continued, is likely to deprive the community of sufficiently educated young people and to produce serious dissatisfaction among young people themselves.

22. From what we know of the order of ability demanded by university graduation, the number remaining until the last secondary school year represents the smallest number we might expect if all of them were of high ability, all wished to proceed to the university and all, in fact, matriculated. Our evidence, however, is that many able pupils leave before the final secondary school year and that some who have no more than average ability remain. Only 7.5 per cent. of a typical secondary school entry matriculate.

23. We are informed that as many as one-third of those who proceed to the university fail in their first university year. The reason for this failure is not to be found in any decline in the standard of the Leaving Certificate Examination over a considerable period. The evidence points rather to the fact that the pressure of that examination upon pupils and schools has increased over the years.

24. We are not in a position to assess the degree to which the responsibility for this incidence of failure at the university rests upon the schools, the university or the undergraduates themselves. The great majority of matriculants from schools are of sufficient general mental ability to pursue university studies and we have noted the major part played by members of university staff in determining and maintaining matriculation standards. We have observed a marked tendency over the last twenty years, for pupils to gain their Leaving Certificate at a younger age. Under pressure of examinations, the survival of the scholastically fittest tends to be the survival of the youngest. To some extent, it may also produce immature undergraduates. Our impression, however, is that a large part of the answer to our question may be found in what happens to students at the university. At the same time, we feel that any assessment of the situation must take into account the nature and conditions of the senior years of the secondary school.

CHAPTER III

AIMS

We have felt bound, at this stage, to set down, as briefly as we may, the background of opinion or belief as to the aims of education, against which we have examined the present provision of secondary education in this State and have made recommendations as to its future development.

There are certain features of human nature and of the several social patterns within which boys and girls live which we would regard as postulates, rather than aims, of education.

They should, therefore, be stated here:

(*a*) Any conception of a school must assume marked diversity among individuals in any group of children. Differences in general mental ability are manifest as soon as a sufficiently large group of children are brought together. Differences in aptitudes and interests reveal themselves even in a group whose members are similar from some other point of view.

(*b*) Not only do children differ from one another, but within each child is to be found a diverse pattern of aptitudes, interests and needs.

(*c*) Especially during adolescence, this pattern within the individual is not static. Beyond the fact of their differences from one another, the most significant fact is that children grow. With that growth, new needs arise, new interests emerge, new abilities manifest themselves. The atmosphere, methods and immediate purposes of the school should change to accord with the chief stages of this personal growth.

(*d*) Life, at any given stage of his schooling, is important for the child, and should be for his teachers. Adults are apt to talk about education as a "preparation for life". In one sense, they are right. But if they would also be wise, they will recognize that true education must concern itself with living now, at whatever stage the "now" may be.

(*e*) Neither child nor adult lives to himself; each must find his life as a member of a social group. Such living is exploratory; it is an experience of trial and error, out of which grow the compromises between his own interests and those of others which make possible the individual's satisfaction as a member of the group. The school's opportunity lies in the scope which is offered teachers to provide example and guidance to young individuals who have so much to learn of the art of living with their fellows.

With these postulates in mind, we can examine the question of purposes in education from several points of view. One statement of purposes may well differ from another simply because of a different method of approach.

For example, the question could be answered in terms of the function of the school. If we were asked to answer the question in those terms, we could find no more succinct a statement than that made by the English Board of Education some years ago:

> "We may sum up the function of the school as being (1) to provide the kind of environment which is best suited to individual and social development; (2) to stimulate and guide healthy growth in this environment; (3) to enable children to acquire the habits, skills, knowledge, interests and attitudes of mind which they will need for living a full and useful life; and (4) to set standards of behaviour, effort, and attainment, by which they can measure their own conduct."([1])

There are some advantages to be gained, however, from examining the aims of education from another point of view and in rather more detail. We may ask ourselves: What are the components of a life which the community will recognize as worthwhile and what contribution may the school make towards their development? This question is asked at the risk of becoming involved in a discussion of personal philosophies of life. As posed here, it assumes that the standard of the educational programme will not be determined on the lowest accepted level of contemporary practice. On the other hand, the programme of the school can only be carried out if it is accepted by a significant proportion of the community in which the school will function.

If this be our method of approach, certain objectives emerge clearly enough:

1. Health.

Most people will agree that health and physical fitness are a worthy component of life and that their achievement and maintenance should be one of the purposes in programmes of education. In so far as the school is an agency in achieving this purpose, it has a threefold function. It must provide and maintain physical conditions conducive to healthy development. It must provide a measure of organized training. Especially at the secondary level, it must offer an appropriate background of information which will enable pupils to appreciate the significance of health and understand the basic means of achieving it.

2. Mental Skills and Knowledge.

There is a tendency among those who, with ample justification, emphasize the importance of the development of the individual in the social pattern, to pay scant attention to what has been termed the "conservation" role of the school. Yet, if there is any reason why children go to school, it is because, through its teaching, they may enter upon their mental inheritance. The school and its teachers make it unnecessary for each newcomer to climb painfully up every step of the ladder climbed by earlier generations.

The basic skills of reading, writing and computation are part of this inheritance. These are necessary skills; they are part of the tools of living. Training in their use is a major task of the primary school, but we would emphasize the fact that that training must be consolidated, and

([1]) Board of Education: *Handbook of Suggestions,* p. 15, London, His Majesty's Stationery Office, 1937.

in some directions extended, in the secondary school. If these skills are tools, it is clear that the extent of their development will be justified by the use to which they are likely to be put. Copperplate writing has little justification in an age of typewriters, but legible and fluent handwriting will be an essential aim of the teacher until writing is outmoded as a means of personal communication.

Part of the heritage to which children are entitled is the world of knowledge opened to them in Literature, History, Geography and Science. None of this enormous body of knowledge and experience is innate in the child; what he comes to share of it, he must learn. In some measure the home, but in greater measure the school, must teach him.

The school's task in this respect is much more than the transmission of facts. Even if the individual were capable of acquiring encyclopaedic knowledge, facts alone would not provide the opportunity for the personal development that lies in the various fields of human experience. Thus, in addition to enjoyment, literature affords opportunity for the cultivation of taste and critical perception. In addition to an understanding of the world around us, science inculcates a mode of thought and appreciation of a particular scale of values. It is through studies like these that the school makes its unique contribution to the character of the young, as well as to their knowledge.

3. Capacity for Critical Thought.

While ignorance is an obvious handicap both to the individual and to society, knowledge in itself is not enough. One of the elements of a full life and one of the means by which the individual contributes to the life of his fellows, is a capacity for self-reliant thinking. Such thinking is reflected in personal standards of taste, in the exercise of discrimination and in a healthy habit of scrutinizing new facts and judgments. In the absence of these habits, the individual falls short of a full measure of personal growth and, as a member of the social group, he falls prey to the worst devices of "mass communication". One of the purposes of the school must therefore be to cultivate, within the limits of each pupil's mental capacity, habits of thought which will enable him to develop into a self-reliant individual, ready, in so far as he is able, to form his own judgments.

This task is ever before the school, but at the secondary level it acquires a greater significance as the emerging interests and aptitudes of the adolescent give the world in which he lives a richer content and a deeper meaning.

4. Readiness for Group Membership.

Since man is both an individual and a social being, one of the aims of education is to make young people, as they grow up, capable of living with and for their fellows. If he lacks this element in his education, the individual is stunted and the life of the community to which he belongs, suffers in consequence.

This aspect of the task of the school is the more significant because it must be undertaken side by side with action which, on the surface, seems to move in the opposite direction. In striving to cultivate self-reliant individuals, informed yet critical, each with the mental resources for a satisfactory life, the school is discharging part of its obligation. Emphasis upon achievement of excellence, whether it be in study or some other school activity, is a valuable part of the pupil's training. Yet that very emphasis tends to set him apart and in competition with his fellows. It is one of the apparent contradictions in education that the school must never lose sight of the individual, yet must strive to make the individual forget himself.

Perhaps at no stage of education is this more true than at the secondary level. Adolescents are beginning to discover themselves in all aspects of their living and that discovery is reflected in a variety of forms of self-expression, in some cases approaching the aggressive. They are anxious to win the approval of their fellows and, surprisingly perhaps, even that of their elders. In a spirit of exploration, crude trial and error though it may be, they challenge their expanding world, yet they constantly crave a sense of certainty, even the certainty which comes from the precept and example of their seniors. Their self-assurance, superficial and provocative though it may often appear, is a symptom of this conflict between a determination to be themselves and their essential need for reinforcement. Only by a wise discretion is the adolescent to be guided in his growth towards a genuine individuality and the art of living as a member of a group. In the absence of sound precept and consistent example in all aspects of the life of the school, the adolescent is likely to fail to find his place as a stable and effective member of a larger society.

5. The Arts of Communication.

Since he must live with his fellows, each individual is dependent upon the arts of both spoken and written communication. A person's thought and aspirations are his own, insulated from direct contact with those of other persons. Yet if the individual is not to be isolated, he must be able, in some measure, to comprehend the thoughts and feelings of his fellows and, above all, to convey his own thoughts and feelings with clarity and precision. It is true that much of the intercommunication within groups is emotional, intuitive and only partly conscious, but it is also true that one of the contributing factors to lack of mutual understanding is the inability of individuals properly to convey to their fellows what they have in mind. So significant are the arts of communication—in speech, in reading and in writing—that their cultivation must be cited as one of the aims of education.

6. Vocation.

The fact that young people must live in a material world, with its economic necessity, provides the most obvious grounds for including in the aims of education preparation for some form of occupation. Though in the highest sense it is not the most important part, earning a living must be part of living a life.

It is in the secondary school that this purpose of education makes its first real impact upon the life and activities of the school. True vocational training, even specific pre-vocational training, are not proper elements of a general education. Yet, with each year of adolescence, a complete separation between school and future occupation becomes not only unreal, but impossible. For all his indecision, each year brings the adolescent closer to the point of vocational choice. As part of the process of growing up, moreover, the adolescent plans, and should be encouraged to plan, what occupation he will follow as an adult.

The secondary school will not provide vocational education, but it has an important function to fulfil in assisting the adolescent to make a smooth transition from classroom to vocation. It may discharge this function in several ways.

While it should be said that the school's most significant contribution is to ensure that the adolescent has enjoyed a sound general education, it may make its contribution first by maintaining a parity of esteem among the subjects of the curriculum, having due regard for the ability and aptitudes of its pupils. Traditionally, some subjects of the secondary curriculum have been given pre-eminence. The effect of this tradition has often been to designate other subjects, by implication at least, as subjects which no pupil of merit will be encouraged to study. Thus, it is possible for the school to hinder rather than to help the adolescent to discover the fields in which he can excel, and through that excellence, solve part of this problem of choosing a career. The task of the school is to ensure that, in whatever subject it offers, good standards are maintained and pupils are encouraged to develop their abilities to the full.

Secondly, in teaching many of the subjects of the curriculum, the school has the opportunity to relate its teaching to the facts and practices of everyday life, including the life of commerce, industry and the professions. The teaching of Science, for example, can never be complete if confined to the school laboratory.

Thirdly, no secondary school can ignore the increasing significance of its responsibility for the pastoral care and guidance of its pupils. The discharge of this responsibility may well be one of the chief functions of the school principal. He will be fortunate if he is assisted by a member or members of staff specially trained to help pupils with their problems. Among adolescents, this guidance will increasingly involve some consideration of a future career.

Fourthly, as the pupil approaches the point of leaving school, choice of courses and the method of treatment of some of them may come to have a more definitely pre-vocational bias. It may be a matter of debate as to whether, at this stage, such work should be done in the secondary school, in a vocational school, or by collaboration between them. The needs of pupils will differ in this respect, but the inescapable fact is that the transition from secondary to vocational education should not be abrupt.

Since one of its purposes is to guide adolescents towards a worthwhile citizenship, the school has a function to perform which is more significant than any we have yet mentioned. In countless ways, the school may teach its pupils the dignity of labour. More than that, the

school will, in part, have failed if it sends into the adult world pupils lacking a sense of personal responsibility for equipping themselves to take their place as adults. It is not given to all to find their complete vocation in the occupation by which they earn their living, but it is possible for the school to give to many of its pupils an ideal of service and self-dedication which, while not making them ignore such considerations as congeniality of the task or its material rewards, becomes a major determinant in their pursuit of a career.

7. Leisure.

Most communities would assume, as one of the components of a satisfying life, the opportunity for adequate leisure for enjoyment and personal culture. It is clear that the Australian community would neither deny such an opportunity, nor tolerate economic conditions which would seriously abridge it. One of the aims of education, then, must be the preparation of young people for the use of leisure.

The task which confronts the secondary school in the coming years is one of special significance. The years of adolescence see the emergence of abilities and interests which provide the motivation and opportunity for encouraging young people to use their leisure with real satisfaction to themselves. At the same time, the adolescent years, especially those spent in school, are short, and the contribution of the school must therefore be purposeful. Furthermore, adolescents now in school are likely to be adults in a world where technical advances will, for some groups at least, make available a greater degree of leisure. Many of these adolescents are likely to earn their living under conditions in which the task will convey little personal satisfaction in itself. The need is therefore urgent for education to provide the means by which these young people may build up reserves of interest and competence of mind and body upon which they may draw in hours which will otherwise be barren. For rarely will the hours be altogether idle; if they are not occupied in worthwhile activity, they will be invaded by what is cheap.

At the same time, the fulfilment of this task calls for discretion. While the school must set about it purposefully, it must avoid a significant danger. The earnestness of the teacher must never be allowed to betray him into making provision for leisure occupations which is too prescriptive or closely regulated. One of the secrets of the use of leisure is relaxation from the pressures of obligatory work. Provision in the school for closely scheduled "extra-curricular activities" may well inhibit spontaneity and so fail to prepare fully for the use of leisure. The inner secret of leisure, the absorption which comes upon one through the satisfaction of interest and skill, is only gradually to be learnt. The school may be doing well if it kindles that interest and enables the adolescent to lay the foundations of that skill.

There is danger, too, in the phrase "the proper use of leisure". The question may legitimately be asked: "proper" for whom? In the effort to ensure that leisure hours may be spent with satisfaction to the individual and yet with ultimate benefit to the community, it is important that the school avoid the pitfall of being too didactic. Adolescents are inclined to suspect activities which are said to be "good"

for them. They may conform to the programme of the school as pupils, only to cast aside some "leisure activities" with relief once they leave school. Should they do that, the school will, in some measure, have failed in its endeavours.

Finally, there are good grounds for the belief that some aspects of education can come to full development only among adults. The leisure which is sought in the Twentieth Century is adult leisure and, in one sense, its worthy use can be learned only by adults. The task of the school is therefore to awaken interests, to keep mental horizons broad, to discover and cultivate skills, and accustom its pupils to use the hours free from lessons in a profitable and satisfying fashion.

8. Spiritual Values.

It is clear that any analysis of what might be considered to be the components of a life recognized as worthwhile, cannot stop short of a recognition of values which are best termed "spiritual". Whatever one's philosophy or system of beliefs may be, a programme of education which, while recognizing the significance of the individual, seeks to prepare him for group membership, which seeks to give him a sense of responsibility in regard to his choice of and preparation for a vocation, and which makes provision for an experience in the appropriate use of leisure, must be based on a recognition of values higher than the interests of the individual himself.

It is clear, too, that in so far as the aims examined above are accepted, they involve the formation of habits and attitudes. These habits and attitudes, in turn, are inevitably associated with, indeed become part of, the personality or character of the boy or girl concerned. Without entering into the discussion as to the legitimacy of "indoctrination" in schools, we would assume that the nature and atmosphere of his experience in school will be a potent force in the development of the pupil's character, and that a responsibility rests upon the school to ensure that its influence is conducive to the development of the highest standards of personal conduct and character.

We assume that most members of the community believe that these higher values cannot be fully attained save on the basis of religious belief and in terms of man's relationship with God. The views of the Committee are reflected in the later discussion of the curriculum of the secondary school. Here it may suffice to say that we consider that no programme of education can be based on the assumption that man lives to himself.

CHAPTER IV

APPRAISAL AND RECOMMENDATIONS

The brief account of the history of secondary education in this State given in Chapter I will have drawn attention to the fact that the responsibility undertaken by the community in the field of secondary education has altered radically, both in scope and purpose. Within the last fifty years, it has come to be accepted that not only will all children complete an organized programme of primary education, but that they will all pass on to some form of secondary education, remaining at school at least until the age of fifteen years. To-day, almost all pupils do attend school until that age.

It is true, as our examination of the present situation has shown(1), that for a pupil to remain at school until fifteen does not necessarily mean that he will have completed the Intermediate stage of a secondary school course. Indeed, the outstanding characteristic of secondary school enrolments has been shown to be the rapid falling off in numbers in successive years of the secondary school course, until only a small minority remain in the final year. Yet it is also true that secondary education is available to all who seek it, up to the age of seventeen or eighteen. This was not true fifty years ago.

The Central Problem.

The most significant feature of this changing conception of secondary education has manifestly been the emergence of the view that secondary education is the education not of a select minority, whatever the basis of selection, either social or intellectual, but of all adolescents, irrespective of their variety of interests, talents and prospects. This is the conception of secondary education implied in our terms of reference.

Yet to accept this point of view of secondary education is only to pose the problem in another and more difficult form. When secondary education was conceived as the education of an élite, almost the only point that could be at issue was the criterion upon which that élite should be selected. Organization, curriculum and method, all flowed largely from that determination. To-day, the issue is not so simple. "The education of all adolescents" implies a proper provision for all types and levels of ability and for the wide variety of interest and need to be found in any entire school generation. What is sometimes overlooked is that this very definition of secondary education makes it obligatory for the community to provide suitable education, not only for the "average" adolescent, but also, and on the same social and moral grounds, for the adolescent of talent and for the adolescent who is poorly endowed. In particular, we feel, no community can afford, in making general provision for all its adolescents, to lose sight of the need for identifying and cultivating talent of every kind, wherever it may be found among its youth. This cultivation of talent was perhaps the outstanding feature of older concepts of secondary education. To-day's problem is that of meeting the needs of all adolescents without impairment to the potentialities of any.

(1) See Chapter II, especially pp. 43-48.

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It is against the background of this central problem that we propose, in this chapter, to take up the second of our terms of reference, namely—

> "In particular, to examine the objectives, organization and content of the courses provided for adolescent pupils in the public schools of the State, regard being had to the requirements of a good general education and to the desirability of providing a variety of curriculum adequate to meet the varying aptitudes and abilities of the pupils concerned."

Method of Approach.

It has seemed to us that this problem can best be attacked in terms of the organizational framework within which schools are to be established and maintained. It is true that the heart of the matter lies in the curriculum and method of the school, but it is clear that decisions in regard to both curriculum and method are bounded by considerations of organization.

Assuming that there is agreement as to the purpose of secondary education, we consider that its organization should be determined, in the first instance, by the nature and needs of the pupils for whom it is to be designed, however significant may be the other factors which may have to be taken into account.

Transition to Secondary Education.

With the foregoing considerations in mind, the first aspect of our problem to which we have directed our attention is the conditions under which pupils in Departmental schools pass from the primary to the secondary stage of their education. The method of selection for secondary school and the allocation to courses has already been described.(1) Briefly, it takes into account parents' wishes, primary school attainments and general record, and the mental ability of the pupil. It was adopted after a succession of forms of the customary type of examination had proved unsatisfactory. We have agreed that the present method is an improvement on those which have preceded it and has much to commend it as a basis of guidance. The fact which gives us concern is that the procedure adopted is used, prior to admission, as a basis of determination of the secondary course a pupil is to follow. Furthermore, despite the provision of a variety of secondary courses and a measure of elasticity in their organization, it is, in the majority of cases, a final determination.

Our review of the present situation in Chapter II has demonstrated the extent to which pupils drop out of secondary courses. The evidence before us has indicated that one of the factors of this loss of pupils is that many of them fail in the courses to which they have been allocated. Further, we have observed that pupils who, at the outset, were not allocated to five-year secondary schools have demonstrated their suitability for the full secondary course by remaining at school and gaining their Leaving Certificate.

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(1) Chapter II, p. 35. See also Chapter I, pp. 22-24.

In addition to this administrative evidence we have had placed before us a considerable body of evidence, drawn both from research studies(1) and from the experience of practising teachers, which throws grave doubt upon any attempt to determine, at a relatively early age and in so final a fashion, the pattern of the secondary school course a pupil should follow. Our opinion, therefore, is that such selection for specific types of secondary education should not take place prior to admission to the secondary school. We do not assume that the change from competitive entry can be fully effected immediately. Administrative and other difficulties are foreseen in some localities in which the desirability of a gradual transition is recognized. We urge, however, that the present method of competitive selection for particular schools be abandoned at the earliest possible moment.

The issue, however, goes deeper than one of a proper allocation to any particular course of secondary school study. Unless the transition from primary to secondary education is unduly postponed, it will take place at a time when a child's interests and aptitudes are only beginning to become manifest. In these circumstances, any procedure designed to guide pupils into appropriate courses of secondary education must not only take into account differences in native ability, of which some measure may be obtained, but it should also make provision for differences in rate of maturation. At the age of about twelve, the latter differences are difficult to discern and almost impossible to measure.

Nor is a measure of a pupil's scholastic attainments an adequate guide to the future. These attainments are the outcome of a variety of factors and, like other measures, they fail to forecast the complex of personal qualities which will prove so significant to adjustment within school during the years of adolescence. In short, it must be admitted that many of the factors which should determine the ultimate content and shape of secondary education for the individual boy or girl develop during adolescence and are not adequately discernible at its threshold.

It follows, therefore, that any determination of the course of study best suited to the adolescent boy or girl must be progressive. Any procedure, which, at the outset, selects pupils to follow a particular pattern of courses either in a separate school or in rigid streams within the one school, denies this need for progressive adjustment of the curriculum.

Quite apart from this consideration of the problem from the point of view of the capacities and needs of children, the Committee has been made aware of other undesirable effects of selection for particular secondary schools in Sydney and other metropolitan centres. We recognize that the situation in Sydney, particularly, is the outcome of more than half a century of history, but, in a day when there is growing interest in the educational future of children, the disappointment of the parents of pupils not selected for enrolment in certain schools is not unnatural. In individual cases, the feeling is one of deep resentment, often reflected in the attitude of the children. Too much can probably be made of children's reactions to the situation, but the sense of failure or inferiority engendered in the minds of some who do not gain places in selective high schools is not lightly to be discounted. For many of those who have aspired to gain a place in high school, but have failed to do so, secondary school life is commenced under the worst auspices.

(1) See Appendix A.

Transition as Normal Promotion.

From the point of view, then, both of the individual pupil and of the community, we feel that the organization of secondary education should, at the outset, be based on two assumptions: first, that in any given area all pupils who have completed the primary stage of education should pass into the secondary school without prerequisite test or examination; second, that the secondary school should be organized so as to make possible postponement of a final determination of the course or pattern of courses the adolescent should follow.

The Nurture of Talent.

As has been indicated above, account must be taken of the views of those who stress the need for discovering and cultivating talent within the school community as quickly and as assiduously as possible. Some of our witnesses were inclined to fear that too much thought might be given to the mediocre and to the dull, with consequent neglect of the gifted minority.

Most of the witnesses who expressed this point of view based their representations on the growing demands of the present day for young people of the highest quality in science and technology. Behind this demand lies the rapid expansion of knowledge in all fields and the consequent increase in demands upon both learner and practitioner. In some fields, what was once relatively advanced work has become little more than a preliminary to the type of study modern knowledge and practice require.

We consider that these increasing demands, especially upon the more able of adolescent students, are real and inevitable. It is our opinion, furthermore, that no scheme of secondary education dare ignore the obligation to make provision for the cultivation of talent among adolescents in whatever field it may express itself. It is to be noted, however, that while the obligation to provide conditions which will encourage the development of talent, and the need to meet the contemporary demand for higher standards of knowledge and achievement in many fields are, in practice, closely associated, they constitute separate educational objectives. Even if the state of knowledge were static, the obligation to cultivate talent would remain.

We have already expressed the opinion that this obligation is not to be met by the segregation of selected pupils in separate schools or courses at the outset of their secondary education. Here we would add that the special talents which become manifest during adolescence are not all to be measured in scholastic terms or to be nurtured by the more traditional academic studies. The secondary school must accept responsibility for the nurture of talents in Music and Art, for example.

It is true that, in some boys and girls, talent does manifest itself early and in a fashion which is not to be denied. Faced with the obligation of meeting the needs of these boys and girls, the school system must, we feel, be organized so that courses of study can be taken up when pupils are ready for them. The needs of these pupils and those of able pupils who develop later can all be met if a determination of the pattern of studies which each may follow can be made progressively within the secondary school. Only by this means, within a programme of secondary education for all adolescents, can the obviously talented pupil be afforded the opportunity of a relatively early commencement of studies which are likely to be different, both in kind and degree, from those undertaken by his less able fellows.

The Demands of University Studies.

If it is agreed that all pupils, on completion of their primary schooling, should pass on to a secondary school, there to have the opportunity of progressively deciding the pattern of courses they will follow, the second aspect of our problem which calls for examination is to be found in the concluding stages of the secondary school. How are the demands of university studies to be met?

It is clear, from our examination of the present situation,(1) that this question concerns a minority of secondary school pupils. We believe that, though that minority is at present too small, in terms both of the ability of pupils and the needs of the community, the number of pupils with the ability and the ambition to proceed to a university will always be a relatively small proportion of those entering the secondary school, especially if that entry comprises almost the complete range of ability.

No university tendered any evidence of its experience or views to us. However, we received evidence from a number of members of staff. Speaking as individuals, they were not unanimous in their general observations, and they were even less in agreement upon more specific matters.

In general, however, these witnesses tended to emphasize the need for the attainment of higher standards of knowledge, especially in certain fields, before young people begin university studies. We appreciate the anxiety of these witnesses and are aware of the body of university opinion which they seem to represent. Nevertheless, we consider that there are no reliable grounds for the view, sometimes expressed, that the standard of the Leaving Certificate Examination has fallen. Indeed, we feel that the demands made upon secondary pupils at that examination have increased with the years.

While we were not able to examine the histories of secondary school pupils who proceed to the university, we believe that the successful completion of secondary school studies, as measured by Leaving Certificate results, does not of itself guarantee success in the early stages of university work. Nor does a matriculation examination conducted by a university provide a reliable basis of prediction. We are convinced that there is no single solution to the problem of removing this discrepancy. It is as certain to us now, as it was to the Royal Commissioners in 1902, that the solution is not simply that of raising the standard of university entrance(2).

Any complete examination of this problem would involve a careful study of what happens to students after they enter the university. From the point of view of secondary education, however, we are convinced that, in so far as the standards demanded by the university are a reflection of the expansion of knowledge and of the rise in standards in many fields, they must be met. Yet they cannot be met at the cost of endangering the provision of a sound general education for all adolescents.

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(1) See Chapter II, pp. 47-48.

(2) See Knibbs-Turner Report, quoted pp. 15-16 above.

Nor are the demands of university studies to be met, even for the minority of pupils concerned, solely by an increase in content or duration of the secondary school course. In this connection, it is of interest to note that, despite ample testimony as to the growth of knowledge in many fields during recent years, no witness suggested that there should be any increase in the time required for university graduation. We are aware for example that, although there has been a remarkable expansion of knowledge and necessary study in mathematics and in the sciences, there has been no increase in the number of years of study required of the candidates for the pass degree in the one university of long standing in the State.

If knowledge has expanded so rapidly in the last fifty years in some fields and standards of attainment have also risen, it is reasonable to suppose that the next fifty years will see a further, though not necessarily similar, expansion. There must be a point at which the demands of tertiary education upon the secondary school must stop, even for the minority of pupils concerned. We are of the opinion that, in terms of chronological age, that point is reached at about the age of eighteen. Beyond that point, if its needs are not then met, the university must review the nature and organization of the courses it provides for its own undergraduates.

We have reached this conclusion on two principal grounds. First, we agree that part of the task of meeting modern standards should be achieved before students enter the university. Second, we believe that, as a general rule, a degree of personal maturity is necessary for the successful pursuit of university studies, even at the undergraduate level.

On both grounds, namely the desirability of higher standards and the need for maturity, we have taken the view that an additional year should be provided. Further, we believe that there would be a real advantage in providing this additional year within the school system. Continuity of teaching would be an advantage in itself and we have no doubt that the quality of teaching for this senior level would be available. We consider, too, that the task of transition from general secondary studies to the more mature work of the university would not only be more effectively carried out, but would be in the best interests of the pupils, if performed, under appropriate conditions, in school. An institution such as the American Junior College, which has been commended by certain of our witnesses as a satisfactory link between secondary school and university, would, in our opinion, be likely to lack the tradition and background of either.

In making any comment upon our proposal, it is necessary to set that proposal in proper perspective. In the first place, it should be noted that we do not recommend the general extension of school life by one year, but its extension for a minority of pupils. The pupils we have in mind are those who propose to proceed to tertiary education directly from school. Accepting the selective nature of universities in the British tradition, we do not anticipate that more than about 16 per cent. of any school generation would be involved, even if all adolescents of the requisite ability had the necessary interests and aptitudes to lead them on to university studies. On the basis of present secondary enrolments, if all able pupils could be persuaded or assisted to remain at

school, our proposal would affect about 5,000 of the 35,000 in a complete age-group in Departmental secondary schools. Of that 5,000, 10 per cent. already stay at school until eighteen years of age. In the second place, our proposal would, in terms of years, be a frank recognition of what now takes place in the life of many young people who seek to graduate at a university in New South Wales.

The realities of the present situation become more apparent when secondary pupils pass on to the university. Full statistics of university failure were not available to us, though several of our witnesses stressed the incidence of undergraduate failure in their criticism of university entrance standards. We are aware, however, that in one university (setting aside the Faculty of Arts, in which students may progress from one year to another while repeating a subject in which they have failed) the average failure rate of students over the past five years has been 32 per cent. Even though it may be argued that the cost of this repetition falls upon the students themselves or upon their parents, there are unseen costs which fall upon the universities and ultimately upon the public purse. In any case, we consider that, to the extent to which failure at the university is a result of inadequate preparation, an additional well-spent year in secondary school would be better for all concerned than failure at the university.

To sum up, then, our view is that it is necessary to make definite provision for an additional year of study for the minority of secondary pupils who wish to proceed to the university. We consider that this year should be provided, under appropriate conditions, in secondary schools. We emphasize the fact that our proposal would furnish only part of the solution to the problems of the maintenance of university standards and of student success in accordance with those standards. The universities must assume their share of the responsibility for a full solution. In particular, we consider that no further demands should be made on the secondary school which would extend school life beyond the age of eighteen. We appreciate the fact that our proposal will involve additional cost both to parents and to education authorities. Some of the cost to parents may be met by the extension of existing provision of scholarships and bursaries, but we are convinced that, owing to the incidence of failure or the repetition of years of study between the ages of sixteen and twenty, the community, though it may not be aware of the fact, is already paying a significant proportion of the cost of an additional year's education. Our proposal would both recognize the need for this year and make provision for a more profitable use of it.

Types of Organization of Secondary Education.

If it is assumed that all pupils in a locality will proceed to the same secondary school without selection and that those who wish to proceed to the university will pursue their secondary school studies for six years, it is necessary to examine the total pattern of secondary school organization within which our proposals would best operate. In that examination, we have borne in mind the two aims implied in the second of our terms of reference. The organization chosen must be such as to make possible, for all adolescents, "a good general education" and, at the same time, provide "a variety of curriculum adequate to meet the varying aptitudes and abilities of the pupils concerned".

1. EXTENSION OF THE PRIMARY SCHOOL.

Having in mind the problems associated with the early selection of pupils and the differentiation of courses of study, we recognize that one method of approach might be to allow pupils to remain in a primary school for a longer period, perhaps to the stage at which many are ready to leave school, the secondary school thereafter making provision only for those with the ability or interest to continue at school. We dismissed this possibility, not so much because we considered that such an approach would create as many problems as it might solve, as because it ignored a principle which we believe to be of paramount importance.

While it is not possible to indicate exactly when adolescence is reached by the individual pupil, and while much that is exaggerated has been written about this stage of personal development, we are convinced that the change from the atmosphere and "mores" of the primary school should not be delayed beyond the age at which most pupils become pubescent. Patterns of secondary education in most countries have been determined in large part by administrative considerations, but we are of the opinion that there are sound psychological reasons for providing a stage or type of schooling which is specially designed to establish the milieu in which adolescents may be helped to find themselves and to develop. Prolongation of primary school life is not the answer to the needs of the adolescent.

2. THE "6-3-3" ORGANIZATION.

The American Junior High School has attracted attention because it provides a stage of transition from the activities and organization of the primary school to those of the senior stage of the secondary school. The junior high school, however, is the first part of a pattern of secondary education which, after six years of primary schooling, provides three years of junior secondary followed by three years of senior secondary education. It is to be noted that this organization assumes that all pupils will enter the junior high school at about the age of twelve and that provision is to be made for a school life extending to eighteen years. Many of the American states have fixed the latter point by statute.

We have considered the question of the upper limit of statutory school life in this State. Sound arguments may be advanced for raising the permissible leaving age, arguments which may well be strengthened by future changes in industrial practice and conditions. On the other hand, with the school leaving age now at fifteen, the problems which still face the school system, especially the significant increase in secondary school enrolments, make it difficult for us to contemplate a general increase in the statutory length of school life at the present time.

Yet we are convinced that three years is too short a time in which to complete a programme of secondary education which can claim to provide a satisfactory background of training and experience for those who will have no further opportunity of full-time schooling. For that reason, we would not recommend the adoption of what is known as the "6-3-3" type of school organization. It is felt that to do so would be to postpone indefinitely the possibility of developing a satisfactory programme of secondary education in a country which is unlikely, for many years, to consider the raising of the school leaving age to eighteen years.

3. THE NEW ZEALAND INTERMEDIATE SCHOOL.

The New Zealand "intermediate school" does not appear to offer any real solution to the problem. This is a school providing for two years (ages eleven to thirteen) interpolated between the primary and the secondary school. The virtues of this type of organization are that it provides a school in which children achieve, in part, the transition between the conditions of the primary school and those of the secondary school, but, even more, that it can provide libraries and facilities for Art, Craft, and Music beyond the capacity of the individual primary school. Yet the "intermediate school" would appear to be suspended between the primary and the secondary school and to be properly integrated with neither. Especially where it is not linked with either primary or secondary school for administrative purposes, the intermediate school seems to confront the pupil with the task of commencing at a new school twice between the ages of eleven and thirteen.

4. A "TRANSITION" YEAR.

The proposal most frequently made by witnesses interested in this aspect of our problem was that the existing organization of secondary education in New South Wales should be amended by making the first secondary school year a "transition" or "orientation" year. These witnesses in general assumed that the secondary school would have received all the children in its area who had passed out of the neighbouring primary schools. The chief purpose of the transition year would be to enable the pupils to adjust themselves to the conditions of the new school and, in particular, to afford them some opportunity of determining the ultimate pattern of their courses of study. Some witnesses also saw, in this year, the opportunity for pupils to consolidate the skills which they had acquired, or should have acquired, in the primary school. Most of the witnesses also expressed the view that, as part of this transition, pupils should, as far as possible, be taught by class teachers in an accustomed room, rather than by subject teachers in a number of rooms.

The arguments advanced by these witnesses were, in the main, those set out in the earlier part of this chapter, namely that selection of pupils for secondary education is undesirable; that even if it were desirable, no method will be found to be fully satisfactory; that adolescence is a period of personal growth in which provision for adjustment is most necessary; and that, in terms of the curriculum, a period of exploration is necessary before decisions can be made either by pupil or teacher. With these views we agree, but we are of the opinion that the proposal for a "transition" year does not go far enough.

The very arguments which have been advanced in this connection throw doubt upon the possibility that, within the space of three school terms, a majority of pupils will be able finally to adjust themselves to the life of the secondary school or to make a satisfactory final choice of courses. The more comprehensive evidence available to us has served to emphasize the fact that not only do children differ markedly in ability, aptitudes and interests, but that their rates of development are different. Thus, while in the case of some children the patterns of ability are so clearly defined and the degree of maturity is so obvious that almost final decisions as to type of secondary education can be made quite early, in the case of other children no such decision can be made by the end of the first secondary school year. For some indeed, we feel, final choice may need to be further postponed.

If, as some of our witnesses suggested, the transition year is to be followed by definite allocation to courses, this proposal, whatever its merits in providing a period of orientation, would appear to be for many pupils but a postponement, by one year, of the relatively final decisions at present to be made at the end of the primary school stage. The allocation of pupils to different "streams" in a comprehensive secondary school at the end of the first year would obviously avoid some of the undesirable results of current practice in regard to selection for Departmental secondary schools in metropolitan areas. It would not, however, constitute a marked improvement on current practice in country secondary schools and, in general, it would fail to achieve the best possible solution of the problem of adjusting the school to the wide variety of children.

MAJOR RECOMMENDATIONS.

We have therefore come to the conclusion that a more elastic type of provision must be made. Setting aside certain features of our proposals for later examination, we recommend the following pattern of organization:—

I. On completion of the primary school course and, in general, about the age of twelve years, all pupils should proceed, without examination, to secondary education organized consistently with the recommendations which follow.

II. The organization and curriculum of the high school should be such as to provide a satisfactory education for all adolescents and should be designed to cover four years, to the age of about sixteen.

III. The curriculum should be designed to provided a core of subjects common to all schools, together with a progressive increase in the proportion of elected subjects. On this basis, the greater part of the curriculum for the first year should be allotted to the common core.

IV. Under teacher guidance, election of subjects should progressively be made in the light of pupil achievement or potential.

V. On satisfactory completion of the four-year course, a School Certificate should be issued on the basis of the result of an external examination.

VI. This examination should be designed as a terminal or retrospective examination and the Certificate as a formal indication of the successful completion of a satisfactory course of secondary education.

VII. No external examination should be held, nor any certificate of general status issued, before the end of the fourth secondary school year.

VIII. Pupils who wish to proceed beyond the School Certificate level, including those who aim to matriculate, should remain at school to follow a course or courses leading to the Higher School Certificate Examination. The type and content of this examination should be such as to make it acceptable as a test for university matriculation. The further course of study should be designed to cover two years.

DISCUSSION.

It is obvious that the foregoing recommendations raise a number of issues, upon the determination of which much of the significance of our major recommendations will depend. While some of them will have significance in the total pattern of our proposals, the observations which follow have been numbered to correspond with the recommendations which most directly occasion them. It should, perhaps, be recalled that, throughout this chapter, we have confined ourselves to the second of our tasks, namely an examination of the conditions which obtain in the public schools of the State.

I. Transition from Primary to Secondary School.

(*a*) *Completion of the primary school course*:

Any proposal that all children should pass, without selection, from the primary to the secondary school raises the question either of the standard or of the age of entry into the secondary school.

In regard to current standards of achievement at the end of the primary school, we received conflicting evidence, though we are aware that there is a body of opinion which supports the view that standards have declined. Research reports do not support this opinion or, at least, return a verdict of "not proven". The reason is not far to seek. Some criticisms of primary school achievements are based on reliable standards, but others spring from what is recollected of achievements of earlier days. Yet, with whatever point in time present achievement is compared, reliable comparison is frustrated by the fact that curricula have changed and the test of even a decade ago is no longer wholly relevant to-day.

It must be borne in mind also that some, at least, of the current criticism of standards of achievement in schools is based on experience with youths who have left school at the age of fifteen, some of whom, as we have seen, have had not more than two years of secondary education. If an answer has to be found by the school system, it is not only the primary school which may have to provide it. The maintenance of standards in the fundamental skills of reading, writing, spelling and arithmetic demands practice, and there is evidence of a need to continue this practice beyond the primary school more systematically than appears sometimes to have been the case. Furthermore, those who have left school at the age of fifteen and are often judged as the total product of the school, tend to represent the less able members of their generation, although they may, of course, include young people of real ability.

In contrast to those who criticized primary school standards, some of our witnesses attested that the objectives of the primary school of today are of greater value than those of former days, and that the standards now set in the fundamental skills are more relevant and appropriate to the age and needs of the pupils.

We are inclined to agree with the latter point of view. While we consider that no curriculum may be regarded as finally satisfactory, we are of the opinion that the present *Curriculum for Primary Schools*[1]

[1] *Curriculum for Primary Schools*, issued under the authority of the Minister for Education, 1952.

provides a thoroughly suitable basis for the work of a modern primary school. It is a curriculum which, if properly used, provides ample opportunity for the attainment of satisfactory standards in the fundamental skills. There is evidence, however, that the aim of the curriculum is not always being achieved in some cases, perhaps because of the inherent difficulty of combining some modern methods with the pursuit of systematic knowledge and the attainment of well-grounded skills.

Nevertheless, it is clear that a reorganization of secondary education along the lines we have recommended will affect the upper levels of the primary school and will present those responsible with both a challenge and an opportunity. On the one hand, it will be essential that the unquestioned transition of pupils from primary to secondary school shall be accompanied by a continuing scrutiny of the standards achieved by the average pupil in the final year of primary school. On the other, an opportunity will be afforded of reviewing the scope and standards of the curriculum for that year, in concert with a similar review of the curriculum for the initial year of the secondary school. In the spirit of our recommendations, entry to secondary school will be but a transition from one phase of common schooling to another, with all that that implies.

One of the implications of our Recommendations I and III will be that, during the first secondary school year, opportunity will be taken to consolidate the work done in the primary school. We are aware of the fact, moreover, that a high school receiving pupils from a number of primary schools, each with its own variations of curriculum and method, is confronted with a heterogeneity of background and a variation of standards among its First Year pupils which is hardly to be appreciated by the lay observer. We consider that a sounder basis for the work of later secondary school years is laid when provision is explicitly made in First Year for the fact that from each primary school there will come pupils with marked differences in ability and in individual attainments. Recruitment from a number of primary schools serves to multiply these differences.

(*b*) *Age of transition*:

It is clear that whatever features characterize adolescence in contrast with other stages of personal growth, no sharp lines can be drawn across a continuous history of development. Especially in terms of educational needs, no date can be set for the onset of adolescence. Moreover, in this as in other phases of living, individuals differ. It is not surprising, then, that the average age at which secondary education commences has so often been determined on administrative rather than on psychological grounds.

We accept current practice in the public schools of New South Wales as reasonable on both grounds. At present, pupils pass on to the several types of secondary school at an average age of twelve and a half years. We have found no evidence which would seriously challenge this practice.

It is clear, however, that the phrase, "completion of the primary school course" must be modified in the case of pupils of low ability. While the due regard which must be paid to attainments will result, at

any stage, in a measure of retardation among these pupils in relation to their more able fellows, there is a limit beyond which the progress of pupils from grade to grade cannot be deferred. On social grounds, it is necessary that even retarded pupils should pass from the primary school to life among other adolescents. In the nature of the case, they will do so later than their more able fellows, but it would appear to be desirable that they should not be retained in primary schools beyond the age of thirteen and a half years. It is perhaps not necessary to add that the secondary school, in receiving these pupils, must provide them, as at present, with a suitably designed curriculum.

(*c*) *Liaison between primary and secondary school*:

We consider that public schools in an increasing number of districts in this State are fortunate in having the services of school counsellors. These specially selected and trained members of staff are, in themselves, a form of liaison between primary and secondary schools. We believe they are still inadequate in number and the increase in the secondary school population is certain to make even greater demands upon their services.

We have noted with interest the use of individual pupil records which are cumulative and comprehensive and pass with the pupil from primary to secondary school. In professional hands, these pupil records form a valuable means of assisting in the smooth transition from one school to the other.

However, the contribution of school counsellors and the use of cumulative records do not exhaust the possibility of liaison between primary and secondary school. There is need for their respective staffs to know more about each other's objectives and problems. Personal visits of staff between schools, conferences, and panel discussions are obvious means of cultivating this exchange of experience. We understand that in some centres these methods are being adopted with profit.

Reference has already been made to the opportunity offered by comprehensive entry into secondary school, for a review of the adjacent areas of the curricula of the primary and the secondary school. Indeed, while there will be a real difference between the two curricula, both should be reviewed so as to ensure that together they will provide an uninterrupted progress of experience for the children concerned.

We consider that more remains to be done to ensure satisfactory grade placement of tasks during these years of transition. We also consider that a review of the curriculum before and after the point of transfer would facilitate and make more effective the proportion of recapitulation and consolidation which is appropriate, especially during the first secondary school year.

(*d*) *Class-teaching in First Year*:

In the opinion of many witnesses, one means of achieving a smooth transition from primary to secondary school would be the organization of as much as possible of the teaching in the first secondary school year on the basis of class groups rather than of subjects. Pupils leave primary school, where they have been under the care of one teacher in their accustomed classroom, and enter a secondary school where they may meet six or more teachers in the day and move from room to room. The extent of this unsettlement varies with the size and type of secondary school, but it constitutes a general contrast with the atmosphere of the primary school, and, for some pupils at least, it cannot but impede smooth transition from one stage to the other.

It is clear that some specialist teaching and movement to and from laboratories, workshops and other specialized rooms is unavoidable, even in the first secondary school year. It is to be expected, too, that both will increase in the later stages of the secondary school. Here, then, is one aspect of the whole problem of transition from primary to secondary school. The question at issue is the degree to which the "home room" atmosphere of the primary school and the continuing "pastoral care" which can be exercised by a single class or form teacher should or can be retained in the secondary school, at least in First Year.

We have not been unanimous in our answer, though the weight of our opinion would support, to the fullest extent possible during the first secondary school year, an organization of class teaching in a "home room".

There are, of course, two questions here. The first is one of location. Should First Year pupils spend as much time as possible in one room, or should they move not only to laboratories and workshops, but to rooms specially equipped for other subjects such as History and Geography? The balance of opinion in regard to junior secondary pupils is that they should remain in the same room as far as possible. It is a matter of regret that in some schools the consideration of accommodation, rather than the provision of specialist rooms, causes junior classes to move from room to room and to lose the stabilizing influence of a regular "home room".

The second question relates to specialist teaching. It is clear that in subjects such as Science, Manual Arts and Music, specialist teaching as well as special rooms is desirable from the beginning of the secondary school stage. To what extent should English, Mathematics, the social studies and foreign languages be taught by specialist teachers at this initial secondary school stage? Most of our witnesses would say that, in the first year at least, English, Mathematics and the social studies should be taught by the same teacher. There are those, however, who would stress the importance of the early influence upon secondary pupils of the teacher with specialist knowledge and insight in each of the subjects mentioned.

Some of the evidence on this issue implied a misgiving which, while rarely put into words, challenged our attention. The distrust of the specialist seems to arise from a feeling that there is a tendency for such a teacher to have more regard for the subject than for the pupil. We consider that this is not necessarily the case, but we are aware that a sense of perspective can be lost if a teacher sees a pupil only in one aspect of his total life in school. Moreover, under conditions where the pupils of a school are a selected group, a teacher's perspective can be further distorted. (The "average" pupil of such a group is, in fact, far above the average of his contemporaries in ability, and probably in attainments.) Specialist teaching casts upon the teacher an added responsibility that he remain sensitive to criteria of excellence other than achievement in his special subject, criteria which, in the general education of the pupil, may well be of paramount importance.

It was perhaps this consideration which moved some witnesses to emphasize the significance for the secondary school teacher, especially at the junior level, of having had recent experience of teaching pupils manifesting a range of ability and a variety of talents. Some witnesses expressed the opinion that secondary teachers should also have had experience of teaching in the primary school.

In our view, it is unfortunate that the problem has been posed in terms of arguments for and against specialist teaching. This has been the general method of approach of our witnesses; it is the mode of thinking common in the teaching profession. The essential problem, however, is that of ensuring that a school shall be conducted and teaching carried out so that pupils are perceived as individuals, each with his own pattern of abilities, interests and needs, and afforded what has been termed "pastoral care" as individuals and as members of a group. The most serious charge against specialist teaching is that, under some circumstances, it can result in a pupil being perceived and taught only within the framework of a school subject. On the other hand, there are those who question whether the teacher of several subjects can bring to each of them the background of knowledge and insight necessary not only to teach the junior classes, but also to establish a firm foundation for later work.

It is clear that a decision in this matter must, in the absence of systematic experimentation, depend upon the opinion of those with experience in the field. Setting aside those subjects such as the sciences, the manual and graphic arts, in respect of which it is generally agreed special facilities and specialist teaching should be provided even at the junior secondary level, the weight of opinion, we consider, is against deliberate specialization in the teaching of the remaining subjects at the junior stage of the secondary school.

We are not prepared, however, to make a recommendation to be applied generally and without modification. Quite apart from conditions peculiar to individual schools, so much depends upon the teacher, his professional qualifications, the nature and variety of his teaching experience, his personality and capacity for establishing "rapport" with his pupils, that we consider the establishment of any invariable rule would be unreal. Furthermore, there are grounds for considering that, particularly in a school enrolling pupils with a wide range of ability, there might well be some variation in the organization of teaching, even within the same Year or stage. It seems certain, for example, that pupils who at an early stage demonstrate academic interests and abilities will be ready for specialist teaching earlier than some of their contemporaries.

The need for making effective provision for the "pastoral care" of pupils is a matter of paramount importance and goes beyond the more immediate need of ensuring a smooth transition from the primary school to the secondary school. The need for pastoral care persists throughout the school life of every pupil; it is not limited to his early years in the secondary school. The provision of the means by which this need is to be met is one of the most significant responsibilities of the school principal. In discharging that responsibility, he must make the best use of his staff, of the organization possible in his school, and of all the other facilities at his disposal. We consider that, in so far as he judges a measure of specialist teaching to be necessary in the junior years, he assumes a greater obligation to ensure that its possible ill effects are offset. In such circumstances, he might, for example, in addition to making one teacher generally responsible for the affairs of one class, ensure that the total number of teachers concerned with that class is kept as small as possible.

(*e*) *Tests and their use*:

It has already been pointed out that our recommendation that there should be no selective test for admission to secondary school was not based on any aversion to tests in themselves, whether they be tests of ability or tests of attainment. Our recommendation sprang, first from the belief that at an appropriate stage all pupils should pass on to secondary school and, second, from the conviction that a single procedure of differentiation among these pupils before they pass on to the secondary school was both unreliable and inappropriate.

We hope, however, that there is no doubt in any quarter as to the value of such tests, provided their results are properly used. From the point of view of the secondary school, the results of tests of ability and attainments, together with all the significant data about a pupil brought together in a cumulative school record, can perform two functions. First, they can provide part of the liaison between primary and secondary school to which reference has already been made. Second, they can provide essential data for the organization of First Year classes and for the guidance of pupils after they have entered secondary schools.

Reference has already been made to the conflicting opinions expressed by witnesses in regard to the standard of attainments at the end of the primary stage. We do not accept the view that a formal examination should be instituted at this point. The spontaneity of the primary school of today and the vitality of its curriculum derive, in part at least, from the absence of such an examination over the past twenty years. On the other hand, to the extent to which current criticism of primary school attainments is justified, primary school teachers and their pupils need the corrective influence of tests more broadly based than is possible within an individual school. Testing is, of course, standard practice in the primary school, but we are of the opinion that there is a real need for tests which will enable teachers to assess the attainments of their own pupils, not only in comparison with pupils in the same school, but on the basis of norms for age, and perhaps for grade, established for all schools. Consequently, while we appreciate the cost in staff and money involved, we consider that the construction, supply and systematic use of standardized tests of attainments at the primary level should be increased. In expressing this view, we are aware that the value of these tests will depend upon the professional judgment with which they are used and their results interpreted.

Tests of general ability known as intelligence tests have come to be accepted as part of the apparatus of the modern school. We are aware of criticisms voiced both before the Committee and in other places, but it is our opinion that tests of general ability, as used in the public schools now under review have, in general, been used and interpreted in a professional manner. In practice, tests of this type are administered at three stages of a pupil's school career and their results have come to be accepted as the best single measure of his general ability. There have been individual deviations, but the general consistency in the results of the series of these tests in respect of a particular child is remarkable. We therefore commend the use of tests of general ability, together with tests of attainments, not as criteria of selection for secondary school, but as valuable evidence for the guidance of pupils within the school.

II. Secondary Education for All Adolescents.

Taken together, the first and second of our major recommendations raise two issues which were the subject of considerable evidence from our witnesses:

(*a*) *Size of school*:

The question of the size of the secondary school is one of the first to arise as soon as the admission of all the pupils leaving primary schools in a given area is considered, or the establishment of "omnibus" or "multi-lateral" secondary schools proposed. In every country where such proposals have been made, education authorities have been confronted with the dilemma of establishing a school large enough to provide an adequate range of curriculum with class groups of reasonable size, and at the same time of avoiding a school so large as to impair those personal relations from which it derives its vitality. In the United States, the number of large secondary schools is much smaller than is generally supposed, but there has been a readiness to accept an enrolment of 1,000 to 1,200 pupils, with all its problems, as a price worth paying for the advantages of the comprehensive school. By contrast, the Advisory Council on Education in Scotland, while admitting the desirable features of such a school, rejected it, inter alia, on the ground that for efficient operation its enrolment must exceed the 600 pupils which the Council considered to be the desirable limit.

Our own witnesses differed as to the exact numbers for the limiting enrolment of a school, but the great majority advocated the organization of schools of from 500 to 700 pupils. The chief ground upon which this testimony was offered was that it is impossible for a school principal to know his pupils personally if the enrolment exceeds 600 or 700. A school larger than this, the witnesses considered, lacks the degree of intimacy necessary for the development of cohesion and a sense of community. The physical size of the school, the complexity of its timetable, and the sheer turmoil of large numbers were all cited as warnings against the development of schools with an enrolment of more than 700.

We are in sympathy with these arguments. We regard as most important those factors which threaten the development of a real sense of community within a school. However, as to the argument most frequently advanced, that the enrolment of a school should be limited to the number of pupils who can be personally known to the school principal, we take the view that this personal knowledge must be a matter of degree and we do not believe that enrolments of the order of 600 or 700 always enable a principal really to know all his pupils. Indeed, we have gained the impression that the quotation of such figures for optimum or limiting enrolment was, in fact, the result of an inevitable compromise between the theoretical basis of the argument and a realization of the practical necessities of the situation.

On the other hand, we are of the opinion that an enrolment of 1,000 or more pupils is not the inevitable corollary of the establishment of an omnibus secondary school. We find support for this view in the opinion expressed by the Advisory Council on Education in Scotland that a satisfactory organization can be achieved with an enrolment of about 800. The view is also supported by widespread practice in the United States, where the majority of high schools have enrolments

generally less than 800, and by the experience of New South Wales country secondary schools which, while not truly omnibus schools, already illustrate many of the advantages and problems of such an organization.

Our general position is, therefore, that the arguments both against selection and segregation at the point of entry, and for a progressive determination of the shape of a pupil's course, are so strong that we recommend the provision of a type of secondary school, which may best be called "comprehensive", even though such provision may mean having schools with enrolments in excess of 600 or 700.

We take the view that once an enrolment of 300 is passed the point of compromise has been reached. We can see little virtue in differences between 600, 700 or 800 pupils as limits for enrolment. Once the number that is within the compass of one person's pastoral care is exceeded, explicit provision should be made in the organization of the school for sub-groups of reasonable size. It would be possible, for example, to organize a school of 600 pupils on the basis of two groups of 300. An increase in the enrolment of that school to 900 could be reflected in the organization of another group of 300. The same practice could be followed if it were considered desirable and possible for a school to be built up of units of approximately 200 pupils. There are developing country towns in New South Wales where a further extension of this principle might well be preferable to the establishment of two separate secondary schools in the same town.

We would agree that the enrolment of secondary schools should be kept as small as is consistent with the organization we have suggested. In this connection, account has to be taken of the fact that, for some years at least, it cannot be anticipated that all pupils will remain at school until sixteen years of age to gain the proposed School Certificate. Even if they did, the necessary range of electives is likely to necessitate the organization of classes, at least in the final year, which would be too small in terms of staff and facilities, unless the first year enrolment approached 200.

Once an enrolment exceeds the 300 to which reference has already been made, the organization will doubtless differ with the conditions of the school and the professional ingenuity of the principal. One form which we have considered is an organization into "houses", each limited to the number which one housemaster can get to know personally. It would be essential that this organization should provide the basis for the development of a real sense of community within the house, itself part of the larger unity of the school. An organization on paper, such as is sometimes adopted in connection with intra-mural sport, is not what we have in mind. A house might well be made up of a cross-section of the school, but it would need to have not only a housemaster to whom all members could turn, and for whom pastoral care and the oversight of his house would be a major duty, but also a physical house, which would be the centre of its corporate life. We recognize that such an organization would make considerable demands upon the personality and professional skill of the head of the school for, beyond the house, there must be established and maintained a wider sense of membership of the school as a whole. We do not believe that the public secondary schools of the State lack men and women of personal stature adequate to this task.

(*b*) *Co-education*:

There were few topics on which we heard such positive expressions of opinion as "co-education" and, perhaps, in regard to which there was so little conclusive evidence. Almost all of the witnesses who tendered evidence on this topic spoke with personal conviction against the separation of boys and girls in school. It was not possible for us to determine, however, the extent to which our witnesses were truly representative of public opinion on the one hand, or teachers' opinion on the other.

So far as public opinion is concerned, it appears to us that it is divided, with perhaps a majority in favour of co-education. Teacher opinion, as reported to us, generally favours co-education, but certain groups either oppose it or give it only modified support. Teachers in non-Departmental schools, so far as we can determine, are much less inclined to favour it than teachers in Departmental schools. Many of the latter have had experience of co-education in secondary schools in country areas and vouch for its success in these schools. There were witnesses who urged that no general rule should be established, but that either the status quo in New South Wales should be modified gradually, or that parents should be offered the choice between co-educational schools and those in which either boys or girls only are enrolled.

It was apparent to us that there was no general agreement as to the precise meaning of "co-education". For many witnesses, it seemed to mean the enrolment of boys and girls in one school, despite the fact that they might sit apart in class and be segregated during recess periods. In this connection, we consider that some of the issues might well be resolved if more attention were given to the question as to how a school is conducted, rather than to whether or not it should be designated co-educational.

We derived little assistance from the sparse research information in this field. An examination of practices overseas served only to emphasize the fact that the maintenance of co-educational or of segregated schools is the outcome either of tradition, or of decisions on administrative grounds. Few co-educational schools have been established explicitly on psychological grounds, much less on the basis of experimental evidence.

While acknowledging the inconclusive nature of the evidence placed before us and the lack of unanimity on the part of the Committee, we record that professional and lay opinion as expressed to us is that, as new secondary schools are established by the Department of Education, they should, generally speaking, be co-educational schools similar to those already existing in country areas. We are aware that conditions in a particular locality may be such as to call for some modification of this general rule, especially if there is a real difference in public opinion on the matter. We consider that, under such circumstances, the recent practice of the Department of Education of establishing "twin schools" (that is, separate schools adjoining one another with common use of certain facilities and association in some school activities) is to be commended.

III. The Common Core of the Curriculum.

Our recommendation that there should be a "core" of subjects to be studied by all pupils in secondary schools obviously raises a number of questions of detail which, nevertheless, are of great significance.

(*a*) *The nature of the core subjects*:

We are aware of the danger which attends the use of terms which, by common usage or continued debate, may have come to possess special meanings. We appreciate the fact that the term "core curriculum" has been used in more than one sense in New South Wales for over a quarter of a century. Our later discussion (1) will indicate that while we propose a group of subjects which will be the common experience of all secondary school pupils and so provide the "core" of the curriculum, we do not propose that that core will remain unaltered for every child. We propose that if any of those subjects is taken as an elective, it will disappear from the "core curriculum" of the pupil concerned. Our chief concern is that every pupil will have experience in the subjects we include in the core curriculum.

Our recommendation that the curriculum of secondary pupils should include a core of subjects common to all, is based on the conviction that there are certain fields of thought and experience of which no adolescent should be ignorant as a person or as a citizen, irrespective of his level of ability and of the situation in life in which he may later find himself.

Such a common curriculum, in our opinion, could be defined in terms of the following subject fields:

English.
Social Studies.
Science.
Mathematics.
Music.
Art.
Crafts.
Physical and Health Education.
Religious Education.

Defined in these traditional terms, the core curriculum which we have in mind calls for further comment. We do not propose to set out exhaustive arguments in support of the inclusion of individual subjects but, to avoid possible misunderstanding, we consider it necessary to make the following observations.

Social Studies.—Here is an example of the danger that may attend the use of a term which has come to have a special connotation. We are aware of the fruitful programme of study which may be based on central topics drawn from History, Geography, Economics and allied fields. There are those, however, who doubt whether "Social Studies" should

(1) See pp. 92-94.

ever be used save as a generic term for the group of specific studies mentioned. There are doubts, too, as to whether all teachers can bring to the subject "Social Studies", or pupils take away from it, anything but knowledge which is too limited and a background of ideas which is slight.

However that may be, we take the view that "Social Studies" describes a field of human thought and experience against which a course can be designed and taught in the spirit of the general purpose of the core curriculum. We are of the opinion that, designed and taught in this spirit, subjects called History and Geography could serve the purpose which we have in mind. On the other hand, we acknowledge the possibility of a course being designed under the title "Social Studies" so as to lead either at a later stage of the common core, or as electives, to a more systematic study under the titles History and Geography.

Science.—We have avoided the use of the term "General Science", again because of the danger of fixed patterns of thinking. Many of the syllabuses of study entitled "General Science" appear to us to be unsatisfactory because they prove to be selections of work from separate sciences, lacking coherence and any evidence of integrating principles. We do not believe that it is impossible to devise a satisfactory course in General Science; we are convinced that it is more easily talked about than done.

We consider that the neglect of Biological Science is a significant limitation of the experience of ordinary citizens, and that, whatever the title given to Science in the common curriculum, it should embrace some biological study. Indeed, there are grounds for adopting the view that the work of the early years of the secondary school might well be an extension of the work commenced in the primary school under the heading "Natural Science". Here again, however, we do not wish to be too specific, since we are aware that, under the stimulus of a gifted teacher, pupils in the Science class can be led to see implications and to appreciate relationships throughout the world of science, irrespective of the title given to the course they are following.

Mathematics.—In this field, we have in mind the type of experience of Arithmetic, Algebra and Geometry which the ordinary citizen of today needs in the conduct of his everyday life. It is clear that this essential mathematical experience will embrace concepts and processes which will differ from those appropriate for an earlier generation; it is equally clear that it will be different from the study of Mathematics in the more academic sense which we would include among the electives. While anxious not to limit this subject to Arithmetic, we hesitate to use the term "General Mathematics" since there seems already to be too much confusion in the public mind caused by the use of this term.

Religious Education.—This subject has been the matter of earnest discussion by the Committee. We include Religious Education in the common core by way of affirming our view that education has a spiritual basis and that parents have a right to expect that instruction in religion should be provided for their children. In doing so, however, we wish to make it clear that, in the respect that Religious Education cannot be regarded as mandatory, it differs from the other subjects to be shared in common.

On the question of responsibility for the instruction, the majority of us consider that, if the secondary school provides the facilities for such instruction, it should be left to the churches to avail themselves of those facilities. We wish to record that a minority opinion favoured an arrangement whereby specially trained school teachers who were willing to do so, should assist the clergy or their accredited representatives.

We note that in some parts of Australia certain secondary pupils are grouped for religious instruction, not according to denomination, but according to age or grade, the teaching being based on an agreed syllabus. Our majority view is that there is no objection to such a practice in New South Wales if the churches think it desirable. At the same time it is considered that the morning assembly, including an act of corporate worship, is of inestimable worth in the life of the school, and that the extra-curricular activities of religious groups within the school afford valuable experiences to the participants.

(*b*) *Class organization in relation to the "core" curriculum*:

One assumption in our recommendation that the subjects listed above should be adopted as the core of a general secondary curriculum is that the syllabus in regard to any of those subjects should be set out in quite general terms. A statement for each subject which is a sufficient guide to teachers, but which is not narrowly prescriptive, should be drawn up by a representative panel working within the framework of a general statement of the aims and spirit of the new curriculum as a whole. Freedom should thus remain with teachers to select topics and to organize their actual programmes of work, so as to adapt the syllabus to the needs and capacities of their pupils and to the conditions of a particular school.

School principals should have the same opportunity for organizing classes as seems best to them. We suggest, however, that there are advantages in First Year classes being organized so that from the common core a class will be taught English, Social Studies, Science and Mathematics by the same teacher. It is clear, too, that if these groups are organized primarily on the basis of ability, a large degree of variation between classes in the content of the programme and in the method of treatment will be made possible. Thus, in a First Year of six or seven classes, while "English" will appear on the time-table as a subject common to all, as the year goes on its content and emphasis will differ markedly between the most able and the least able classes. The benefit to both, in terms of their capacity, should be the same.

Music and Art might well be regarded as subjects to be taken without any basic class reorganization. Other patterns of organization might commend themselves, however, to the principals of some schools. It would be possible, for example, if no electives were provided in First Year, to organize the teaching of Art in a school so that even in First Year the most gifted pupils, having manifested their talent, could be brought together, irrespective of their home room, and afforded full scope for that talent. That is, the teaching in this field could be organized on the basis of ability or interest in Art, independent of the basic class organization. It might well be felt, too, that the teaching of Crafts and of Physical and Health Education could most effectively be carried out when separate classes are organized for boys and girls.

IV. Electives.

(*a*) *Principles of election*:

In addition to the common curriculum, we propose that pupils will select, under the guidance of the principal, other courses in accordance with their ability, aptitudes and interests. The provision of these "electives" has a threefold object. First, it is desirable at the adolescent stage that there should be as comprehensive a choice of courses as possible. While it is essential that secondary pupils should share a common background of thought and experience, there is ample evidence to justify the provision, at the same time, of a variety of experience in accordance with the emerging interests and aptitudes of youth. Second, the provision of electives enables the secondary school, while offering a general education within and without the classroom, to provide the means whereby the most able pupils may progress to the top of their bent in the fields of their special abilities. Third, while the selective secondary school affords scope for the able pupil, its organization and curriculum tend to set a premium upon excellence in a relatively narrow range of subjects. Yet it is a minority of adolescents who cannot excel in some one field, given adequate encouragement. The third object of the provision of electives, therefore, is to make the opportunity for the achievement of a measure of real success in some aspect of school work on the part of those adolescents who tend, in other circumstances, to become submerged.

Before suggesting a range of electives, it is necessary to emphasize that our conception of elective courses is that they must be courses of study of adequate duration and demanding adequate standards. We do not intend that there should be election from among a variety of short-term subjects lacking adequate content and making small demands upon pupils. On the other hand, we are anxious that there should be a distinct break from the habit of thinking about, or describing, the several patterns of high school courses as "two-language", "one-language" and "non-language" courses. In our conception of a general secondary education, it is necessary to make a distinction between the significance of a course as an element in a programme of general secondary education, and a course under the same name specified for some external purpose such as matriculation.

Indeed, at the risk of being misunderstood, we say that there should be parity of courses within the secondary school and that the value of a course to a pupil will, in large measure, depend upon his abilities and needs. Some of our witnesses have emphasized the need for Mathematics and Science in the curriculum of the present century. The very circumstances which have influenced these witnesses might move others to plead that the school, by emphasizing other fields of human experience, should offset the current emphasis and so achieve some of that balance of experience which is one of the marks of an educated person. We would prefer to say that we recommend a range of electives which would enable a selection to be made in terms of a pupil's ability and interest. The most significant question to be asked in connection with this selection, we feel, will be: Does this course challenge to the full the abilities and the interests of the pupil concerned?

It will be seen that the list of electives could be quite extensive, though in practice it is likely to be limited by facilities available in a particular school. The following list is therefore not prescriptive, but indicates a range of subjects most or all of which a comprehensive secondary school might be expected to provide:

> Art, Commercial Principles and Practice, Geography, History, Home Science, Languages (Ancient and Modern), Manual Arts (*e.g.*, Drawing, Metalwork, Woodwork), Mathematics, Music, Science (*e.g.*, Agriculture, Biology, Botany, Chemistry, Geology, Physics).

English has not been included in the elective courses on the ground that to follow a course in English appropriate to the ability and interests of a boy or girl should not be a matter of election in a satisfactory plan for general secondary education. In this sense, English is part of the common core of the curriculum. This is not to say that a uniform course should be provided for all classes. Given appropriate grouping of pupils throughout a Year, necessary variation in scope, emphasis and academic standard can be achieved.

(*b*) *Relation of electives to the common core*:

The problem of the relation between elective courses and those common to all pupils is not to be solved by a simple and arbitrary allocation of time to the respective groups throughout the four years of the general secondary course. The problem is, indeed, a direct reflection, in terms of curriculum, of the basic problem discussed at the outset of this chapter.

We have already indicated that we share the view that determination of the final pattern of secondary education for the individual pupil should be progressive. This view arises from the conviction that pupils change with the emergence of interests and abilities during adolescence, and that a measure of exploration within the curriculum, under guidance, is to be preferred to any *a priori* determination of the content of a pupil's complete course. Yet, if our recommendations are accepted, only four years will be available in which to complete the course of general secondary education; final determination of the pattern of that course cannot be postponed indefinitely. Nor need it be postponed unduly in the case of those pupils who, at a relatively early age, reveal abilities and interests which justify final selection of courses and promise success in more advanced studies, either academic or technical.

Our general view of the four years of secondary education is, therefore, that they should provide for an increasing proportion of time to be allotted to elective courses. This is a different view from that which supports a "transition year" on entry to high school, at the end of which a final determination of courses for all pupils would be made.

The first secondary school year should be devoted almost entirely to subjects common to all pupils. This is a year of adjustment to experiences and conditions which are to some extent new; it should be a year of exploration by the pupils and of assessment and guidance of pupils by the staff. For most pupils it should afford opportunities for consolidating skills taught in the primary school and for remedying individual weaknesses.

While no specific subject will necessarily be listed in this year as an elective, it is desirable that the allocation of time to the several subjects, or the organization of classes, should be such as to permit pupils to go beyond the general requirement in some field or fields of special interest to them. Thus, while some pupils will, from the outset, wish to do more work in Art or in Craft, others intending or hoping to elect a language, might well add to the English of their common course work in elementary language or preliminary work in a foreign language. There is no reason why similar exploratory and preparatory work should not be done in Mathematics, Science or Social Studies.

Beyond this first year we propose that the time devoted to the non-elected portion of this common "core" will depend upon the ability of the pupils but might, in successive years, be approximately 75, 65 and 60 per cent. of the allotted time. We do not intend that these percentages should be other than an indication of our view of relative time allocation. From the point of view of the number of subjects, we propose that, by the fourth year, pupils may be studying three elected subjects in addition to the common subjects of the curriculum.

V.-VI. The School Certificate.

(*a*) *The educational programme*:

At this point, while refraining from any detailed specification of syllabuses of work, it is necessary for us to indicate more specifically the content of the educational programme we have in mind. It is clear that the considerations which have determined our recommendations as to the organization of secondary education in this State must be among those which will determine our views as to its orientation and content. It might be useful, then, if we recalled the most significant of them.

We have accepted the view that all children, as a matter of right, will continue their schooling beyond the primary school, as far as their needs and the resources of society may determine. We consider that, at about the age of twelve years, a change in the needs of pupils can be discerned, which means that something different from the curriculum and atmosphere of the primary school is demanded. Our definition of secondary education, then, is simply "that stage of education which follows primary". The view of secondary education referred to above implies that all children, representing the complete range of abilities, should, in the secondary school, be afforded the most fruitful experience of which they are capable. Two characteristics of young adolescents in the early secondary years determine both the nature of school organization and the content of the curriculum. First, these adolescents are growing; many of their abilities are nascent. To the informed observer, these children change with the years in ways which make a final determination of secondary school courses impossible at the point of entry. Second, while their general ability remains much the same, their emerging aptitudes and interests are likely to be diverse in nature. Hence we have insisted that both organization and curriculum should facilitate choice from a variety of courses of study and that courses should enjoy a parity of esteem.

Without looking into a more distant future when the span of school life may be further extended for all pupils, we have taken the view that all boys and girls should be encouraged to remain at school for four years beyond the primary school. It is this four years which we now have under review.

School organization and curriculum during these four years must take account of the fact that, for the great majority of pupils, this is their last opportunity of full-time day attendance at school, though some of those who leave the secondary school will pass on to courses of technical training and other types of part-time education. The minority will continue at school and, in some cases, pass on to university studies.

For all of these pupils, however, the secondary school faces the dual responsibility of providing the means whereby they will develop as self-reliant, competent individuals and, at the same time, acquire a true sense of citizenship. The school can fulfil much of both of these obligations through the vitality of its corporate life and through the quality and spirit of its teaching staff. The facilities and physical environment of the school must also be taken into account as significant means to the same ends.

From the point of view of the curriculum, however, we have recommended that there be a group of studies which all pupils should follow, not only because they may provide experiences worthwhile in themselves, but also because, we feel, they are studies which should be shared by all young citizens in the making. To avoid possible misconceptions, we have already commented on certain of these subjects, but as a guide to those who may be called upon to translate our general recommendations into more detailed syllabuses of study, we would quote the observation of a recent Scottish committee:

> "The content of each subject should be determined not by academic conceptions of the subject but by such criteria as these:
>
> (i) Are the things to be taught likely to be of use to the pupil, now or in the future, in the sense either that he will actually apply the knowledge or skill they provide in his daily life, or that they will help him to develop as a person or to understand better and appreciate more fully his physical, mental or spiritual environment?
>
> (ii) Are they capable of presentation in such a way as to arouse the pupil's interest, assuming a reasonable effort on his part?
>
> (iii) Are they within his powers of comprehension at the stage at which it is proposed to teach them and at the level of treatment to be adopted?"([1])

The other courses of study, which pupils will choose as far as possible in terms of their abilities and interests, must also be designed with the foregoing criteria in mind, but increasingly they will provide a coherent and systematic study in the respective fields of knowledge. It is in this area of the curriculum that opportunity must be afforded every pupil to follow some study or group of studies to the top of his bent. The parity of esteem upon which we have insisted is significant here, there are fields of worthwhile achievement other than languages, mathematics or science, in which adolescents may excel and for which the secondary school of today should make provision.

([1]) Scottish Education Department: *Junior Secondary Education.* Edinburgh Her Majesty's Stationery Office, 1955. pp. 18-19.

If our suggestion of ability grouping is adopted, it should be possible for the school to provide different courses in the same subject to allow for variety of standard and content. This possibility should be recognized by the range and elasticity of any syllabus of work which may be devised.

In respect of the elected subjects, we feel that the new syllabuses that will be needed should allow for the fact that the School Certificate is to be the mark of the completion of a sound general education for adolescents, but that some of those who gain the Certificate should be ready to pass on to work which is more academic in its content and more demanding in its standards. In short, we believe that it is possible to devise courses of study which will challenge the ability and engage the interest of most adolescents, but which will enable teachers to extend their most able pupils to the full range of their ability. Wise curriculum planning, followed by competent teaching, should enable the school to avoid the evils of insufficient challenge on the one hand, and overpressure on the other.

At this point we must emphasize that, in our view, a common failing of many secondary school syllabuses is that they are too detailed and specific. We consider that detailed prescription is out of place in a syllabus for schools. We doubt, furthermore, whether the best results are obtained by the rather narrow specification of set texts in many secondary school subjects in Australia. We have seen examples of secondary syllabuses from other countries, where, despite the absence of set texts, the quality of the school product is beyond question.

Controversies have developed in regard to the relative significance of different subjects in the secondary curriculum. Up to the School Certificate level we do not favour any particular group of subjects. We would repeat that the major determinant of the pattern of subjects for any pupil beyond the common core should be his particular combination of abilities and interests.

It is important, however, that the study of any subject or group of subjects should be recognized as part of a general education to which the study of the common core, the pupil's extra-curricular activities, and all the intangibles of school life will make their contribution. No syllabus for any single subject should impede the achievement of this major objective.

English.—We are bound to offer special comment upon the subject of English, both because of what we believe is its central significance and because it appears, without comment, as part of the common core of subjects as set down in earlier pages.

We consider that in the schools of a country like Australia there is no task more urgent or more pervasive of all activities than the achievement of good standards in the understanding, appreciation and use of English. To be incompetent in Mathematics may be a handicap in this modern age; to be incompetent in the mother tongue is to lack one of the basic needs of civilized living.

In our view, any conception of the place of English in the secondary school is inadequate if it does not recognize a threefold opportunity and responsibility. First, English is the medium of instruction and of communication throughout the school; second, there is the duty of

ensuring that all adolescents can understand and use both spoken and written English as members of a community assumed to be literate; third, there is the opportunity of providing an experience in English which will differ from one group of pupils to another but which will enable each pupil to explore the infinite resources of the language to the full extent of his intellectual and emotional capacity.

As the common medium of instruction and communication, English has a place in the school above and beyond its place in the curriculum as an examinable body of knowledge taught by experts. To the extent to which lucid and correct English is needed by all, it is the responsibility of all, and we cannot agree that the dictum "every teacher a teacher of English" represents an impracticable ideal. We believe that it is reasonable to expect all teachers not only themselves to write and speak good English, but to take a conscious and planned part in achieving acceptable standards among their pupils. In particular, correct spelling, punctuation and composition, and clear, accurate and effective speech are a collective responsibility. If this responsibility is conscientiously acknowledged, an important contribution will be made not only to the general development of the pupil, but also to his proficiency in individual subjects.

Much can be achieved in the course of normal lessons, but the contribution to good English which all might be called on to make can also operate very effectively in extra-curricular activities. While not unmindful of the excellent work already being accomplished by devoted teachers, we regard as desirable a more general staff participation in school activities such as debating, dramatic work, public speaking, school magazines and even announcements or reports, which demand accurate, forceful or graceful expression, both written and spoken.

We would agree, however, that when the teacher of Mathematics, and Geography, and Woodwork, and all the other subjects in the curriculum, has done all that he can do, by example and instruction, to improve his pupil's spoken and written English, the systematic campaign of the trained specialist will remain the chief means of combating weaknesses.

At this point it is well to consider that the English specialist, at least in Departmental schools, is a teacher who has been trained at university level in English language and literature, generally too in History, and sometimes in Latin and Philosophy, but seldom to any significant extent in the more technical aspects of speech or even in the allied field of drama. Spoken English is so closely allied to written English that, excepting where pathological defects call for clinical attention, it should, in our view, be the special concern of the English teacher. If this policy is accepted, English teachers must receive adequate speech training and their work must be supplemented by clinics and consultant advisers. We understand that a comprehensive plan for speech improvement along these lines has been prepared by a special committee.

According to many of our witnesses, written English has suffered rapid deterioration in recent years and now falls below the standard required by university, employer and society in general. Whether such charges are valid or not, the fact that they are so often made is an indication of the esteem in which the community holds its literacy, and they cannot

be ignored by the schools. In analysing the charges, it is interesting to note that the faults most frequently found are the easiest to correct. If the content, particularly the imaginative and creative qualities, of current written composition were attacked, it would be a much more difficult and subtle task for the schools to effect improvement, but the much-criticized formal defects in spelling, punctuation, grammar and sentence structure must yield to drill and discipline. This means the provision of ample opportunity for completed and corrected composition.

As it received so much prominence, a special word should be said about spelling. The extent to which it might have deteriorated is beside the point; there is undoubtedly room for improvement, and we believe that improvement would come if the schools devoted sufficient time and energy to teaching, drilling and testing. It might be argued with truth, however, that there is a stage of proficiency in this one skill beyond which the schools should not go if, in doing so, other more desirable skills and attitudes were sacrificed. We would be prepared to accept reasonable standards brought about by consistent attention in all subjects to the widening of useful vocabulary. This means the addition, as need arises or is created, of words the pupil can understand, pronounce and spell.

Another aspect of formal English that requires scrutiny is grammar. We note that in recent years the emphasis in the teaching of grammar has changed so that it is now taught functionally and in close association with composition. We agree that this is the logical and proper use of the mechanics of the language, but the almost automatic and unconscious application of the test of grammar in speech and writing will come only if the pupil has, in the primary school, been thoroughly grounded in its rules. Like the multiplication tables, the parts of speech and their inter-relationship must be mastered at an early age.

At the beginning of these notes on English we affirmed that every pupil must be given the opportunity of exploring the resources of the language to the full extent of his capacity. While this involves the personal use of English, not only as the normal medium of everyday communication, but also for creative expression, it involves, too, the appreciation of what others say and write.

We hear much these days of the art of listening, and we commend those secondary school activities like drama, verse speaking and oratory, in which pupils are given not only the opportunity of using the spoken word with force or beauty, but also of listening to it so used. We believe that the schools have a duty to foster an awareness of the rich possibilities of the language. It cannot be expected that they should become academies for the training of performers, but they should produce listeners of some discernment and sensitivity.

With regard to the written word, we note the recent introduction into teaching and examining of the exercises in comprehension. This would appear to be necessary in an age when there are so many distractions and so much sensationalism that the tendency is to read carelessly for superficial interest. Any effort to develop the habit of reading with conscience is to be maintained. At the same time, thought must be given to the choice for school study of such literature as will, by its very suitability, capture and hold the full mind of the reader.

The secondary schools of this State have inherited the tradition of basing their literary studies on the older English classics. We are aware that in the past few years modern books closer to the interests of pupils have been prescribed, and we believe that this is a desirable change provided that, once the reading habit has been created by such means, pupils are encouraged to explore our literary heritage more deeply. It should not be necessary to emphasize the need to study any literature, at least in senior years, against a background of the nature and development of the literary form to which it belongs.

On the question of the breadth and depth of literary study, we would observe that this depends on the type of pupil being taught. In earlier pages we have presented a scheme of "core" and elective subjects designed to provide for the varying and developing abilities of secondary pupils, and we envisage a situation in which, while all pupils in the one year may study the same subject, they will pursue the study at different speeds and to different levels. Nevertheless, in general, we would favour in the earlier years the extensive, rather than the intensive, reading of literature, with a gradual intensification of the field as interests develop. This implies the study, by examination as well as non-examination classes, of a considerably wider range of books than has been customary. We can see no good reason, except possibly the added difficulties of examining, which should not be regarded as the deciding factor, why pupils should not be offered a choice from a wider range of books, fictional and non-fictional, creative and purely factual. In such a range many Australian books would, by their merit, undoubtedly recommend themselves.

Special reference must be made to poetry. It would appear that there is some tendency to avoid the study of the poetry text. Whether this is due to the unsuitable nature of the text, to its presentation, or to the triumph of a prosaic world, we are not prepared to conjecture, but we must deplore any decline in the standing of what is undoubtedly the chief ornament of our language. We cannot believe that, given suitable texts and sensitive presentation, particularly in the reading, poetry would fail to appeal to the minds and feelings of most pupils.

Curriculum Patterns.—We have already suggested(1) an overall allocation of time for the core of common subjects in each of the first four years of the secondary school course. It will be noted that the proportions we suggested were only approximate. Within this general allocation we are reluctant to specify definite time allocations for individual subjects, though we realize that, before syllabus committees could take up their tasks, such time allocations would be necessary. A possible allocation for the common first year might, however, be:

English	one-quarter.
Social Studies ..... Science ..... Mathematics	one-half.
Music ..... Art ..... Crafts ..... Physical and Health Education ..... Religious Education	one-quarter.

(1) See p. 87.

This allocation is based on thirty-six forty-minute teaching periods each week, and would assume three periods in addition to be set aside for sport, and one period, so far as the time-table is concerned, to be devoted to school clubs or similar activities. For subsequent years, this time allocation might have to be reviewed on account of the increasing proportion of time to be devoted to elective courses.

We must observe, here, that we have taken a view different from that of most of those witnesses who gave evidence in regard to the curriculum and the time allocation of subjects.(1) There seems to have been a general assumption in discussion of the curriculum that the time allotted to the common core and that devoted to electives should be almost mutually exclusive. In this view, while some curtailment of time for the common core would be inevitable, the electives would be subjects added to a relatively stable core of common subjects. Under these conditions, a pupil could elect to study Mathematics, but this study would be in addition to General Mathematics; similarly, History could be in addition to Social Studies.

We consider that such an interpretation of the common core is unnecessarily rigid. We have already drawn attention to the unique position of English and have assumed that, while for some pupils what might be termed "core" English will represent the limit of their ability, as many as possible will be given the opportunity of further experience in English as rich as their ability and interest will allow. The position can perhaps be more clearly demonstrated in regard to Mathematics. "Core" Mathematics should be designed so as to ensure that no boy or girl leaves school without the competence in this subject necessary for the ordinary citizen. At the same time, the course in First Year will afford pupils and teacher the opportunity of discovering those who have the aptitude and interest for a more systematic study of Mathematics. At the end of that year, the pupil should be allowed to elect accordingly, but once he has elected Mathematics, he should not be required also to follow the course in "core" Mathematics. The same choice, we consider, can and should be made in respect of such subjects as History, Geography, the sciences, Art, Music and Crafts.

This means that our earlier suggestion (p. 87) as to the proportion between the common core and the elected subjects is not only a general indication, but will vary in individual cases. At the same time, our proposal ensures that the pupil whose election is predominantly one of languages will, throughout his four years, study Mathematics and Science according to the core curriculum, and that the pupil who elects the Mathematics-Science pattern will continue to work in Social Studies, both of them continuing to follow an ample course in English. Though. in order to provide for electives, periods will need to be subtracted from all subjects in the common core, none of those subjects will disappear from a pupil's "core plus electives" curriculum throughout the four years. Since the patterns will differ—for example, a pupil studying no foreign languages should maintain the fullest possible course in English, whereas the pupil studying two languages might well need less English —we have not set out in detail possible time allocations after the common first year.

On the basis of this interpretation of the "core plus electives" pattern, we have taken the view that up to two electives should, in general, be taken after the completion of First Year and a third at the beginning

(1) The most systematic evidence of this kind, presented by the staff of Sydney Teachers' College, is given in full in Appendix B.

of Third Year. At least five periods a week should be devoted to each elective though, for reasons already given, that allocation might well be greater. On the other hand, there will be some pupils, generally of low ability, whose course will throughout be based upon a maximum allocation for the subjects of the core curriculum.

At this point, we would make two observations, both springing from the realization that, if our recommendations are adopted, it will be necessary for schools to have some time in which to become accustomed to the new pattern and, indeed, the opportunity to modify that pattern in the light of their experience.

First, we would draw attention to the fact that is inherent in all our thinking on this problem, that the opportunity for choice of courses should be kept as open as possible. Where practicable, there should be no objection to a pupil being allowed to attempt an elective course and then to change it, or revert to the core subject if his first choice proved unsuitable. The obvious administrative problems arising out of such a trial will be more easily solved when schools become accustomed to the new regime; at first, school principals might well be cautious about sanctioning such a procedure. It is partly for the reason that genuine and reliable choice of courses will often be difficult to make that, as a general rule, we have recommended the postponement of a third elective until Third Year.

Our second observation is that, in our view, further election of courses will be possible beyond the School Certificate stage. We have heard conflicting evidence, for example, as to the minimum time required to bring able pupils to university entrance standard in Physics and Chemistry. We are not prepared to assume that this could not be achieved in two years following a sound course of four years in "core" Science. Here, experience in the schools will probably be the best guide, but we would hope that, at a stage when aptitudes and interests are more clearly discernible—that is, about the age of sixteen—senior pupils will still be able to embark upon some courses which are new, though not unrelated to work they have already done.

(*b*) *School Certificate Examination*:

We propose that successful completion of the four years of general secondary education shall be recognized by the award of a "School Certificate".

(i) *Nature of the examination*: After careful discussion of the question, we have come to the view that the School Certificate should be awarded on the basis of an external examination. It has appeared to us that the first task in regard to the School Certificate under the new dispensation must be the establishment of the status of the Certificate in the public mind. We consider that the public is not yet ready to accept other than an external examination as a basis for the award of the School Certificate, whatever doubts may be entertained by many in regard to such an examination. We have felt that we have also had to take account of the fact that there will be some diversity among the schools which will be presenting candidates, and that, in the absence of much more comprehensive inspection of schools than we would contemplate, there is almost no other way in which standards may be safeguarded.

However, we look forward to the day when, with the School Certificate firmly established, modifications in the type of examination might be explored along the lines, for example, suggested in the Fyfe Report.(1)

(ii) *Scope and standard*: The scope and standard of the examination we have in mind will be determined by our observations and recommendations in regard to the curriculum of the first four years of general secondary education.(2) In relation to the School Certificate Examination itself, we therefore wish to emphasize three of our earlier observations.

First, whatever the outcome of the work of the panels which will prepare the syllabus for separate subjects, the paramount consideration must be the achievement and maintenance of a balanced curriculum, conceived as a whole and providing a sound education for all adolescents. The examination for the School Certificate should reflect this intention. Not only will there be subjects in the common core such as Art, Music and Physical Education, which will not be included in the School Certificate Examination, but the requirements of that examination should not come to determine, in every detail, what happens in the secondary school.

Second, the syllabus in each subject should avoid detailed prescription and should afford scope for variation in matter and treatment. We would repeat that we have evidence of the fact that it is possible to achieve satisfactory standards and to set examinations without prescribed textbooks and on the basis of syllabuses of work which are much less specific and prescriptive than those at present in use in public examinations in New South Wales.

Third, since our basic intention is the provision of four years of education for all adolescents, the curriculum as a whole and each syllabus of work in the common core should be pitched at the level of the pupil of average ability. In the elective subjects, account must be taken of the fact that both the scope and standard of work should provide opportunity for the most able. At the same time, since all pupils will follow some elective courses, provision must also be made for the less able. The fact that some pupils will pursue their studies beyond the School Certificate stage should not mean that the examination for that Certificate will, as a whole, be pitched at their level of ability.

(iii) *Examining body*: We recommend that the School Certificate should be issued by the Director-General of Education and that the examination should be conducted by the Department of Education.

To assist the Department and to maintain liaison with the schools, we recommend that a board, to be known as the Secondary Schools Board, be established, principally representative of the Department of Education, the several groups of secondary schools, and such other authorities in subject matter fields, from the university or elsewhere, as may be determined.

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(1) Advisory Council on Education in Scotland: *Secondary Education*. Edinburgh, 1947. p. 44 et seq.
(2) See p. 82 et seq.

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VII. Early Leavers.

It is clear that, since pupils will enter the secondary school at about the age of twelve, those who remain at school to qualify for the School Certificate will face the examination for this Certificate at about the age of sixteen.

In making no provision for any formal recognition of the completion of an earlier stage of secondary education, we have been moved by the conviction that, under existing conditions, a satisfactory general education for adolescents cannot be achieved in less than four years.

We consider that there is virtue in the fact that such a four-year course would enable adolescents to make a smooth transition to apprenticeship and to specifically vocational courses of training at the age of sixteen. Moreover, we feel that, with proper liaison between the secondary school and technical education, and in the absence of any formal credential before the award of the School Certificate, an increasing number of young people will be encouraged to complete a coherent course of secondary education and pass, with less hesitation than at present, to the variety of types of further education.

At the same time, we have taken account of the fact that, especially at first, a considerable proportion of adolescents will continue to leave school at fifteen years of age. Some of these school leavers will be adolescents whose ability holds out little prospect of success in technical and other forms of vocational training. Others will be capable of only the most routine tasks.

We therefore recommend that pupils who leave school without gaining their School Certificate should be given by the principal of their school a formal statement of their attainments, attendance and conduct. There would, of course, be nothing to prevent principals from adding personal testimonials at their discretion. The institution for these pupils of a credential with any higher status would, we feel, involve the acceptance of standards which would endow the credential with a false value, and would present the double danger of affording formal recognition to those standards in all secondary schools and of encouraging too many pupils to regard the gaining of such a credential as a terminal point in their education.

We look forward to the day when adolescents will remain at school until the age of sixteen. However, that day may be far in the future and we may first see the institution of a scheme of part-time schooling for the less able of any generation. We take the view that it is better first to build up a system of general secondary education providing interest and challenge to adolescents of all types of ability, which would encourage them voluntarily to remain at school and gain their School Certificate, rather than to wait until the school age may be raised to sixteen by legislation, before instituting the four-year course. We cannot ignore the possibility that part of the complex of reasons why pupils leave school is that it has ceased to attract them.

The problem of helping the pupil who might otherwise be forced, largely because of economic circumstances, to leave school before gaining his School Certificate should be met by a review of the number and

condition of the award of bursaries beyond the statutory school leaving age. We would observe, however, that the reasons why pupils leave school at the age of fifteen are rarely solitary. The economic reason may be paramount in many cases, but lack of parental interest, lack of pupil interest (sometimes through attempting unsuitable courses), together with the lure, during recent years, of attractive wages paid for unskilled work, are reasons which must all be taken into account, often several of them in the same case.

We have noted the interest of the Government in the educational welfare of the country child, in particular its encouragement of secondary classes to the senior level even in many of the smaller towns, and of the provision of hostels either under State control or with State assistance. We have also noted the policy of non-Governmental authorities in setting up secondary schools to serve country areas.

It is clear that difficulties would be encountered by the smaller country schools in providing the specialized senior courses and instruction required by the proposed extension of secondary schooling to six years. The probability is that the needs of the majority of pupils would be satisfied by the School Certificate course of four years and that the problem of providing the extra two years would be confined to individual pupils of high capacity who should enjoy the same right of senior secondary education as that of city pupils. We consider that the solution of this problem might well lie in the concentration of Fifth and Sixth Year pupils in the larger country towns. Such a solution would be associated with the award of bursaries, the establishment of boarding facilities and subsidized conveyance of pupils.

State bursaries are at present awarded at the commencement of the secondary school course for a period of three years up to the Intermediate Certificate Examination and, on the results of this examination, for a further period of two years. The organization of examinations at the end of the Fourth and Sixth Years would involve an adjustment in the system of awards. Since a smaller group would proceed after Fourth Year than now proceeds after Third, the same number of senior awards would cover a greater fraction of the senior school population. This factor would compensate, to some extent, for the greater demand on bursary funds made by pupils who might need to board away from home.

Some extension of the hostels and conveyance schemes would also be necessary but, in our opinion, adequate provision could be made on the present basis of Governmental assistance.

VIII. Higher School Certificate.

The School Certificate is designed to recognize the completion of a sound course of secondary education, that is, a course of education for all adolescents. There will be some, however, who, before reaching the School Certificate stage, will have begun to aspire to some form of tertiary education. Progressive selection of elective courses will, to a considerable extent, already have been provided for this minority in the secondary school before the School Certificate is reached. For these pupils, however, we recommend that a further stage of two years of secondary education be provided, the satisfactory completion of which shall be recognized by the award of a Higher School Certificate.

We further recommend that the universities be invited to accept a pass (of an approved pattern) at the Higher School Certificate Examination as meeting matriculation requirements.

For this reason we recommend that authority for the conduct of the Higher School Certificate Examination, including courses of study and the issue of the Certificate, be vested in a Board of Senior School Studies, comprising representatives of the Department of Education, the universities, and secondary schools both Departmental and non-Departmental.

While details of the requirements at this stage would be recommended to the Minister by the proposed Board and would doubtless be influenced by the matriculation requirements of the universities, we recommend that the following considerations should be taken into account by the Board, having in mind the fact that all the pupils concerned will already have gained their School Certificate:

(i) This stage of schooling is designed to meet the needs of the most able adolescents between the ages of sixteen and eighteen years.

(ii) While the objective of tertiary education will be clearer in the minds of these pupils because they have elected to remain at school beyond the School Certificate stage, these two senior years are to be regarded as an integral part of secondary education. In other words, the time should not be regarded simply as a period of preparation for matriculation.

(iii) Although the number of subjects in the curriculum might therefore be less than that at present prescribed for the Leaving Certificate Examination, due regard should be paid to the need for balance in the choice of subjects. Moreover, provision should be made for school activities which are essential to the education of adolescents but which do not involve preparation for examinations.

(iv) We anticipate, however, that both the selective nature of this group of pupils and the fact that they will remain at school until the age of eighteen will make possible the provision of courses of study which will afford matriculants a better prospect of successfully undertaking the early stages of university study.

CHAPTER V

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

In this chapter we set out, in summary form, our findings on the two terms of reference remitted to us.

Concerning the first of these, namely *"to survey and to report upon the provision of full-time day education for adolescents in New South Wales"*, we find as follows:—

Enrolments.

1. At present, more than 175,000 pupils are enrolled in secondary schools and courses in New South Wales (p. 42). About 72 per cent. of these pupils are enrolled in schools conducted by the Department of Education (p. 34).

2. This enrolment represents more than a ten-fold increase in the secondary school population over a period of forty years. In itself, the provision of schools and teachers to meet this growing demand is a noteworthy achievement (p. 42).

3. A total enrolment of approximately one-quarter of a million secondary schools is to be anticipated by 1956 (p. 42).

Schools.

4. In 1956, there were 323 secondary schools or departments maintained by the Department of Education. In the same year, there were 137 non-Departmental schools registered as secondary schools under the Bursary Endowment Act.

Organization.

5. Within the Department of Education, the organization of secondary schools differs as between city and country. In Sydney and Newcastle, and in respect of one high school in Wollongong and one in Parramatta, the pupils deemed most suitable from among primary school applicants are admitted to high school. These high schools provide a five-year course leading to the Leaving Certificate and the policy has been to require their pupils to study one foreign language (usually French), though the more able tend to study Latin also (p. 35).

The other pupils pass from the primary school, either to another secondary school offering languages or, in the majority of cases, to a secondary school in which languages are replaced, for boys, by manual arts and descriptive geometry, and, for girls, by domestic arts and commercial subjects. With some exceptions, these are three-year schools, those pupils who wish to go farther transferring to the senior years of a high school (pp. 35-37).

Junior technical and home science schools are secondary schools; despite their titles, they are not vocational schools. Their development over the past forty-five years has been significant. The success of many of their pupils at the Intermediate Certificate Examination and beyond, raises in our minds the question of the reliability of the selection of pupils before the commencement of secondary education (p. 37).

6. In the country, where the majority of high schools are now found, all pupils passing from the primary school are enrolled in the local high or intermediate high school. There they are allotted to courses corresponding to the different types of secondary school in the city. Though there is some opportunity for adjustment within the country secondary school, pupils tend to remain in the courses to which they have been allotted. The Country secondary school houses a number of separate courses under one roof; it does not provide the elasticity of the "comprehensive" school overseas (p. 38).

7. Among the non-Departmental schools, those maintained by the Roman Catholic Church are generally organized in specific courses somewhat akin to the pattern of Departmental organization. In the remainder, variations in the pattern of courses are to be found but, since they are individual schools, no general statement of the details of their organization can be made (p. 39).

Selection for High School.

8. Behind the method adopted for selecting pupils for admission to high schools in metropolitan areas lies a history of dissatisfaction with a number of types of attainments tests used for this purpose between 1911 and 1943 (pp. 22-24). The present method combines the results of primary school attainments, and of intelligence tests, with the overall school records of the pupils concerned. Due weight is given to parents' choice and to the judgment of teachers (p. 35).

In itself, the method is as satisfactory as could be devised in the circumstances. We do not consider, however, that a fully satisfactory method of determining, in advance, the secondary school course for a pupil of about twelve years of age can be devised, especially if the organization of the secondary school thereafter makes it difficult for a pupil to change his course (p. 35 and pp. 37-38).

Courses of Study.

9. School principals may vary courses, but the opportunity of doing so is limited. Furthermore, the general pattern of the secondary curriculum is largely determined by the requirements of syllabuses approved by the Board of Secondary School Studies. These syllabuses are designed, in their senior stages, to prepare candidates for the Leaving Certificate Examination, which may also serve as the basis for university entrance (pp. 40-41).

10. The effect of this situation is twofold. On the one hand, Leaving Certificate requirements have an anticipatory effect upon the work of junior years, though many of the pupils involved have no intention of being Leaving Certificate candidates. On the other, the regard which has had to be paid to less academically inclined candidates for the Intermediate Certificate has probably restricted the scope and content of work for the more able (pp. 40-41).

11. Under present conditions, when all adolescents proceed to the secondary school, the extent of the influence of the Board of Secondary School Studies is, in view of its limited authority under legislation, somewhat of an anomaly. That the anomaly has not become more apparent has been due to the wisdom and understanding of the Board over the past twenty years (p. 41).

12. In addition to the general pattern of secondary schools described in (5) above, there are high schools, termed "technical", "home science", and "agricultural high schools", in which a group of courses corresponding to the title of the school is substituted for a second language in the curriculum (pp. 36 and 39). The Roman Catholic Church maintains a small number of agricultural secondary schools (p. 39).

13. The Department of Education has developed two courses at the secondary level, designed to meet the needs of pupils for whom post-Intermediate studies are not contemplated. The first, the General Activities course, is designed for the least able group of adolescents; the second, the *Alternative Curriculum for Secondary Schools,* is designed for pupils of average ability who seem likely not to remain in school beyond the Intermediate Certificate stage (pp. 31 and 36-37). Variations are made in courses to meet the needs of similar groups of pupils in non-Departmental schools, though not necessarily by means of these organized courses of study (p. 39).

14. Despite all that has been done in so many schools, the predominant pattern of organization makes it difficult for the secondary schools of the State, as a whole, to provide a programme of education completely satisfactory for all types of adolescents.

Examinations.

15. In Departmental schools and in approved non-Departmental schools, candidates who are not applicants for bursaries and scholarships gain their Intermediate Certificate on the basis of conduct and attendance and an "internal" examination on an approved course of study. The "internal" examination is set and marked within the school. Other candidates sit for an external examination, the arrangements for which are approved by the Board of Secondary School Studies (pp. 28-29, 40-41).

16. The Leaving Certificate Examination, conducted by the Board of Secondary School Studies, is an external examination. In view of the steady increase in the number of candidates and of the expectation that that number will reach 12,000 by 1965, doubts are felt as to whether, solely on administrative grounds, that examination can continue to be maintained much longer in its present form (p. 43).

Holding Power of Schools.

17. The consistent feature of secondary schools in New South Wales, as in other states, is the small proportion of the group entering the schools in any year which remains to complete the course. Pupil wastage is more marked in Departmental than in non-Departmental schools. Though the former enrol almost three-quarters of all First Year pupils, they present only half the candidates for the Leaving Certificate examination. Since the last war, however, there has been a small but consistent annual increase in the holding power of Departmental schools.

Perhaps the more significant aspect of the fact that little more than one half of pupils entering secondary school complete three years of the course is that, among those who leave during the junior years, there is a considerable number of pupils of undoubted talent (pp. 43-48).

18. Our analysis of the background of early leaving casts some doubt upon the common assumption that it is almost entirely the result of economic pressure upon parents. The most obvious fact disclosed is that, although few pupils leave before the age of fifteen, they turn fifteen before they have progressed very far in the secondary school (pp. 44-45).

19. This, together with the fact that many pupils repeat at least one secondary school year, leads us to the conclusion that the situation reflects some measure of retardation of progress in the primary school and a need for a review of the nature and organization of studies in the secondary school (p. 45).

Relation to the University.

20. We have not questioned the assumption that universities in Australia should be selective institutions and that their matriculation requirements should reflect this fact. We point out, however, that there is a growing demand in our community for young people who have remained at school to the Leaving Certificate stage, but who may not wish to proceed to the university (p. 47).

21. Taking both points of view into account, we consider that a "survival rate" of 16 per cent. to the final year of the secondary school, if continued, is likely to deprive the community of sufficiently educated young people and to produce serious dissatisfaction among young people themselves (p. 47).

22. From what we know of the order of ability demanded by university graduation, the number remaining until the last secondary school year represents the smallest number we might expect if all of them were of high ability, all wished to proceed to the university and all, in fact, matriculated. Our evidence, however, is that many able pupils leave before the final secondary school year and that some who have no more than average ability remain. Only 7.5 per cent. of a typical secondary school entry matriculate (p. 48).

23. We are informed that as many as one-third of those who proceed to the university fail in their first university year. The reason for this failure is not to be found in any decline in the standard of the Leaving Certificate Examination over a considerable period. The evidence points rather to the fact that the pressure of that examination upon pupils and schools has increased over the years (pp. 47-50).

24. We are not in a position to assess the degree to which the responsibility for this incidence of failure at the university rests upon the schools, the university or the undergraduates themselves. The great majority of matriculants from schools are of sufficient general mental ability to pursue university studies and we have noted the major part played by members of university staff in determining and maintaining matriculation standards. We have observed a marked tendency, over the last twenty years, for pupils to gain their Leaving Certificate at a younger age. Under pressure of examinations, the survival of the scholastically fittest tends to be the survival of the youngest. To some extent, it may also produce immature undergraduates. Our impression, however, is that a large part of the answer to our question may be

found in what happens to students at the university. At the same time, we feel that any assessment of the situation must take into account the nature and conditions of the senior years of the secondary school (pp. 47-52).

With regard to our second term of reference, namely *"in particular, to examine the objectives, organization and content of the courses provided for adolescent pupils in the public schools of the State, regard being had to the requirements of a good general education and to the desirability of providing a variety of curriculum adequate to meet the varying aptitudes and abilities of the pupils concerned"*, our conclusions and recommendations may be summarized as follows:—

The responsibility undertaken by the community in the field of secondary education has altered radically for, within the last fifty years, it has come to be accepted that all children will pass on to some form of secondary education and will remain at school at least until the age of fifteen years (p. 63). The central problem of secondary education today is that, while "the education of all adolescents" implies a proper provision for all types and levels of ability and for the wide variety of interest and need to be found in any entire school generation, no community can afford to lose sight of the need for identifying and cultivating talent of every kind (p. 63). The special talents which become manifest during adolescence are not all to be measured in scholastic terms nor to be nurtured by the more traditional academic studies (p. 66).

We are therefore of the opinion that, although the present method of selection of Departmental school pupils for secondary courses is as effective as can be devised under the circumstances, all pupils who have completed the primary stage of education should pass, without prerequisite test or examination, into the secondary school (pp. 65 and 66).

We have also come to the conclusion that any determination of the course of study best suited to the adolescent boy or girl must be progressive (p. 65), and that the secondary school should be so organized as to make it possible to postpone a final determination of the pattern of courses an adolescent should follow (p. 66).

Because of the expansion of knowledge and the rise in standards in many fields (p. 66), and the significance of maturity in the successful completion of university studies, a sixth secondary year should be provided primarily to meet the needs of the minority who intend proceeding to tertiary education (pp. 67-69), but not at the cost of endangering the provision of a sound general education for all adolescents.

Our specific recommendations are set out below, together with observations as to the consequences of these recommendations as seen by the Committee.

I. Transition from Primary to Secondary School.

On completion of the primary school course and, in general, about the age of twelve years, all pupils should proceed, without examination, to secondary education organized consistently with the recommendations which follow (pp. 72 and 73-78).

Completion of the Primary School Course.

The unquestioned transition of pupils from primary to secondary school should be accompanied by a continuing scrutiny of the standards achieved by the average pupil in the final year of the primary school and the consolidation of primary school work in the first secondary school year, as there is evidence of a need to continue practice in the fundamental skills more systematically than appears sometimes to have been the case (pp. 73-74).

Age of Transition.

The present practice whereby pupils enter secondary school at an average age of twelve and a half years should continue and, as there is a limit beyond which a pupil's progress cannot be deferred, pupils of low ability should not remain in the primary school beyond the age of thirteen and a half years (pp. 74-75).

Liaison between Primary and Secondary School.

Staffs of each type of school should know more about each other's objectives and problems. For smoother progression, especially during the first secondary school year, the curricula of both primary and secondary schools should be examined conjointly (p. 75).

Class-teaching in First Year.

Class-teaching in a "home room" might be organized during First Year although, in subjects such as Science, Manual Arts and Music, specialist teaching as well as special rooms is desirable from the beginning of the secondary school (pp. 75-77).

Effective provision for the pastoral care of pupils is a matter of paramount importance, not only to ensure their smooth transition from the primary school, but also their progress throughout the secondary school (p. 77).

Tests and Their Use.

Although we do not believe there should be any examination at the end of the primary course specifically for selection for secondary school, we consider that the construction, supply and systematic use of standardized tests of attainments at the primary level should be increased. The results of tests of ability and attainments can assist in the organization of First Year classes and the guidance of pupils throughout the secondary school (p. 78).

II. Secondary Education for all Adolescents.

The organization and curriculum of the high school should be such as to provide a satisfactory education for all adolescents and should be designed to cover four years, to the age of about sixteen (pp. 72 and 79-81).

Size of School.

We recommend the provision of "comprehensive" secondary schools, even though it may mean having schools with enrolments in excess of 600 or 700, as the necessary range of electives is likely to require classes, at least in the final year, which would be too small in terms of staff and facilities unless the first year enrolment approached 200.

Explicit provision would have to be made for sub-groups of reasonable size, which might be achieved by an organization into "houses", each limited to the number one housemaster could get to know personally. Such an organization would make considerable demands upon the principal, who would have to establish and maintain a wider sense of membership of the school as a whole (pp. 79-80).

Co-education.

Despite the inconclusive nature of the evidence placed before us and the lack of unanimity on the part of the Committee, we record that professional and lay opinion as expressed to us is that as new secondary schools are established by the Department of Education, they should, generally speaking, be co-educational schools, although we are aware that conditions in a particular locality may call for some modification of this general rule, e.g., "twin schools" might be established (p. 81).

III. The Common Core of the Curriculum.

The curriculum should be designed to provide a core of subjects common to all schools, together with a progressive increase in the proportion of elected subjects. On this basis, the greater part of the curriculum for the first year should be allotted to the common core (pp. 72 and 82-84).

The Nature of the "Core" Subjects.

Recommendation III is based on the conviction that there are certain fields of thought and experience of which no adolescent should be ignorant. The common curriculum should therefore include English, Social Studies, Science, Mathematics, Music, Art, Crafts, Physical and Health Education, Religious Education (p. 82).

The interpretation we would place on certain subjects is set out in the body of the Report (pp. 82-84).

Class Organization in Relation to the "Core" Curriculum.

The syllabus of any of the subjects in the "core" curriculum should be set out in quite general terms. A statement for each subject which is a sufficient guide to teachers, but which is not narrowly prescriptive, should be drawn up by a representative panel working within the framework of a general statement of the aims and spirit of the new curriculum as a whole.

Teachers should have freedom to adapt each syllabus to the needs and capacities of their pupils and to the conditions of a particular school. If class groups are organized primarily on the basis of ability, a large degree of variation between classes in the content of the programme and in the method of treatment will be made possible (p. 84).

IV. Electives.

Under teacher guidance, election of subjects should progressively be made in the light of pupil achievement or potential (pp. 72 and 85-87).

Principles of Election.

Elective courses should not consist of a variety of short-term subjects, but be of adequate duration and demand adequate standards.

Assuming parity of esteem of courses within the secondary school, we recommend a range of electives which would enable a selection to be made in terms of a pupil's ability and interests (pp. 85-86).

The following list indicates a range of electives most or all of which a comprehensive secondary school might be expected to provide: Art, Commercial Principles and Practice, Geography, History, Home Science, Languages (Ancient and Modern), Manual Arts (e.g. Drawing, Metalwork, Woodwork), Mathematics, Music, Science (e.g. Agriculture, Biology, Botany, Chemistry, Geology, Physics) (p. 86).

Relation of Electives to the Common Core.

While no specific subject will necessarily be listed in the first secondary year as an elective, the allocation of time to the several subjects, or the organization of classes, should be such as to permit pupils to go beyond the general requirements in some field or fields of special interest to them.

Beyond this first year the time devoted to the common core will depend upon the ability of the pupils but might, in successive years, be approximately 75, 65 and 60 per cent. of the total school time.

By the fourth year, pupils may be studying three elected subjects in addition to the common subjects of the curriculum (pp. 86-87).

V.-VI. The School Certificate.

V. On satisfactory completion of the four-year course, a School Certificate should be issued on the basis of the result of an external examination.

VI. This examination should be designed as a terminal or retrospective examination and the Certificate as a formal indication of the successful completion of a satisfactory course of secondary education (pp. 72 and 87-95).

The Educational Programme.

There are fields of worthwhile achievement other than languages, mathematics or science in which adolescents may excel and for which the secondary school of to-day should make provision. We believe it is possible to devise courses of study in many fields which will challenge the ability and engage the interest of most adolescents, but which will enable teachers to extend their most able pupils to the full range of their ability (pp. 87-89).

There is no task more urgent than the achievement of good standards in the understanding, appreciation and use of *English*. The schools have a duty to foster an awareness of the rich possibilities of the language.

We believe it is reasonable to expect all teachers not only themselves to write and speak good English, but to take a conscious and planned part in achieving acceptable standards among their pupils.

In general, we favour in the earlier years the extensive, rather than the intensive, reading of literature, with a gradual intensification of the field as interests develop (pp. 89-92).

For the common first year, a possible time allocation (based on thirty-six forty-minute teaching periods each week) might be:

English	one-quarter.
Social Studies	one-half.
Science	
Mathematics	one-quarter.
Music	
Art	
Crafts	
Physical and Health Education	
Religious Education	

This time allocation would have to be reviewed in subsequent years because of the introduction of elective courses.

Where a pupil elects a certain subject, he should not also be required to follow the "core" course in that subject. Thus, though periods will need to be subtracted from all subjects in the common core in order to provide for electives, none of the subjects of that core will disappear from a pupil's "core plus electives" curriculum throughout the four years.

Two electives should, in general, be taken after the completion of First Year and a third at the beginning of Third Year. At least five periods a week should be devoted to each elective. On the other hand, there will be some pupils, generally of low ability, whose course will throughout be based on a maximum allocation for the subjects of the core curriculum.

The opportunity for choice of courses should be kept as open as possible. There should be no objection to a pupil attempting an elective course, and then changing it or reverting to the core subject if his first choice proved unsuitable.

Further election of courses should be possible beyond the School Certificate stage, for senior pupils should be able to embark upon some courses which are new, though not unrelated to the work they have already done (pp. 92-94).

School Certificate Examination.

To establish the status of the School Certificate in the public mind and to safeguard standards, we recommend an external examination at the end of four years of general secondary education. However, we look forward to the day when, with the School Certificate firmly established, modifications in the type of examination might be explored.

The scope and standard of the examination should be such as to ensure that schools will be free to provide a sound programme of general education for all adolescents up to the age of sixteen. The examination should therefore be devised without reliance upon prescriptive syllabuses of work.

So far as the examinable subjects of the common core are concerned, the standard of the examination should be pitched at the level of the pupil of average ability. In the case of the elective subjects, account should be taken of the fact that both the scope and standard of work should provide opportunity for the most able.

The School Certificate should be issued by the Director-General of Education and the examination should be conducted by the Department of Education.

To assist the Department and to maintain liaison with the schools, we recommend that a board, to be known as the Secondary Schools Board, be established, principally representative of the Department of Education, the several groups of secondary schools and such other authorities in subject matter fields, from the university or elsewhere, as may be determined (pp. 94-95).

VII. Early Leavers.

No external examination should be held, nor any certificate of general status issued, before the end of the fourth secondary school year (pp. 72 and 96-97)

We feel that, in the absence of any formal credential before the award of a School Certificate, an increasing number of young people will be encouraged to complete a coherent course of general secondary education.

However, since a considerable proportion of adolescents, especially at first, will continue to leave school at fifteen years, we recommend that pupils who leave school without gaining their School Certificate should be given a formal statement of their attainments, attendance and conduct.

We take the view that it is better first to build up a system of general secondary education which would encourage children to remain voluntarily at school and gain their School Certificate, rather than defer the introduction of the four-year course until the school leaving age is raised by legislation to sixteen.

The problem of helping the pupil who might otherwise be forced, largely because of economic circumstances, to leave school before gaining his School Certificate should be met by a review of bursary awards beyond the statutory school leaving age. We would observe, however, that the reasons why pupils leave school at the age of fifteen are rarely solitary.

In country areas, the problem of providing for highly intelligent senior pupils might well be met by the concentration of Fifth and Sixth Year pupils in the larger country towns, and an adjustment in the system of bursary awards. Some extension of the hostels and conveyance schemes would also be necessary (pp. 96-97).

VIII. Higher School Certificate.

Pupils who wish to proceed beyond the School Certificate level, including those who aim to matriculate, should remain at school to follow a course or courses leading to the Higher School Certificate Examination. The type and content of this examination should be such as to make it acceptable as a test for university matriculation. The further course of study should be designed to cover two years (pp. 72 and 97-98).

Authority for the conduct of the Higher School Certificate Examination, including courses of study and the issue of the Certificate, should be vested in a Board of Senior Schools Studies comprising representatives of the Department of Education, the universities and both Departmental and non-Departmental secondary schools.

While this stage of schooling should be designed to meet the needs of the most able adolescents between the ages of sixteen and eighteen, the two senior years are not to be regarded merely as preparation for matriculation; they are an integral part of the education of these young people. It follows that provision should be made for school activities which are essential to the education of adolescents but which do not involve preparation for examinations.

The number of subjects in the curriculum may be less than at present prescribed for the Leaving Certificate Examination, but there should be a balance in the choice of subjects a pupil studies.

The selective nature of this group of pupils and their greater maturity by the age of eighteen years should make possible the provision of courses which will afford matriculants a better prospect of successfully undertaking the early stages of university study (pp. 97-98).

APPENDICES

APPENDIX A

EVIDENCE PRESENTED BY DR. K. S. CUNNINGHAM (DIRECTOR) AND DR. W. C. RADFORD, REPRESENTATIVES OF THE AUSTRALIAN COUNCIL FOR EDUCATIONAL RESEARCH.

Document I

PROBLEMS OF GENERAL ORGANIZATION AND DEFINITION.

(*a*) Should secondary education be defined in terms of the nature of the studies undertaken, or in terms of the ages of children concerned?

(*b*) If the former, what amount of emphasis, if any, should be given to the achievement of a satisfactory standard in primary school studies, and what should that standard be? Again, is the term "secondary" to be applied to all forms of education above the primary standard whether it follows the older secondary tradition (including at least one foreign language), or whether it has a technical, commercial, or other bias?

(*c*) If an age range is used in connection with secondary education, what should that range be?

(*d*) Should "secondary education", however defined, be differentiated into different courses from the outset or at some later stage? In other words, when should specialization commence?

(*e*) What different kinds of courses should be provided? Are these best provided in one school or in different schools?

(*f*) Should the solution to such questions differ as between city and country children?

Opinions on the foregoing.

In all countries the tendency is to abandon the older idea of a secondary education for a selected few, and in one form or another to provide secondary education for all.

This becomes inevitable if the school leaving age is raised beyond fourteen years, and if the termination of primary schooling is regarded as being reached at 11 or 12 plus. Most of the present difficulties and uncertainties about secondary education today arise from the fact that it has not been clearly recognized that an entirely new situation arose when it was decided to provide secondary education for all.

This applies particularly to the fact that provision has to be made under the new system for an almost unrestricted range of talent and interest. One of the major problems of the primary school is to cater for a wide range of variation in the talents and learning rates of individuals. When the whole population moves on to secondary schooling, the problem becomes even more marked because the gaps between individuals tend to increase with age rather than to diminish.

One is forced to the conclusion that it is no longer possible to say that secondary education is to be limited to those who, according to one criterion or another, are "fitted for it".

It must simply become, as primary education already is, all the education, whatever form it takes, given to children between certain ages—let us say between 12 plus and 16 plus.

There appears to be gradual recognition of the idea that each stage of education must have its own set of values, and must not be subordinated to some future stage. The outstanding educational success of this century has been the kindergarten, precisely because it has thought in terms of the natural interests and abilities of children at that stage, and because it has avoided any temptation

to encroach on the work of the primary school and force an early mastery of formal work. It can be demonstrated that much damage has been done at the primary stage by too early a plunge into the abstractions more appropriate to the secondary stage.

The situation at the secondary level becomes even worse through the effects produced by the public examinations used for guarding admission to the universities. Many students who have no intention and no likelihood of going on to tertiary education are prevented from doing satisfactory terminal courses. It may further be claimed that the universities themselves are not well served by the studies which at present are directed towards satisfying entrance requirements. A period which should be used for developing broad interests, good study habits, capacity for independent thinking and so on is often devoted to early specialization, to cramming and the acceptance of knowledge on the basis of authority. (The Committee will presumably have brought to its attention the well known Eight-Year Study, which throws much light on these problems.)

We conclude that both in the interest of those students who do, and those who do not go on to tertiary studies, secondary education up to 16 years should be regarded as an end in itself. The final two years (14-16 years), should have a definitely exploratory character, but specialization should not be allowed to an extent that would involve any irrevocable decisions before the age of 16 years. For example, a serious student, wishing to take up a foreign language for the first time at 16 years, should be under no handicap because he had not started earlier. The years 16 to 18 should be occupied by full-time study for those wishing to go on to a university, and by full or part-time technical or trade training for the remainder.

It may, of course, be regarded as outside the scope of the present enquiry to consider the question of university entrance as such. It is, however, challenging to note that whereas in some subjects no previous training is required before commencing work at the university, other departments require a standard of preparation which can be attained only by five or six years of fairly intensive study. Some variation may be expected because of the fact that certain abstract studies do not seem suitable for secondary students. The matter, however, goes far beyond this, and a large element of arbitrariness seems to be involved. It is worthy of mention that Dr. James B. Conant, who in his time was a distinguished professor of chemistry, preferred students who had had no systematic training in chemistry before coming to him.

Assuming, then, that secondary education will be given to all children from 12 plus to 16 plus, and that it will refuse to be in any way dominated by university requirements, what form should it take?

It appears obvious that the first couple of years at least should take the form of a common course with as little differentiation as possible in the subjects studied, though there may well be need to vary the amount of ground covered in a given subject by different children. The years 12 to 14 should be used to encourage free expression in various media, to arouse interest in social problems, to open up the vast realm of books. It should be a period during which the attitudes and abilities of the pupils are seriously studied, so that adequate guidance can later be given to them. From 14 to 16 years, a wide range of experiences should be available, and pupils should be encouraged especially to study the various vocational opportunities open to them.

The exploratory courses envisaged above can be satisfactorily given only if the secondary school is multilateral in character. Even if a student eventually decides on an academic course leading to professional life, he should have some opportunity of developing the beginnings of skill in the use of wood or metal, he should be able if he wished to master the rudiments of electricity, or learn how a motor engine works.

The whole question of selection of pupils for different schools or courses is dependent on the acceptance or rejection of ideas, such as the foregoing. The views advocated take it for granted that it is wise to defer all such decisions until as late an age as possible.

The secondary school should undoubtedly be linked more with its environment than is typically the case. The present domination of State wide examinations tends far too much to uniformity of curricula. The possibilites for local adaptation are set out convincingly in the book dealing with the work of the Rangiora High School, New Zealand (Strachan's *The School Looks at Life*).

Document II

SOME CONSIDERATIONS AFFECTING THE ORGANIZATION OF EDUCATION

Summary.

A critical stage in the educational progress of any child is that of transfer to secondary education. There appears to be no agreed upon best age for transfer.

Many reasons, each one debatable, have been advanced for making the transfer at the age of 11 plus or 12. Certain arguments relating to differing vocational preparation have led to the establishment of types of secondary school catering particularly for different vacations.

We have examined the evidence available to us on two matters of vital importance in a discussion of such schools.

(1) Can children be classified into types at these ages?

(2) Do specific abilities begin to appear at these ages with sufficient clarity to be measurable, and if so do they increase in importance relative to general ability?

The first of these questions is of very great concern to educators in England at present, because of the attempt of the Norwood Committee to make such a classification.

Our opinion, after examining a good deal of research material (of which some examples will be given) is that it is not possible at such an early age as 11 plus or 12 to make a firm decision about the potential vocation of a boy or girl, or to predict, except for a very small percentage, the true bias of interest, or the potential academic competence in areas of studies leading to different vocations.

On the other hand, there is sufficient evidence that measures of interest can be devised, and that tests already in existence can give measures—or indications—of potential ability in other than theoretical subjects, to enable us to recommend that use be made of both at as early an age as 12 or 13 in connection with guidance programmes and orientation courses, etc., in the junior years of secondary schools.

Attention needs to be given, in considering this, to two features:—

(1) There is an apparent difference between the sexes.

(2) Abilities, and interests, will not reveal themselves unless given opportunities to do so.

There is some conflict of evidence on the question of whether, with increasing age, specific abilities, such as spatial judgment or mechanical aptitude, become more important in a person's success at school subjects or vocations.

Our opinion is that the particular abilities and interests that develop in children after 11 plus are in large measure determined by the particular experiences that they have, and the opportunities given to them to explore areas of possible interest to them in which they may show competence.

Full Statement.

Children are required in New South Wales to receive efficient and regular instruction between the ages of 6 and 15. At some particular stages in that age progression, educational practice at present requires that a child should move from one kind of school, organized and directed in a certain way to attain certain ends, to a school of another kind, often with a different organization and with different objectives. There are at present two such stages of critical importance: that of transfer from an infant department to the next higher department of a primary school, and that of transfer from a primary to a secondary school. There is no exact agreement in Australia or elsewhere about the right age for either, whether age be thought of in units of chronology, mental development, or general social development.

AGE OF TRANSFER.

So far as the second of these stages is concerned there are several reasons advanced for deciding to transfer children from one type of school (primary) to another type (secondary), at a chronological age somewhere between 11 and 13.

(1) Up to age 11 the spread of mental ages found in children of the same chronological age can be fairly readily dealt with in the grades of the primary school; after that age, the spread is so great that the primary school has insufficient grades to deal with it, unless it is very large. (Burt: *British Journal Educational Psychology,* November, 1943, Volume XIII. Part 3, p. 127.)

(2) At this age, children are beginning to enter upon the period of adolescence; it is inappropriate that they should be in constant association with younger children, and far more appropriate that they should be grouped with children well advanced in this period (Nunn: 1929, *Education. Its Data and First Principles.*)

(3) Most children of this age have only three or four more years of compulsory schooling ahead of them, at the end of which they should have certain specialized competencies, which can be acquired most economically at school. Special schools fitted to give them such competencies are needed.

(4) At about the ages of 16, 17 or 18, children wishing to go to tertiary education are required to take an examination to qualify for this. To prepare them adequately for this examination requires specialized instruction for certain minimum periods. (Certain occupations regard passes in this examination as qualification for entry.)

(5) Somewhere between the ages of 11 and 13 there is reached for most children, a point in general mental development at which certain particular abilities, aptitudes and interests are developed to such a point that they are sufficiently stable and adequate in quantity to be measured. They can consequently be used to predict success in fields of school study, including those with a vocational bias. Success in those fields of study is essential if the child is to enter particular vocations, or go on to higher studies.

All of these reasons could be debated with strong arguments for and against. The facts and principles which must be kept in mind in any discussion of them seem to be:

(1) That for every child there should be adequate opportunity to develop all major aspects of native ability.

(2) That, at a certain minimum age, children are exempted from further attendance at a formal education institution.

(3) That, at this age, the majority of pupils are considered fitted to take their places in a world controlled by adults and to perform—helped by the informal and uncontrolled educative influences of that world—some essential functions in that world.

(4) That for some others, looking forward to performing certain other functions, further attendance at school is required.

The different functions involved in points (3) and (4) above have led in recent years to a differentiation in the kinds of school provided for children above age 11 or 12. This differentiation rests on several kinds of assumption. The main ones are as follows:

(1) It is held that the different vocational destinations of children are sufficiently clear at age 11 or 12 to make a good separation possible; that is, it is believed that it is possible to select children at that age for the different kinds of education which should fit them best for their probable vocation.

(2) It is believed that it is possible to measure the abilities and aptitudes of children sufficiently at these ages to give them the kind of education which will best develop those abilities and aptitudes.

(3) It appears to be assumed in certain countries that at about this age, the broad general ability and interest that determined success at the primary school begins to branch out as it were into abilities and interests that are more specific, but these specifics determine success or failure in particular kinds of studies, and that they are best exploited in separate schools.

We have therefore concerned ourselves in this presentation of opinion with two main and inter-related matters, which have been the subject of considerable research:

(1) Can children be separated by any practical devices at the ages of 11, 12 or 13 into types?

(2) Do special and specific abilities begin to appear at these ages with sufficient clarity to be useable? And if so, do they increase in importance relative to general ability as age increases?

Can children be separated, by any practical devices, at ages say 11 to 13, into types? There is a considerable number of studies devoted to the question, particularly in England, since the late 1930's and early 1940's. The later work arises directly from the system of secondary schools adopted there, which in turn rests on the assumption made by the Norwood Committee that there are three types of mind relevant to secondary school education, and that these can be distinguished as early as the age 11 plus.

Type 1, called the grammar school type, is "interested in learning for its own sake", interested in causes, connected reasoning relationships, and coherent knowledge, and finds its best means of development largely through book learning and study.

Type 2, called the technical school type, finds its principal interest in dealing with the fields of applied science or art, and has a much greater flare for mechanisms than for language.

Type 3, called the modern school type is quite frankly what is left over after the first two types have been selected, even though it may be dignified by such descriptions as that it "deals more easily with concrete things than with ideas."

Hence, the public educational system in England has been faced with the necessity of selection, from the total age group at 11 plus, of a certain proportion which is considered suitable for the type of education at present given in grammar schools and another proportion suitable for the technical schools (where these exist). For the remainder the secondary modern school is supplied. There are many different kinds of examination procedures used to assist in this selection. The outstanding need everywhere is still, because of the prestige that was involved, as well as because of building facilities, to select the "cream" for grammar schools (from 8 per cent. to 50 per cent. according to the areas concerned). Many such grammar schools include technical subjects just as some technical schools include a foreign language.

It has not been found difficult to fashion examinations, the results of which will give a reasonably good prediction of success in various kinds of school, if success is considered to be the passing of certain external examinations after a certain number of years of secondary education. (Correlations of .80 are frequently reported between such criteria and results at entrance examinations.)

If the problem is put in a form at present most common in England—for example given X places available in grammar schools, can an examination be devised which will select X children from Y aspirants, with an assurance that the majority of the X will be successful? The answer is undoubtedly Yes. (Emmett and Wilmott 1952, *British Journal Educational Psychology,* Volume XXII. Part 1.) The current types of examination in English, Arithmetic and intelligence are making just such a selection with a high degree of skill. (Despite this, the Central Advisory Council in England is at present engaged in a survey of the problem of serious wastage of students from the grammar schools.) Similarly, the success of children in the secondary modern school appears to be closely related to their performance in the "selection" examination. (We have not found any similar evidence for technical schools of which there are still few of the type envisaged by the Norwood Committee.) But if the problem is put in the more critical form: given X children of the age of 11 plus, is it possible to determine with an acceptable degree of accuracy those children with strong and stable biases of aptitude for and interest in the types of education given in grammar and technical schools? The best answer at present available is that this is only possible at the most with about 5 per cent. of children of each type; that even with these, it is by no means certain that experience in the opposite type of school might not change the bias; and that for the remaining children with the ability needed to pass an external examination at the age of 16 plus, after five years of secondary education, it is impossible to make any allocation to types of school which would not do gross injustice to the majority by depriving them of the opportunity to develop talents still latent at this stage.

The success of the attempt to select children for grammar school education depends on what is now common knowledge, that success there depends, under present conditions in primary and secondary schools, on:

(1) a high level of general ability;

(2) adequate attainment in primary school work;

(3) a high level of ability in verbal and/or number skills.

It is possible to assess all these fairly accurately by the age of 11 plus. To deal successfully in England with a course in secondary technical schools as these are envisaged, would require the same levels of skill and attainment in primary school studies, the same level of general ability, and almost the same level of skills, verbal and number, as in the grammar schools, as well as skill in certain abilities which appear to play some part in what are thought of as specifically technical subjects, such as technical drawing, shop work and mechanical manipulation. An analysis of the content of those tests and examinations which appear best to predict success in these specifically technical areas, indicates that there may be three particular abilities involved:

(1) a capacity for good judgments of space (probably requiring good visual imagery);

(2) a capacity to handle complex problems by performing operations with material, as opposed to handling those if expressed verbally;

(3) a mechanical ability showing itself in the handling of mechanisms and associated with this a considerable degree of information about them.

It has not yet been shown that these abilities are sufficiently distinct one from another at age 11 plus, or that they form a sufficiently distinct "aptitude structure" to be of much help in deciding upon allocation to technical schools or technical courses. Nor has it yet proved possible to devise tests which clearly indicate the presence of one or all of them at age 11 plus in sufficient quantity to justify allocation upon this basis alone. It is even doubtful whether, if not accompanied both by a good general ability and a specific ability for a particular job, they are of great importance for selection for technical vocations.

This is our own summary of the evidence available to us from English sources. Its essence is confirmed, in our opinion, by three authoritative English sources:

(1) In its report on *Transfer from Primary to Secondary Schools* (1949), the National Union of Teachers, reviewing the evidence given to it on aptitude tests, came to these conclusions:

Para. 83. "The psychologists who have appeared before us are unanimous in their scepticism as to the psychological realities of the aptitude implied by these tests. The weight of opinion seems to be that successful performance in such tests is determined largely by interest and experience, and that it is susceptible to rapid variation under educational influence."

Para. 84. "On the more practical point as to whether these tests yield any result that is significant for our purpose," (viz., deciding on just procedures for selection) "the most favourable view that has been expressed to us is that a significant result is obtainable for a very small proportion of children at the age of 11; and that the proportion is somewhat larger but still small at the age of 13."

(2) In concluding a symposium in the *British Journal of Educational Psychology* that had drawn contributions over a period of three years from 1947 to 1950, Sir Cyril Burt wrote (*British Journal of Educational Psychology,* February, 1950): "On the weight of evidence as summarised in all these contributions, it is highly doubtful whether such tests will ever be able to demonstrate any marked bias, latent or developed, in any larger number of cases at so early an age as 11 plus."

(3) In his summary of evidence regarding the similarity of various statistical factors isolated by various workers from the results of varied testing programmes, P. E. Vernon (*The Structure of Human Abilities*) writes of performance tests (page 112): "It is likely that 'g' is the major common factor in all except the simplest manipulative performance test, hence it is impossible to differentiate any large proportion of children, at 11 plus, into academic and practical types."

Vernon is prepared to accept the presence of an ability in spatial judgment and visual manipulation of shapes as early as 11 plus (p. 68). As he argues elsewhere that this ability is closely related to practical and mechanical abilities, it might be held that the above view is inconsistent. The emphasis, however, is on differentiation of large proportions of children, and on stability of the bias under different conditions.

The following brief summary of a number of relevant researches will show the nature of the work done on a topic which is a continuing vexation to educators and parents in England.

UNITED KINGDOM.

Earl and Kilgour (*A Vocational Guidance Research in Fife.* 1935. National Institute of Industrial Psychology), as a result of studies for the National Institute of Industrial Psychology from 1928-32, concluded that the kind of mechanical and practical abilities measured by their tests developed late, and could not be measured by these tests before 12 or 13.

Slater (*Occ. Psych.* 1941. Vol. XV. No. 1) accepting the proposition that for work in grammar schools verbal ability (v) is important, and spatial judgment (K) important for work in technical schools, tested 82 children in an L.C.C. Junior school, aged 10 to 11, during 1940, with a group of tests including four verbal tests of general ability (g), one test of non-verbal ability free from verbal ability or spatial judgment, and Squares and Figure Perception tests believed to test spatial judgment. An analysis of the resulting inter-correlations of tests showed that they could be adequately accounted for by assuming that the only abilities involved in answering them were (g) and (v). The spatial tests and the non-verbal test appeared to measure the same ability.

(P. E. Vernon, *The Structure of Human Abilities,* p. 68, claims that a third factor can be discovered in this study, linked to both spatial and non-verbal tests.)

Following up this work some years later, Slater tested 211 children aged 11 to 12, and 161 children, 13 to 14. Earlier, he had tested 29 trade apprentices aged about 18. Only in the apprentice group did he find evidence of an ability to make spatial judgments affecting the results on his tests. (*Occ. Psych.* 1940, Vol. XIV; 1943, Vol. XVII.)

His results have since been reworked by Adcock (*Occ. Psych.* 1948, Vol. 22) and Emmett (*Br. Jnl. Psych.* Statist. Sec. Vol. 2), (*Occ. Psych.* Statist. Sec. Vol. 8) to show that an ability in spatial judgment could be inferred from the results for younger children.

McLelland (*Selection for Secondary Education,* 1942, University of London Press) obtained average correlations of the order of .6 between various possible selection criteria and success in technical courses for boys and girls in junior secondary schools in Scotland, and multiple correlations of the order of .8 when criteria were combined. None of the criteria, however, included tests in practical ability or similar material.

Bradford (*British Journal of Educational Psychology,* 1946. Vol. XVI) in two thoughtful articles examines the relation between school performances of 105 pupils (13 plus) in a junior technical school, and their scores on a test battery which included individual performance tests, and group tests of 'g', 'v', 'k'. Analysis of the various inter-correlations showed that there was a contrast between the abilities required in dealing with the practical subjects and tests, and those required to deal with the more academic school subjects (Physics, Chemistry, Mathematics, French). The conclusion reached, that "success in school studies is most likely to be found among pupils who, not differing widely in general ability, achieve least success with practical tests of the performance type", emphasizes that in a school where different types of subject are taught, success does not depend upon one general ability. Interesting features of the analysis are low correlations (from minus .23 to plus .46, with a median at .20) between a 'g' test and other tests—school subjects, performance tests, etc.; a development of the idea that the antithetical abilities are (*a*) an ability to use symbols—verbal, numerical or mathematical, and (*b*) an ability to control imagery or sensory materials—"to deal with the actual"; and evidence that intercorrelations between the various tests used and subject groupings (language, science, drawing and workshop), are as high at the end of the course (for the 87 boys remaining) as at the end of the first year. The correlations between workshop and drawing groups and the Kohs cube construction and spatial judgment (K) tests range from .34 to .50. Workshop and science groups correlated 50 and workshop and drawing .63.

Drew (*Occ. Psych.* Jan. 1947, Vol. XXI) used tests of general aptitude, Spearman's gvk battery of verbal, spatial and preceptual tests and Alexander's Performance Scale, in working with four groups of boys, one a senior elementary school first year group of 353 boys averaging 11 years 9 months, another similar group of second year boys averaging 12 years 11 months, a first year junior technical school group of boys averaging 13 years 6 months, and a group of 88 boys averaging 15 years 8 months in the third year of the junior technical school doing their diploma work. Analysis of his intercorrelated scores showed to his satisfaction that an ability in practical performance (f) characterized some of his tests. It was particularly important at the diploma stage, but evident in his younger groups. On the other hand, spatial judgment (K) did not appear in his result until about age 13. It was stronger at the diploma stage than earlier. Practical ability (f) also appeared to influence the test scores more for the first group than the second.

As considerable weight has been given to this study by those claiming that practical ability can be distinguished at eleven plus it is important to note:

(1) That the boys forming the first two groups were not typical of the usual examination group on whom selection procedures would be practised.

(2) The factor analysis on which the emergence of the factor of practical ability rests, has been gravely questioned by Slater (*Occ. Psych.* 1947. Vol. XXI).

(3) The test in which it is claimed to show (f) most strongly, Alexander's Passalong test, is a relatively unreliable test.

(4) Re-Analyses by Vernon (*The Structure of Human Abilities,* p. 110-111) and Emmett (*Brit. Jnl. Psych.* Statist. Sect. Vol. 2) have not shown that the practical ability claimed by Drew is necessary to explain the test scores. On the contrary, spatial judgment does appear, in Vernon's opinion, in the youngest group.

Earle (*Occ. Psych.* Oct. 1947, Vol. XXI, No. 4), discussing the significance of ability differences at 11 plus takes the stand that it is possible to classify or guide children at 11 plus into particular fields of study; that the most important element in the development of a particular ability in a particular child is that "he finds himself to be and continuing to be as successful (in it) as his fellows", and that the best solution to problems of classification at eleven plus is to be found in a "more careful study of the mental processes used by children in school activities than in a statistical analysis of miscellaneous batteries of tests."

Dempster (*Br. Jnl. Psych.* 1948, Vol. XVIII, Part 3) in an experiment involving repeated re-testing at six-monthly intervals of boys aged 11 plus to 13½, with four verbal, four spatial and a general ability test, concluded that an ability in spatial judgment was just as important in his test results at age 11 plus as at age 13 plus and could be measured just as well at age 11 plus. But when he examined individual score profiles carefully, he concluded that in only a small minority of individual cases did this help in selection.

Peel (*Br. Jnl. Ed. Psych.* 1949, Vol. XIX, Part 1) found evidence of a practical ability, exemplified in performance on assembly and pattern checking tests, equally strong at age 11 as at age 13 in groups of children in three successive age groups (11, 12, 13) in an unreorganized senior school, there being 70-80 boys in each group.

Emmett (Op. cit.) also found ability in spatial judgment in a group of 11 and 12 year old boys, and re-analyzed earlier work by Mellone to show a similar ability in 7 year old boys and girls.

Watts and Slater (*The Allocation of Primary School Leavers to Courses of Secondary Education,* 1950, National Foundation for Educational Research) administered a comprehensive set of tests, including verbal and non-verbal ability, performance and spatial tests to the complete age group 10 years 6 months to 11 years 5 months in eight junior schools. An analysis of the results of the 585 children showed evidence of practical ability and spatial judgment. These were each, however, only about one seventh of the importance of general ability in determining the results, and other unexplained and inexplicable elements in those results were just as important (*e.g.,* between them they accounted for 16 per cent. of the variance: a general factor accounted for 55 per cent., an unexplained other factor for 6 per cent., and other factors including error variance for 24 per cent.).

Their conclusions are particularly cautious and amount simply to the belief that their results justify further experiments, in which the test results would be related to subsequent success in technical work, with "some grounds for hoping" that it may be possible to prognosticate success in occupations at age 11 plus.

One warning they sound is so cogent that it is worth repeating: it is rarely heard in England in the discussion on the selection problem (Ibid. p. 61) "It is necessary to remind the reader, however, that even if a sharp division of children at 11 plus into academic and practical groups proved to be possible, this would not necessarily point to the desirability of arranging different curricula for them. It might indicate no more than the need at this age for a difference of approach and teaching method, since, as we have been able to confirm, the main differences between children lie in the sphere of general mental ability."

Pitts (*Br. Jnl. Ed. Psych.*, June, 1953, Vol. XXIII, Part 2) examined the relationship between the comprehensive entrance examination and subsequent success in various aspects of art work in a Junior Art School (ages 14 to 16) and found a multiple correlation of (average) approximately .6 between them.

Fitzpatrick (*Br. Jnl. Ed. Psych.*, June, 1953, Vol. XXIII, Part 3) devised group performance tests to measure woodwork ability in 243 boys aged 11 plus in a secondary modern school. Combining the results of these and other tests, (g, v, and K), he arrived at a weighted multiple correlation of approximately .5 with a criterion which combined instructors' estimates of ability after 15 months with work-sample tests of sawing and workmanship.

Some attention has been given to studying the interests of children at 11 plus to find out whether these provide information which can be used in association with other data, to make a better allocation of children to appropriate schools.

Lambert (*Br. Jnl. Ed. Psych.*, 1949, Vol. XIX, Part 2) prepared interest tests giving equal opportunity to 11 year olds to choose between items drawn from the technical side of their environment and those drawn from reading and study. She used three such tests together with a number of practical tests on a group of 481 boys chosen from the top 30 per cent. of the 11 plus age group in general ability. Careful assessments were made of the bias of interests, and these were related to the test scores and later to performance in grammar schools (which had a wide range of technical subjects in their curricula in the early years) and in modern schools. A number of useful results appeared, but the following conclusions appear amply justified (Ibid. p. 78-9):

> "Within the limits of the survey some evidence has been offered of the existence of three groups, each group merging into the next:
>
> (*a*) a group of children of grammar school ability with a sufficient bias of verbal ability and academic interest;
>
> (*b*) a group of children of grammar and technical ability with an insufficient bias of ability and interest;
>
> (*c*) a group of children of technical school ability with a significant bias of practical ability and technical interest.
>
> "Out of those groups on the basis of the suggested criteria, (*b*) is the largest, and is approximately 40 per cent. of the entire group. Between the groups (*a*) and (*c*) there are wide differences both of bias and of interest which suggest the need for the provision of different curricula, but for the whole distribution a bilateral school in which alternative curricula differing slightly in bias could be provided would appear to be more suitable than separate grammar and technical schools.
>
> "For a sample group, a significant change in the bias of interest was found after one or two years in either a grammar or a modern school, the change being away from the academic and towards the technical curriculum. If these results are true for the whole population, they would support the need to give a wide experience during the period 11 plus to 13 plus and to postpone decision with regard to the final alternative course until a later date."

A very recent report by Fitzpatrick and Wiseman (*Br. Jnl. Ed. Psych.*, June, 1954, Vol. XXIV, Part 2), on a different type of interest test suggests that it could be used to forecast proficiency in woodwork at age 11 plus (although only very little better than chance), and that a revised and improved form showed significant differences in bias of interest between 600 children, aged 13 plus, in grammar, central and modern schools in Cornwall. Further work on 11 plus children is reported to be giving "promising results".

Evidence of the relation of spatial judgment and practical ability to success in technical school and work is found in many places. Some recent relevant work is to be found in the following: Holliday (*Occ. Psych.,* Jan., 1940, April, 1940, October, 1941, January, 1942), found that the abilities shown by 95 trade apprentices and engineering apprentices in Engineering Mathematics and Engineering Drawing were not closely associated. Instructors' ratings of these apprentices on ability (not achievement), test results, and later examination successes showed that Engineering Mathematics was particularly associated with success in an intelligence test, and success in Drawing and more practical subjects with more specialized tests in form relations, space perception and certain tests of mechanical aptitude. These specialized tests showed that for the groups tested, the ability known as spatial judgment was, along with general ability, sufficient to account for the relations between the results obtained. Holliday's follow-up of these and other apprentices in the engineering firm in which he did his work suggests that there is only limited value in statements made by these apprentices on intake, of their interests and hobbies. (It is worth noting that, as in all guidance work, he stresses the need for obtaining far more information about each individual than is given by test results before effective selection can be made.)

Shuttleworth (*Occ. Psych.,* Oct., 1942, Vol. XVI, No. 4), in an experiment with 89 boys in a junior technical school in 1939 (age 13 plus) examined the relationship between a number of tests of mechanical ability, spatial judgment, and intelligence given after entry to the school and a composite mark on all the subjects examined at the end of their first year (Arithmetic, English Essay, Physics, Mechanics, Woodwork, Technical Drawing, Engineering Practice, Practical Mathematics).

He concluded that the boys' first year success could have been better predicted by a brief set of tests in space perception, form relations, reproduction of designs, and tracing, than by the usual academic type of examination by which they were originally selected, even though this included Woodwork and Drawing.

Macfarlane Smith (*Occ. Psych.,* July, 1948, Vol. XXII, No. 3) showed the existence of an ability to handle spatial relationships in a group of 100 Scottish pupils, aged $12\frac{1}{2}$ to $14\frac{1}{2}$ in the first and second years of a Scottish secondary school. Examining the relation between the scores on tests of the ability, and school results in Drawing, Art, Practical Geometry, and Engineering Drawing, he concluded that the test did measure a factor of importance in the successful study of those subjects.

Earle (*Tests of Ability for Secondary School Courses,* 1936, Univ. of London Press) in a detailed study of test results, examination success, and general school performance in a high school in Scotland, concluded (p. 33) that "there are bonds of connection between groups of school subjects which represent abilities of a more or less specialized character and in which there are marked differences between individuals. The strength of these group factors is greater in the third and subsequent years of a secondary course than it is in the first two years".

He prepared special tests called "Science", "Algebra" and "Geometry" which he showed had obvious usefulness in selecting pupils who would show ability in technical subjects sufficient to take them successfully through a three-year course in those subjects.

Allen and Smith (*Selection of Skilled Apprentices for the Engineering Trades,* City of Birmingham Education Committee 1931-1939) used a number of spatial and performance tests, along with a verbal group test of intelligence, and compared these with the ratings given by instructors and teachers of apprentices and senior boys at a central technical college and a junior day technical school. The results of the seven tests of highest predictive value, compared with these criteria, showed 80 per cent. agreement for the college apprentices, and 74 per cent. agreement for the school senior boys. There were 60 third and fourth year apprentices, the average age being 19 years 9 months and 48 senior boys of approximately 16 years.

The latter group was followed up for one year in their industrial employment after leaving school. Their employers' ratings of them as satisfactory and unsatisfactory showed that the test results gave a better prediction of satisfactory work than did the academic entrance examination which governed entry to the technical school.

In a further study with the same test battery (which contains tests of spatial judgment and mechanical ability) with a group of 157 boys admitted to a junior technical school (at age 13 plus) in 1932 and 1933, and followed up for some years, it was found that the results of the tests predicted the boys' success in the engineering subjects at the end of a two years' course better than did the academic entrance examination. The test battery also indicated, better than the academic examination, those who would do well in their jobs after leaving school.

United States of America.

It is not customary in U.S.A. to provide differentiated courses based on aptitudes and/or interest, before the Ninth Grade (age 14 plus) (Third Year Junior High School in a 6-3-3 system, or First Year in a High School in an 8-4 system). Exploration of different pre-vocational fields is usually left until the second half of that year or the beginning of the Tenth Grade. The high schools do, however, provide shop work and a considerable variety of what might be called practical subjects from the earliest years. It is not to be expected, therefore, that the nature of predictive or analytical studies will parallel that so prominent in England at present. An attempt has been made, however, to choose some of the most relevant material from a considerable quantity available.

1. Carter (*Jnl. Genetic Psych.*, June 1928, Vol. XXXV. No. 2.) in a careful analysis of the Minnesota Mechanical Ability Test, academic grades, an Otis test of intelligence, and other scores (subject preferences, etc.) found no evidence of a general factor of mechanical ability in Seventh and Eighth Grade boys in a junior high school, although he did find, in the Seventh Grade group of 100 boys, higher correlations between performance in shop work and sub-tests of the MMAT (.52 plus) than between shop work and academic grades (.42) or shop work and Otis IQ. (.21), and an interest analysis gave correlations of .4 and above with the MMAT and of .64 with shop work.

2. Wittenborn (*Ed. and Psych. Measurement,* 1945, Vol. 5, No. 3) in a later analysis of the data of which Carter's work provided a part, did find, in Seventh and Eighth Grade boys, six separately distinguishable abilities—scholastic ability, spatial visualization, stereotyped movement, manual dexterity, perceptual speed and steadiness. Scholastic ability was measured by two intelligence tests and the correlations of these with the five tests which had the highest components of spatial visualization ranged from .04 to .36, the average being .20. Three of these were .05 and below, and 5 above .25. (We can find no U.S.A. studies other than the last two which relate degrees of possession of spatial judgment or mechanical ability, or a practical bent of mind, to performance of children of ages 10 through 13 in practical activity.)

3. Kelley (*Crossroads in the Mind of Man,* 1928, Stanford University Press) found a spatial factor present in the abilities of both kindergarten and nine-year-old pupils to handle memory for shapes, and turning shapes in imagination.

4. The Thurstones, in their studies of their tests of Primary Mental Abilities, have shown that there is an ability in spatial judgment operating in children as early as 5 or 6 years.

5. Nemzek and De Heus (*School and Society,* 1939. Nov. Vol. 50) reported that they found no usual predictive value in the correlations between tests of mechanical aptitude and the achievement in industrial art courses of 150 boys in Grade Eight in junior high schools in Michigan.

6. Segal (*Ed. and Psych. Measurement,* 1947, Vol. 7, No. 4), working at Ninth and Eleventh Grade levels (Third and Fifth Year high schools), found correlations in these selected groups of .68 between mechanical aptitude tests and success in industrial arts courses (Eleventh Grade—87 cases) and of .50 between a two dimensional spatial relationships test and success in Mathematics and Science (Ninth Grade—57 cases).

7. Clark (*Growing Points in Educational Research,* 1949. The Differentiation of Mental Abilities at Various Age Levels), in a study of the common and specific factors of ability operating at five different age levels (from 6 to 16) in the California Tests of Mental Maturity, which include a test of spatial relations, found that as many factors were necessary to account for the variance at primary and elementary schools as in the high school grade levels. It is not possible to estimate from his data how important the factor of spatial judgment is at the different levels.

8. Wyeth (*Some Implications of the Queensland Proposal to Raise the School Leaving Age,* 1948, Unpublished D.Ed. dissertation, Univ. of California) reviewed a number of studies in which attempts were made to gauge the relationship between success at elementary schools and later studies. In general the correlations reported are of the order of .6 between the scores on tests administered at about age 11 or 12, and success one or two years later in similar junior secondary school work.

9. Garrett and Schneck (*Psychological Tests, Methods and Results,* 1933) and Monroe (*Encyclopaedia of Educational Research,* 1951) both indicate that the median correlation to be expected between tests of intelligence and school performance in U.S.A. schools is about .45 at the most.

10. Stalnaker (*Jnl. Exp. Ed.* Sep. 1951. Vol. XX. No. 1) studied the intercorrelations of certain test results in a Second Year class of 203 pupils in a junior high school in West Virginia, the median age being 13 years 10 months, and found lower correlations between a Paper Form Board Test and measures of intelligence and scholastic achievement, than between these measures themselves, indicating that it was measuring something different from these. (All the correlations, however, were too low for effective individual guidance to be given).

AUSTRALIA.

Comparatively little work has been done in Australia in similar fields.

1. Collman and Jorgensen (1935. *The Prediction of Scholastic Success*) obtained correlations of the order of .55 to .70 between a combination of intelligence test scores and entrance examinations, and school success. The former studied success two and three years later, and the latter success from four to sixteen months later. In both cases the intelligence tests correlated to the extent of .5 or more, and were better as a single predictor than the entrance examinations.

2. Renwick (1942. Unpublished M. Ed. thesis, University of Melbourne), tested three groups—70 pupils in pre-apprenticeship classes (average age 14 years) 85 pupils in Stage 1 of a trade course (average age 16 years 10 months) 100 pupils coming for testing to a state guidance bureau (all in sixteenth year) and found evidence of both an ability in spatial judgment and mechanical manipulation in all three groups.

3. In New South Wales, studies by the Research Office prior to 1947 showed correlations of the order of .75 between IQ, and of .80 between a formal entrance examination in English and Mathematics, and "high school success".

4. A study of the scores on various tests taken at about 14 years 2 months and their relation to prior and later school performance in Queensland metropolitan high schools (Dept. Pub. Instr. Research and Guidance Branch. *Bulletin No.* 1, 1950), showed:

(*a*) correlations between general ability tests and previous school performance of from .41 to .62, and between school performance and special aptitude tests of speed and accuracy, spatial judgment and number, of from .20 to .31;

(*b*) correlations of from .40 to .58 between general ability and subjects taken at the prior scholarship examination;

(*c*) correlations of from .19 to .30 between general ability and the special aptitude tests of speed accuracy, and spatial judgment;

(*d*) that a combination of the prior scholarship examination and a general ability test gave the best prediction of success at the end of the first year in an academic secondary school (though only .68);

(*e*) the spatial judgment test added little if anything to the prediction of success in academic subjects;

(*f*) the best single predictor of success in First Year Shorthand (largely a theoretical study) and of First Year Book-keeping, was the average scholarship mark;

(*g*) success in the industrial course was best predicted by a combination of scholarship mark, mechanical comprehension, and spatial judgment. There were low correlations (av. .14) between academic and practical subjects, and of .40 between academic subjects;

(*h*) the highest correlation after six months at school between the special aptitude test of spatial judgment and mechanical comprehension and the practical subjects, was .23 and the lowest .03. The latter test gave a correlation with Metalwork of .30 in a group of 101 students with no previous Woodwork experience. After twelve months at school the correlations increased so that a correlation of .51 between mechanical comprehension and an average mark on the practical subjects was found;

(*i*) a combination of mechanical comprehension and spatial judgment gave a multiple correlation of .56 with success in the practical subjects of Trade Drawing, Woodwork, and Metalwork. Scholarship marks and a general ability test added nothing to this correlation.

5. In *Bulletin No.* 4, 1951, *Selection for Secondary Education in Queensland,* the results of a study of the predictive value of various marks for success at the Junior Certificate level are reported. This involved some 1,650 children in 28 large metropolitan State schools. Of this group, some 735 children took the examination for the Junior Certificate two years later (16 plus). The aggregate of marks in the Scholarship Examination (taken at 14) proved the best single predictor of Junior Certificate success (correlation about .75 plus). The general ability test correlated .50 with Junior marks.

6. In *Bulletin No.* 5 (1951), figures are reported showing correlations of from .36 to .51 between various practical tests, and the practical subjects mentioned above.

SWEDEN.

Elmgren (*School and Psychology,* 1952. Stockholm) reporting results of a very comprehensive study of intelligence, aptitude and achievement in Swedish schools, reports a number of analyses of test results, etc. Among these, relevant ones which appear justified by various analyses are:

(1) For classes 5, 7 and 8 (possible ages 11 plus, 13 plus, and 14 plus) general intelligence is strongly represented in school work in theoretical subjects—Geography, History, Language, Mathematics, while the practical subjects (Handicrafts, Handwriting, Domestic Science, Drawing) show less connection with it.

(2) For some 400 boys and girls (approximate ages apparently 12-13, and 14-15) in classes 6 and 8 of elementary schools, studied intensively with a battery of tests and associated data (31 variables for Sixth Class and 40 for Eighth Class).

(i) General intelligence was shown to be a fundamental factor in both theoretical and practical subjects in the school, and to be involved in many practical tests; (ii) a strong factor emerged of ability in practical subjects, much more important than general intelligence; (iii) more factors are needed to explain the results in the practical aptitude tests for class 8 boys than for class 6 boys, although this is not so for girls. (There is, however, some loss of weaker pupils between classes 6 and 8, and this may account for the differences.)

(3) The scores on the Minnesota Assembly Test (for some 4,000 boys aged 10 to 15) showed symmetrical and approximately normal distributions at each separate age level. This test he regards as measuring a mechanical-technical propensity—a complex of specific aptitudes. He claims therefore that the curve of development (*ie.,* graph of average scores by age groups) shows the maturing of an "aptitude-structure". The figures he gives show nothing resembling a sudden spurt of ability between any age levels; although Elmgren claims that he considers it "as established that the type of practical aptitude here in question—and that probably also practical aptitude in general—has an extremely complicated course of development, connected with the whole course of puberty, and that the maximum rate of development for boys within the period dealt with by this investigation (9 to 15) occurs between the ages of 15 and 16." (It would in our opinion be more correct to say that his evidence indicates a less rapid growth after age 16. The extent to which this is purely a function of the test is not discussed, but is crucial. Nor can we accept his interpretation that the results show "that growing children are gradually differentiated more and more with respect of aptitude during the period mentioned. The puberty crisis itself brings this development to a climax".)

(4) He divided children into four groups with the following results on the intelligence test and the Minnesota Test:

	Over average in theoretical and practical aptitude	Over average in theoretical, under in practical	Under in theoretical, over in practical	Under in both theoretical and practical
Boys—	Per cent.	Per cent.	Per cent.	Per cent.
10-12 ..	27·2	21·7	21·9	29·3
13-15 ..	29·0	19·8	20·6	30·5
Girls—				
10-12 ..	28·4	22·7	21·0	27·8
13-15 ..	29·8	18·7	20·8	30·4

(5) A sample of the correlation coefficients between variables in his investigations is given below:

Correlations between—	6th Class		8th Class		5th Class	
	Girls	Boys	Girls	Boys	Girls	Boys
	N-120	102	101	80	?	?
1. Intelligence and—						
Minnesota Assembly ..	·31	·17	·22	·13	·31	·11
Term marks—						
In theoretical subjects ..	·49	·55	·40	·49	·62	·45
In practical subjects ..	·36	·44	·19	·21	·43	·14
Space Test	·22	·39	·18	—·09	..	..
Minnesota Form Test ..	·42	·43	·32	·15	..	..
Cox's Models	·51	·44	·43	·41	..	..
Practical Gp. Test ..	·48	·41	·27	·54	..	..
Technical Gp. Test ..	·43	·25	·31	·29	..	..
2. Theoretical and Practical Subjects (total term marks)	·52	·34	·46	·41	·54	·18
3. Practical Test and Technical Test	·42	·25	·30	·24	..	..
4. Minnesota Assembly and—						
Theoretical subjects ..	·20	— ·03	—·13	—·01	·11	— ·02
Practical subjects	·05	·18	·13+	·01+	·16	·14
Space Test	·34	·07	·18	·04	..	..
Minnesota Form Test ..	·40	·32	·15	·32	..	..
Practical Test	·41	·26	—·09	·11	..	..
Technical Test	·29	·16	·01	·34	..	..
Sloyd	..	..	..	..	·26	·16
5. Practical Subjects and—						
Minnesota Assembly ..	·05	·18	·13	·01	·16	·14
Space	·28	·34	·28	·32	..	..
Minnesota Form ..	·28	·48	·19	·32	..	..
Cox's Models	·19	·30	·06—	·21	..	..
Practical Test	·32	·03	·12	·26	..	..
Technical Test	·36	·16	·17	·35	..	..

For Class 5—"attainment subjects" and "extra subjects"—total marks.

Summary and Conclusions.

A careful examination of all the foregoing material seems to us to point irrevocably to one conclusion: viz., that it is impossible, with existing tests or examination procedures to classify children into types at any of the ages mentioned with any certainty. There is evidence certainly that some special aptitudes

of value in successful work in the practical subjects in current secondary school courses, and in technical drawing of certain kinds can be discerned by specially designed tests at the ages of 11 plus and later. The strength of these aptitudes in individual children, their durability under changed educational conditions, and the degree of their importance in total school success are, however, matters on which at present comparatively little is known. The evidence of their existence is in our opinion strong enough to justify measures of them being used along with all available other evidence in advising children at about age 13, about particular courses of study to be followed to reach certain vocational objectives, but far too uncertain to justify any attempt to allocate children definitely to particular courses at 11 plus or 12 plus, or to select children at these ages for particular schools.

Even the evidence available on the prediction at ages 11 plus and later of success in an academic course is not in our opinion sufficient to justify a rigid programme of selection of a particular proportion of children for such a course.

Performance in primary school work is not a sufficient criterion by which to predict success in any of the variety of possible courses which secondary education must offer if it is to be the final formal education for the majority of children. Performance in school subjects associated with measures of general ability special aptitudes and interest, with parents' and children's vocational aspirations, and with teachers' careful assessments of potentialities, provide material from which it is possible to give guidance to children in the choice of particular areas of study in secondary schools. Such guidance is not infallible, and justice to children who are late in developing aptitudes, who have had no opportunity to acquire information about some areas of life study in which they may develop interest, and whose success in other areas may have been influenced by particular features of school, teacher or instruction, can only be given by a flexible organization in secondary education which provides opportunity for variety of courses, for variety of presentation of the same course, and for easy transfer from one course to another.

The Norwood report (*Curriculum and Examinations in Secondary Schools.* 1941, H.M.S.O.) has this to say: "The evidence placed before us and study of the views of those who have already considered similar evidence convince us that special interests and abilities do in fact often reveal themselves clearly by the age of 10 plus or 11 plus, but this is not true of all children; in many instances the cast of mind, not sufficiently manifested by 11 plus, gradually reveals itself in the next two years or possibly later. It would be to the advantage of children whose interests and abilities were clearly revealed by 11 plus that they should at once have an appropriate curriculum; on the other hand it would be wrong to force a particular kind of curriculum upon a child before he had shown that it was suitable for him. Accordingly, any satisfactory plan for differentiating pupils must, in our view, fulfil at least four essential requirements: firstly, it must allow for early discovery of special abilities, no less than for late discovery, with a view to the provision of suitable curriculum and suitable method of treatment; secondly, it must proceed on the assumption that the discovery is dependent upon skilled observation over a period of time which may vary considerably with different pupils and the diagnostic methods employed; thirdly, it must leave room for rectifying of errors of judgment or failure on the part of pupils to fulfil promise; fourthly, it must be carefully thought out without being rigid or mechanical, and must allow within limits for individual choice."

Supplementary Note.

Almost all the more detailed studies in this field indicate that in the so-called "practical abilities" as measured by current tests, girls perform differently from boys. Usually their level of performance is lower, and the factor analyses often indicate that "g" plays a larger part in it than in boys' performance. Whether this is an innate or an environmental difference, no one can say from present evidence. Most of the material used to assess "mechanical proficiency" (or "practical bent") has had a bias towards masculine work—although this does not apply to most of the material used to assess spatial judgment. The educational implications seem to us to be that it is even more risky on such evidence to attempt selection or allocation of girls for so-called practical or technical courses at ages 11 to 13, than it is for boys.

On the other hand, there does appear to be adequate evidence of a greater development of a linguistic factor, and a lesser development of a number or mathematical factor in groups of girls than in groups of boys at the end of primary schooling. It would, however, in our opinion, be as unwise to use these differences to justify different schools for girls, as it is, on the basis of existing evidence on these abilities to justify separate linguistic and mathematical schools for each sex.

THE DEVELOPMENT OF ABILITIES AND THEIR DIFFERENTIATION.

The proper organization of secondary education will depend upon its ability to provide for the different ages, abilities and aptitudes of the children attending secondary schools. It is important therefore to know whether, after the age of 11 or 12, there is a differentiation of ability, aptitude and interest which is sufficient to justify differentiated courses, apart from any such justification that comes from social needs.

We may take it for granted that success in the primary school subjects upon which current secondary courses build—linguistic and number skills in particular—depends almost wholly on the level of general ability the child possesses. Nevertheless, even at later primary school levels there is evidence that some children have pronounced biases towards either linguistic or number work. (The difference in these biases in the secondary stages is in our opinion as pronounced as those between academic and practical, and provides as justifiable grounds for guidance into particular courses as do the latter biases.)

We need answers to the following questions:

(1) After the age of 11 plus does the performance of children in school subjects depend less on general ability and more on special abilities?

(2) To what extent is this due to the present nature of secondary school work, or to other environmental circumstances, and to what extent is it innate?

A considerable amount of work has been done in this field of study. Some evidence has already been presented to indicate that abilities in spatial judgment are present at ages from kindergarten on, and are partly measurable at 11 plus, and that practical ability (mechanical manipulation, etc.) is evident at about age 13 plus.

Burt (*Br. Jnl. Ed. Psych.* June 1954, Vol. XXIV. Part 2) has presented a convincing summary of the major studies in this field of differentiation of general ability, together with some additional evidence obtained by testing the same group of 326 boys at ages 9-10, and 13-14, with nine tests which gave adequate range of response to allow the variability of scores at each age level to be approximately the same. These tests cover general ability, verbal material, spatial judgment and manual ability. His results appear to show quite definitely that special abilities play a much larger part in determining the results at age 13-14 than at age 9-10—although the factor of general ability does not decrease greatly in absolute importance.

There are sufficient other studies, however, giving contrary evidence, to make it foolish to base any form of secondary education on the assumption that these special abilities develop independently of the type of environment, particularly school environment. There is ample evidence that they play a considerable part in the practical work in subjects such as woodwork and metalwork, and are related to practical vocational skills, but quite inadequate evidence to show that their growth is not influenced by the opportunities available for their development and by the social and other incentives to use them successfully. There is if anything evidence from studies made in both U.K. and U.S. Armed Services during the 1939-45 war, that differentiation depends upon length and nature of education and training.

There are no Australian studies from which data can be drawn for this question. We have examined such information as is available in our own and other records on general testing programmes, and find evidence of:

(*a*) The existence of a spatial factor at age 10 and later;

(*b*) no rise in the importance of this factor in the results of comparable test batteries given at ages 10.6 and 13.6 to small numbers of Queensland children, although a verbal factor found at 10.6 increased three-fold in importance in the 13.6 results;

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(*c*) the continued importance of the general factor in an analysis of the results of National Service Trainees on a varied test battery: it accounts for some 60 per cent. of the variance;

(*d*) a spatial-practical-manual factor about half as important as v-ed factor in some 477 boys between 12.9 and 14 in Queensland primary schools.

We can find no records of genuinely comprehensive analyses of the attitudes of primary school children to, and their skills in, a wide variety of the types of material which, in a more advanced form or in more complex arrangements, are presented in the comprehensive test batteries given to older children in studies of this general issue. We are inclined to the view that a carefully devised study might well reveal as diversified abilities at lower age levels as at higher ones. The difference is that, at the upper levels, the materials in which these abilities are apparent are related closely to those in which success or failure is gained in school work or in employment.

We accept the position that both teachers and parents know that children, early in secondary education, do show abilities and interest in some fields and not in others, and that these, if fostered, play an increasingly important part in success in these fields. If they develop, and persist in the presence of opportunities and incentives to development in other either related or unrelated fields, it is a commonsense approach to foster them if they promote the child's personal adjustment to life (which implies that they are socially useful). Obviously the crux of the matter is to provide a child with sufficient opportunities to explore possible fields of interest, of use to him, which his former experiences may have left uncharted and unknown. In our opinion it would be an injustice to any child to assume that abilities and interests, ascertained, however accurately at 11 plus or later, should be used to guide or direct him into a course or a field of studies which would deprive him of the opportunity to develop others which might be equally as strong, or more likely to lead to his successful performance as student or citizen.

While there is much evidence that innate factors play an important part in determining the nature and extent of many of those variations between individuals which are important in school or in working life, it is probably only in extreme cases—either in a high or a low direction—that the innate factors are crucial. The mathematical or musical genius must be regarded as born rather than made, though even such a person requires a favourable environment to bring out his capacities. For the middle ranges of talent in which the vast majority must fall, the level of attainment must be regarded as produced to a large extent by social pressures and by opportunity. It is well worth while for the individual to "know his bent" because the pursuit of it is likely to bring him more satisfaction.

Such considerations, plus the fact that late maturation in any direction seems possible, mean that the arousal of interest and the provision of opportunity for exploration are much more important in the early stages of secondary schooling than any attempt to classify children and segregate them into types.

Again we reiterate our view that it should be the function of the school—and we believe particularly the secondary school—to ensure that before the child leaves formal compulsory schooling, he should have competence in the essential skills of social intercourse, and an adequate introduction to the possibilities of the major fields of employment and citizenship, so that he can properly select for his post-school life those areas in which his abilities and interests have shown him that he can perform successfully relative to his fellows.

APPENDIX B

EVIDENCE PRESENTED BY THE LECTURING STAFF OF SYDNEY TEACHERS' COLLEGE

Section 1

THE PURPOSES OF SECONDARY EDUCATION IN NEW SOUTH WALES.

A. GENERAL CONSIDERATIONS.

The effectiveness of a school system depends on a number of factors, some of which are treated in this Report: the quality of the teachers, the pattern and quality of administration, the range and variety of schools and courses which are available, the type of evaluating system which develops, and the relationships between the schools and the community. But basic to all sound educational development is a clear understanding of the goals towards which all efforts are being directed, linked with an awareness of the nature and needs of the pupils for whom school systems exist. This first section sets down some ideas concerning the functions of the secondary schools of this State.

The central problem of secondary education is the delicate task of reconciling and unifying into a single coherent philosophy two aspects of each pupil's development. Each child lives both as an individual and as a member of a social group, and while the democratic ethos does not demand the renunciation of one's integrity as an individual, it requires of its members an understanding acceptance of the idea that they are members of the group and that their highest fulfilment as individuals is tightly bound up with their willing acceptance of their social responsibilities.

We take the view that while the education of secondary school pupils must be carried out with due regard to the social setting of which they are a part and in which they will live as fully responsible adults, it is primarily as individuals important in themselves that they are educated; they will be better equipped to make a contribution to the welfare of their social group if all their powers have been developed to the limit of their capacity.

At the same time, we realize that the ability to contribute to the welfare of the group does not guarantee that co-operative effort and interest will in fact emerge. In New South Wales, education takes place in a society which is, in large part, democratic. Thus it is as members of a democratic community that secondary school pupils come to school. It is for their present life in such a society, as well as for their life as fully responsible adults, that they are being educated. Democracy is a growing and developing ideal in our country and, while adolescents should be helpful to live in society as it is, they should develop an understanding of its underlying principles, ideals and difficulties, which will make them eager and able to assist in the development of better community living.

The function of the educational process then is to encourage the fulfilment of each individual's aspirations to the highest possible degree, and thus to develop in each, according to his capacity, the power to think, work and act independently; at the same time it is essential to ensure that this individual growth is compatible with the completest possible fulfilment of the aspirations of all.

Education is as broad as life itself, but the school alone cannot achieve the whole education of adolescents. The work of the school should supplement, but not supplant, the influences of such educational forces as the home, the church, the social and athletic club, the press and radio, and the whole life of the community. The school must be aware of the existence and nature of these numerous outside influences, and it must be selective, not all-embracing, in its own functions.

B. Specific Functions.

In the light of the foregoing general considerations, the following more specific aims, which carry implications for organization and method, have been formulated.

I. Each pupil's potentialities for intellectual, physical, emotional, social, and spiritual growth should be given the fullest opportunities for development. This calls for (*a*) adequate guidance services to help each pupil to identify and understand his powers and needs, and (*b*) a variety of curricula and patterns of school organization to cater for all levels of intellectual power and to satisfy a wide range of abilities and interests. The basic criterion for the organization, staffing, and equipping of schools must therefore be the assurance that each child can obtain that form of education which is of most value to him for the development of his abilities and the satisfaction of his interests.

II. No matter what task is in hand at any given time—the development of attitudes, ideals, knowledge, skills, ways of thinking or producing, and so on through the whole range of school activities—pupils should be given competent guidance in developing the ability to work with others in a co-operative manner. In this, the secondary school should be continuing a process which is accepted as standard procedure in any good kindergarten and which should continue through every stage of a child's schooling.

III. On all possible occasions the life and work of the school should link up smoothly with the life of the larger community of which the school is a part. The school, with its systematic and specialized knowledge of the history and structure of modern society, is able to supplement and render more meaningful the informal teaching about society which children receive in their homes, from the radio, press, and elsewhere, and can help them to interpret their experiences outside the school.

IV. Since the democratic attitude implies a sympathy with and an understanding of people of other communities, it must be a constant concern of the secondary school to lead pupils to a knowledge, not only of our own society, but also of societies other than our own. A knowledge of people of other countries and an awareness of their problems, and of the deeper tensions operating in the modern world of which we form an integral part, is of vital importance. In particular, the language, economic problems, ideologies, aspirations and fears of the people of Asia and South-East Asia are major concerns to the Australian community.

V. We have already pointed out that the pattern of organization and range of courses offered within a school should derive from an understanding of the needs of the pupils for their personal and social development. It follows that while educators must be constantly aware of the demands made upon the school by outside academic, professional, industrial, and other groups, and must give these demands sincere consideration, they will yield to them only so far as the needs of the pupils make this desirable and the selective nature of the school permits.

VI. The methods of teaching employed will, as far as is compatible with a given pupil's capacity, give every opportunity for developing the power to think clearly and critically, in order that adolescents might become increasingly effective in the many choices they will have to make, if they are to exercise both the freedom and responsibility involved in living in a democracy, and if the culture in which we live is to be preserved and improved.

VII. We have already stressed (III. and IV. above) the importance of giving secondary pupils the opportunity to learn about the development, structure, and problems of our own and of other societies; a clear curricular implication is that every secondary pupil must be given the opportunity to pursue studies in the social sciences and in general science. We have also stated (II. above) one methodological implication of our concept of the social function of the school: the idea of group attacks on problems of common interest. We want to state clearly, however, that the

notion of immediate social relevance is not the only criterion for the inclusion of studies and the choice of method. We would push to its logical conclusion the idea of providing for individual differences of capacity and interest by insisting that just as provision must be made for the boy who finds his satisfaction in doing a craftsman's job in woodwork, or for the girl who finds hers in a course in homemaking, so the fullest provision must be made for the adolescent who finds his satisfaction in an advanced study of literature, foreign languages, physics, or mathematics; and such studies being undertaken, they must be pursued to the highest levels of scholarship of which the student is capable. We see no incompatibility between high standards of scholarship and a social philosophy of education. Intellectual mediocrity and a suspicion of learning are the very negation of democracy.

C. Problems.

In the process of thinking about the purpose of secondary education, it is obvious that many statements made must be value-judgments. Nevertheless, even in attempting to state a philosophy of secondary education, we have become aware that on some subjects there does not yet exist sufficient knowledge of all the facts to enable us to make assertions with complete confidence. In some cases, this happens because there are problems on which insufficient research has been done; in others, research has been done but the findings are scattered and may at present be located only in research theses in University Departments of Education, Psychology, and Anthropology, or in reports prepared by the research sections of State Departments of Education, and elsewhere. We therefore suggest, at relevant points in the Report, problems which might form subjects for pieces of original research, or for a number of synthesizing studies to bring together material now scattered and not easily available.

(1) We have accepted the notion of the social responsibility of the schools. Precisely what is the structure of society in New South Wales, and what problems will young people face when they take their full place in it? What identifiable groups exist, and what is the nature of the relations between the groups and/or tensions within the groups? Which elements of our culture are static and which are changing? What are the important factors which are causing changes?

(2) If we know the answers to the questions in 1, can we state clearly the knowledge and attitudes which will contribute most to happy and socially useful living in our community? Are there any factors peculiar to New South Wales society which warrant the formulation of educational aims different from those which are valid for other democratic societies?

(3) We agree with the principle that the school should supplement, but not supplant, the functions of other agencies. What are the educational contributions actually being made by these other agencies in New South Wales? To what extent are the beliefs and attitudes of adolescents being influenced by agencies other than the school? Are there different answers from different parts of the State? By what methods might other agencies be stimulated into further contributions?

(4) Having answered the foregoing questions, is it reasonable to assume that the function of secondary schools would be the same in all parts of the State; in any given place, to what extent would local problems call for a statement of functions specific to that place? What functions are common to all schools?

(5) In V. above we drew attention to possible demands by interested groups, and we are satisfied that such demands are being made. But there is need for careful investigation into the exact nature of the pressures being brought to bear on secondary schools by outside agencies —Universities, industry, the commercial world, and so on. To what extent are their demands valid?

Section II

THE NATURE OF THE SECONDARY SCHOOL PUPIL.

While clear aims for secondary education are fundamental to its true development, the nature of the pupils who are to receive this education must be well understood if the aims are to be realized in full. During recent years the study of the physical, intellectual, social, moral and spiritual characteristics of children of school age has received close attention from specialists in these aspects of growth and development, so that there is now a considerable body of well attested information concerning these matters. We propose to refer but briefly to the principal findings of these studies, in so far as they have relevance to a discussion of needed reforms in secondary education in New South Wales.

First to be noted is that the young person of school age cannot be described in general terms which apply to the whole period of years 12+ to 18. The characteristics change with the age of pupils and these changes carry implications for a pupil's various activities during school life—work, methods of teaching and learning, social and other activities—as well as for his potential growth as a human being. As a human, he has the distinctive aspects of great intellectual development, growth of physical skills, moral and social development and spiritual aspiration and growth.

Physical Characteristics.

The unevenness of growth during this period often leads to physical awkwardness and to self consciousness. Glandular changes sometimes bring a degree of imbalance which may be reflected in emotional instability and conduct problems.

The principal implications of their physical characteristics for the education of school children would seem to be relevant for health and physical education; with emphasis on food (food values, diet, supervision of school tuck shops), on all round staff co-operation in matter affecting health (cleanliness, recognition of postural defects, limitation of homework, etc.), on regular medical and dental inspections, on the need for fitting the physical needs of pupils, as well as gymnasia and playing fields, and on the desirability of educating parents to an understanding of these characteristics and their implications.

Intellectual Characteristics.

The pupil of secondary school age is gradually approximately his maximum intellectual power; those of lower academic endowment may reach their maximum early in the teens, those of higher academic endowment continue to develop during this stage. But all increase in intellectual power is at a gradually decreasing rate (up to certain age). With the approach to the stage of maximum mental power go a growing span of attention and power of concentration; but generally a pupil's experience is inadequate to meet the demands of his mental power.

A feeling of inadequacy can grow on pupils who, approaching their maximum mental power, are faced with increasingly abstract or complex academic work; and this often results either in a greater working effort on the part of a pupil, perhaps at the cost of health or other interests, or in declining interest and motivation, bad conduct, neglect of work, and perhaps in a desire to leave school.

During this period a pupil's intellectual needs develop from those characteristic of his earlier teens (relating to his understanding of life and its purpose, of sex in a simple way, of success in present activities) to those characteristic of the later years (interest in matters beyond his environment, study for its own sake, interest in world movements, an awakening idealism).

The implications for secondary education of such intellectual characteristics are clear and direct. Pupils of limited mental power will stay with studies or stages of a subject which remain at the concrete level, while those more highly endowed will range up to more complex subject matter, and will be ready to think in terms of concepts and generalizations. And so variety of curricula must be provided for them.

The combined teaching experience of the members of staff of this College represents a rich and varied range of first-hand observations in many types of schools. Many lecturers have taught in country secondary schools which are multi-lateral in type; some have taught in private schools which cater for a wide range of abilities and interests. This experience, combined with the

philosophy of education outlined in the first section of this Report, leads a majority of staff to state the hypothesis that a considerable growth of multi-lateral secondary schools is desirable in the city as well as in the country.

The observations of members of staff who have taught in non-selective country secondary schools indicate that pupils in these schools develop a healthy spirit of co-operation, a readiness and ability to participate with ease in the whole social life of the school, and an acceptance of pupils of all ability levels into all aspects of the life of the school; all these things we regard as highly desirable. However, we realize that these developments may be due in part to a number of factors outside the multi-lateral organization of the school. The fact that all secondary pupils of a given area attend the same school, thus eliminating any status-distinctions between different types of schools would undoubtedly be one important factor; the home and community environment in which country children live would also be powerful factors in their social development; it may also be that staffs of country schools encourage and assist pupils to participate in extra-curricular activities which develop a healthy social attitude, to a greater extent than do their colleagues in the selective city secondary schools.

Realizing that there are many factors involved, we would recommend that carefully planned and controlled experimental work should be carried out to test the hypothesis that the multi-lateral secondary school is the type most likely to fulfil all the functions of secondary education which we have outlined. We therefore recommend that, in one or more areas where at present entrance to secondary schools is on a selective basis, secondary schools be set up, each of which would enrol all the pupils of secondary age of the area concerned. Within these experimental schools all forms of secondary education should be available, with the curriculum organized along the lines suggested in the next section of this Report. In the course of the experimental period, which should extend over at least five or six years, constant evaluation would need to be made of the development of pupils within the experimental schools and careful comparisons would need to be made between their development and that of matched pupils in segregated secondary schools and in country multi-lateral secondary schools. Many aspects of development would need to be studied, and an attempt made to answer a number of questions, such as:

(*a*) Is there any significant difference between the intellectual growth of matched pupils in the three types of school?

(*b*) What can be said about the personality development of pupils within the experimental schools, compared with pupils in the other types?

(*c*) What is the attitude of parents, and the community generally, towards the experimental schools?

(*d*) What is the optimum number of students in such a school?

All this would involve long-term, careful observations by skilled workers, using—and perhaps developing—a wide range of personality inventories, rating scales, standardized achievement tests; there would have to be surveys of community opinion, and of the judgments of teachers in the experimental schools.

Such an experiment, carefully carried through, could become as significant for Australian education as the Eight-Year Study was for the United States.

Types of schools apart, variety of curricula imply variously trained teachers and the use of a variety of teaching methods. Provision for success in learning, guidance in choice of studies and in meeting difficulties, are procedures as essential as those relating to the teaching of the school subjects. Guidance may be general, as from a teacher, or specialized, as from trained psychologists and counsellors, in cases of special need.

Where a child has a mental (or physical) defect the school should help him to accept the limitation he must live with and to make the most of the powers he has, absorbing himself in developing and satisfying activities.

SOCIAL CHARACTERISTICS.

Pupils differ in their social maturity at different ages, and there is a distinct difference between the social maturity of girls and boys in the early teens—girls being the more mature by one or two years at the age of 14 or 15 years. The younger pupils seek approval and acceptance by the group and will identify themselves with a group (class) showing a wide range in physical, intellectual and other characteristics. Older pupils are more discriminating in their social loyalties, resulting in social cliques within a class and in groups interested in special activities—sport, music, religion, politics, etc. A few remain aloof, absorbed in special interests and activities, among which may be deep concentration in some intellectual pursuit.

In school, opportunity needs to be provided for the pupils' realization of these general characteristics at the appropriate ages. It is here that wise guidance by a competent form teacher is of especial significance—guidance towards social maturity of those who are awkward or shy or aggressive, and, for all, towards good pupil-teacher relationships based on increasing responsibility being granted to the pupils as they grow older. However, it is increasingly the practice to make provision in the curriculum or through extra-curricular activities, for social development. Every subject can contribute its share to the development of thought, attitudes and ideas which are in themselves important factors in the development of social awareness. The curriculum should provide for a great variety of status-giving roles for pupils; the methods of teaching should include group activity and discussion; and emphasis should be placed on preparing a pupil for responsible acceptance of his place in society.

No doubt this social aspect of education provides the clearest argument in favour of co-education in secondary schools; though doubtless other forms of organization could be devised to meet this need, *e.g.*, the location of boys' and a girls' secondary schools sufficiently close together to enable desired social activities to be shared.

Moral characteristics are so much a matter of environment and training that they can hardly be described in terms of typical characteristics. There are moral implications in the facts of intellectual and physical development in the adolescent stage. The features of these developments bring greater possibilities or problems to different children. Teachers need to understand this, to enable children to mature soundly and safely.

Progress in moral development is more likely to be made if the school as a whole plans to work towards objectives than if only incidental development is involved. Subject matter, methods of teaching, school life situations, and social opportunities may all contribute to this development. The objectives to be kept in mind include the development of sound values, of moral courage, of the habits of basing decisions on sound information, of accepting responsibility and of distinguishing between one's rights and duties.

Somewhere within the secondary school course it would seem desirable to include a survey of the history and doctrines of the major religions of the world.

Section III

THE CURRICULUM AND SCHOOL ORGANIZATION.

The factors reported in the previous sections of this Report find expression and fulfilment mainly through the types of curricula which are provided for secondary school pupils, but also to some extent through the types of schools which are established.

A. Organization.

As already pointed out, a strong majority of staff favours an extension of co-educational, multi-lateral schools at the secondary stage, for reasons of equality of opportunity, and of social development, and because such schools, drawing pupils from a limited geographical area, can expect to receive strong local support from their communities. Furthermore, the staff favour a school so limited in numbers (700 to 750 pupils) that it remains a coherent and manageable unit, though large enough to offer a full range of alternative courses. The school building would have the following rooms and facilities besides class-rooms: gymnasium, library, auditorium, cafeteria, laboratories, craft rooms, workshops, music room, art studio; in addition there would be adequate playing fields and grounds for special purposes (*e.g.*, agriculture or horticulture) appropriate to the kind of work offered in the curriculum.

However, a number of us who would not favour that type of school alone feel that variety, rather than uniformity, should be characteristic of our democratic institutions.

We all favour the raising of the school age to provide a minimum of four years of education beyond the primary school stage, and generally this would mean to 16 years: and a strong majority favours the extension of secondary education for a further two years in the same school for those pupils who wish to stay on at school, and for those who seek admission to a tertiary institution.

At the end of the compulsory four-year period pupils would take a general Leaving Certificate examination, a pass in which would signify satisfactory completion of a course of general secondary education. The examination at the end of the six-year period of secondary education would be linked with matriculation, and generally with the requirements of the next stage of education. Some members of staff hold the view that the organization of the higher secondary stage could well be the subject of some experimentation, especially since there are likely to be schools in some country areas where there would be insufficient pupils enrolled in the last two years of the course. Those pupils who complete satisfactorily one full year of study beyond the general Leaving Certificate stage should have their certificates endorsed accordingly.

The experimentation referred to in the previous paragraph would be concerned with the problem of establishing some form of junior college, which, for many pupils, could serve as a transition stage between secondary school and tertiary institution.

B. Curriculum.

We propose a reorganization of the curriculum so that, starting from a first year of studies common to all pupils—a kind of orientation year to secondary studies—the schools would offer in later years increasing opportunity for pupils to elect subjects suited to their needs and interests; with the increase in time allowed for elective subjects there would be a corresponding progressive reduction in the number of subjects prescribed for all pupils. The electives, as they are generally called, would fall into the following groups—(i) Academic, (ii) Agriculture, (iii) Commercial, (iv) Fine Arts, (v) Home Science, (vi) Technical.

Table I. shows the general structure of the proposed courses, while Table II. gives a more detailed statement of the way in which the courses might be worked out in practice.

C. Notes on the Orientation Year.

The notes in this and the next section refer to the subjects listed in Tables I and II.

I. *English* (*inc. Library*).

The English Course should:—

(1) Develop the standard of proficiency reached in the use of functional, utilitarian English (*i.e.*, for communication and general intercourse), through

(i) training in speech,

(ii) training in spoken English,

(iii) training in listening,

(iv) training in the writing of English for communicative and creative purposes (attention being paid to Usage and Grammar for their practical importance),

(v) the use of books.

(2) Promote and guide the study and appreciation of literature.

II. *Language.*

A special course to introduce children to the study of language, French, German or another, preferably European. The course would be mainly oral with enough written work to fix necessary language forms. The language work would be integrated with study of the foreign people. This course should act as a guide in determining language possibilities of pupils in second year.

III. *Mathematics.*

1. Arithmetic:—Complete the instruction started in the primary school, in the fundamental skills of Arithmetic with integers, vulgar fractions, decimal fractions, percentage fractions and mixed numbers. The central purpose of the orientation year should be to solve problems, as closely related to the pupil's life as possible, which use these fundamental skills of Arithmetic.

2. Algebra:—Generalized Arithmetic, simple problems and formulae.

3. Informal Geometry—of the plane and space.

IV. *Social Science.*

(*a*) *Social Studies.*

The purpose of this course is to study human communities in various parts of the world: their historical setting, the nature of their environment, the relationships between their environment and occupations, their social organization and degree of technological development.

Considerable emphasis will be placed on study of the pupils' local community aiming at interesting them to participate in community life.

V. *General Science.*

The course would aim at making pupils familiar with the work of Science in everyday life. Suitable central themes should enable the teacher to treat related aspects of Chemistry, Physics, Biology, Geology, Astronomy or other Science necessary to the understanding of the subject. Separate studies of these strands would be avoided, the aim being to integrate them as far as possible.

Practical work and activities inside and outside the classroom would help to develop pupil participation in the work and their appreciation of the part played by Science in their own community and the world in general.

Table I

PLAN OF PROPOSED CURRICULUM TO LEAVING CERTIFICATE

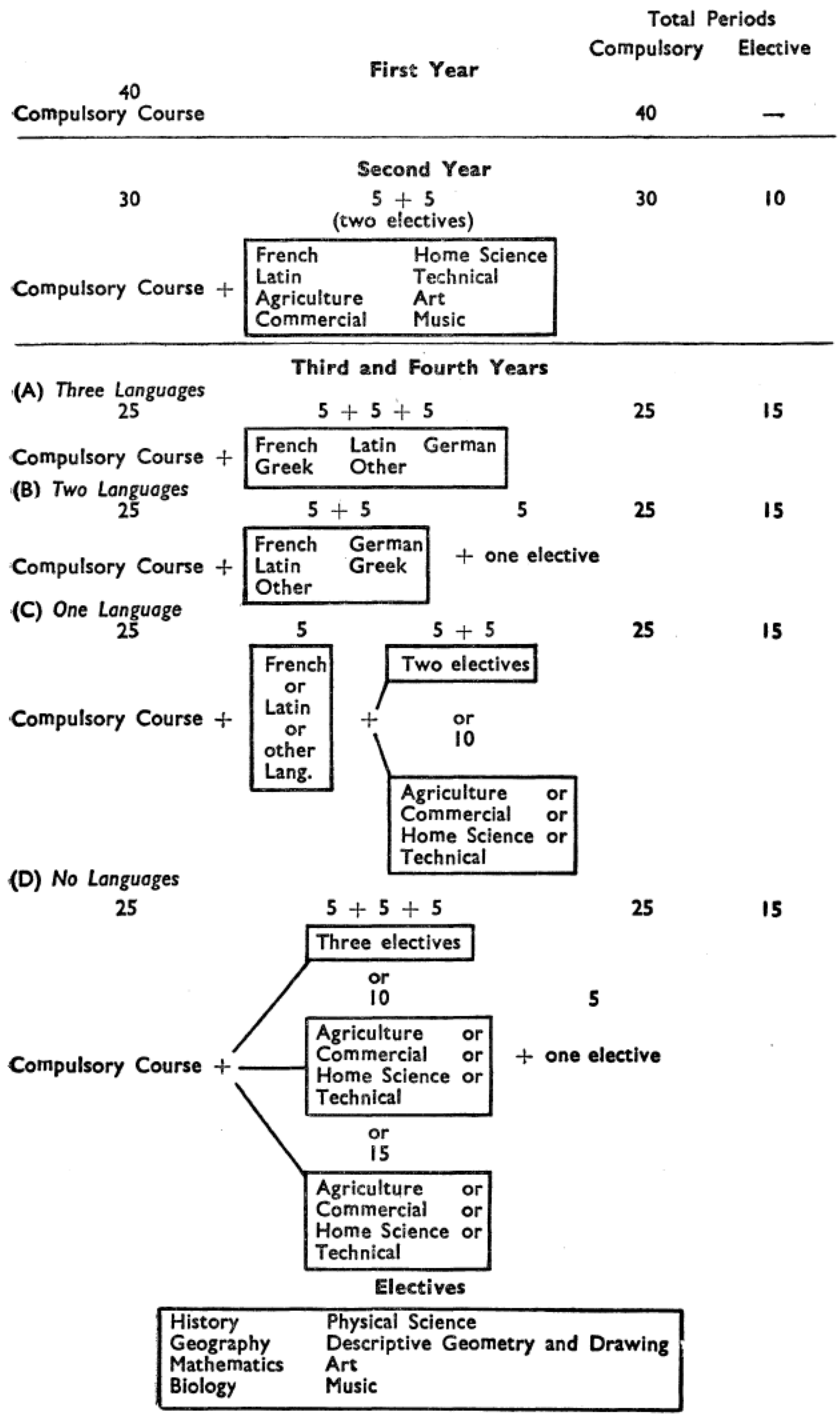

Table II—PROPOSED CURRICULUM FOR SECONDARY COURSE OF SIX YEARS

(Plan based on assumption of School Week of 40 Periods of 40 Minutes each)

FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR		SIXTH YEAR	
No. Subject	Per	Subject	Per	Subject	Per	Subject	Per	Subject	Per	Subject	Per
1 ENGLISH Incl. Library	6	ENGLISH incl. Library	6	ENGLISH Incl. Literature and Library	6	ENGLISH Incl. Literature and Library	6	ENGLISH	5 or 6	ENGLISH	5 or 6
2 ELEMENTARY LANGUAGE	3										
3 GENERAL MATHEMATICS	5	GENERAL MATHEMATICS	4	GENERAL MATHEMATICS	4	GENERAL MATHEMATICS	4				
4 SOCIAL SCIENCES. (*a*) Social Studies	5	SOCIAL SCIENCES: (*b*) Geography	4	SOCIAL SCIENCES: (*c*) History	4	SOCIAL SCIENCES: (*d*) Social Education : Economics, Law & Govt. El. Sociology El. Soc. Psych.	4				
5 GENERAL SCIENCE	5	GENERAL SCIENCE	4	GENERAL SCIENCE	4	GENERAL SCIENCE	4				
6 PHYSICAL & HEALTH EDUCATION	5	PHYSICAL & HEALTH EDUCATION	4	PHYSICAL & HEALTH EDUCATION	3	PHYSICAL & HEALTH EDUCATION	3	PHYSICAL & HEALTH EDUCATION	3	PHYSICAL & HEALTH EDUCATION	3
7 ART	2	ART or	2	ART or		ART or					
8 MUSIC	2	MUSIC		MUSIC or		MUSIC or					
		ENGLISH LITERATURE	2	ENGLISH LITERATURE or	2	ENGLISH LITERATURE or	2				
9 HOME SCIENCE	4	HOME SCIENCE	2	HOME SCIENCE or		HOME SCIENCE or					
10 MANUAL ARTS		MANUAL ARTS		MANUAL ARTS		MANUAL ARTS					
11 GUIDANCE	1	GUIDANCE	1	GUIDANCE	1	GUIDANCE	1	GUIDANCE CLUB ACTIVITIES	1	GUIDANCE CLUB ACTIVITIES	1
12 CLUB ACTIVITIES	1	CLUB ACTIVITIES		CLUB ACTIVITIES		CLUB ACTIVITIES					
13 RELIGIOUS EDUCATION	1	RELIGIOUS EDUCATION	1	RELIGIOUS EDUCATION	1	RELIGIOUS EDUCATION	1	RELIGIOUS EDUCATION	1	RELIGIOUS EDUCATION	1
TOTAL	40	TOTAL	30	TOTAL	25	TOTAL	25			...	
		Plus 2 Electives (5 Periods each)	10	Plus (A) or (B) or (C) or (D)	15	Plus (A) or (B) or (C) or (D)	15	**Plus 5 or 6 Subjects**		**Plus 5 Subjects**	

from as full a range as can be provided and having regard to university matriculation requirements. Some grouping of subjects to guide selection may be desirable.

FRENCH, LATIN, AGRICULTURE, COMMERCIAL, HOME SCIENCE, TECHNICAL, ART, MUSIC

(A) THREE LANGUAGES — FRENCH, GERMAN, LATIN, GREEK, OTHER — (5 + 5 + 5)

(B) TWO LANGUAGES — FRENCH, GERMAN, LATIN, GREEK, OTHER — (5 + 5) + One Elective (5)

(C) ONE LANGUAGE — FRENCH, GERMAN, LATIN, GREEK, OTHER (5) + Two Electives (5 + 5): AGRICULTURE or HOME SCIENCE or COMMERCIAL or TECHNICAL (10)

(D) NO LANGUAGE

(*a*) 3 ELECTIVES (5 + 5 + 5)

(*b*) AGRICULTURE or COMMERCIAL or HOME SCIENCE or TECHNICAL (10) + One Elective (5)

(*c*) AGRICULTURE or COMMERCIAL or HOME SCIENCE or TECHNICAL (15)

Electives Third and Fourth Years

History	Art
Mathematics	Geography
Physical Science	Biology
Descriptive Geometry and Drawing	Music

VI. *Physical and Health Education.*

This course should provide for all pupils a varied programme of activities suited to their sex and physical ability. There should be active participation under suitable conditions in (*a*) gymnastics, (*b*) dancing, (*c*) major games, (*d*) swimming, (*e*) camping or other extra-curricular activity.

Health teaching should include such subjects as:

(*a*) Need for adequate nutrition and rest,

(*b*) value and need of physical exercise and recreation,

(*c*) suitable clothing,

(*d*) personal hygiene,

(*e*) good posture.

VII. *Art.*

At this initial secondary stage the child should be given the opportunity to explore, experiment, find his own creative power and be able to say, "I did that". He should have approach to all manner of mechanisms, tools, and materials. The teacher should primarily be a guide to the child in his development and a close observer of his needs. Art teaching should provide for activity and experience.

VIII. *Music.*

The general course of music should be designed to encourage active participation in choral and instrumental work with an emphasis on sharing performance with the rest of the school in intra-mural concerts, on formal occasions or in seasonal festivals. Intelligent listening to broadcast and recorded music could be fostered through guided "listening" activities, participation in music projects, class lecturettes, etc. Growth of music and contribution of suitable composers could relate to the attendance at school concerts organized by the A.B.C. and other groups.

IX. *Home Science.*

The purpose of this Home Science Course is to:—

(1) Meet the needs of the pupil as a family member.

(2) Give an indication of the contribution of the future study of Home Science as a preparation for homemaking.

This will necessitate some elementary knowledge and understanding of the scientific, economic, artistic and psychological principles of homemaking as well as some basic training in homemaking skills.

Areas of study will include:—

(1) Meal planning involving studies in nutrition, foods and their preparation.

(2) Home management, including housecraft, home decoration, economics of household and needlework, and family living. Integration of the various areas is essential.

X. *Manual Arts.*

In the Orientation Year, opportunities should be provided for pupils to undertake exploratory work in as wide a range as possible of the old-established crafts, and to learn something of their history. The approach to the teaching of the various sections of the subject should be one that encourages creative activity, independent thought and the exercise of initiative without neglecting the acquisition of desirable techniques. The courses should be so organized that it is possible for all pupils—boys and girls alike—to gain experience in at least two sections of the subject. For girls, it is recommended that one of these should be Needlecraft. Sections of the subject for inclusion at this stage might be: Bookcrafts; Printing; Basketry; Weaving; Needlecraft; Leathercraft; Pottery; Woodwork; Metal work; and Puppetry.

XI. *Guidance.*

The work covered in this field represents something new and is intended to supplement, not supplant, the present guidance system in operation in the schools. It would aim at giving help in study methods particularly at the outset of the secondary course and at giving each pupil a complete view of the secondary school life and structure. Guidance would be needed in the selection of courses, particularly at the beginning of each year. Pupils would be made aware of the requirements for university entrance and those for other tertiary institutions. It would assist the teacher to get to know his pupils and to discover those who need assistance of a more specialized nature.

XII. *Club Activities.*

This period will be devoted to activities involving the class as a community. It would draw largely on the pupils' suggestions and initiative and could link with project work. There would be emphasis on school citizenship and civic responsibilities; there would be practice in self government. Visits in and out of school would provide wide and varied experiences and relate curricular and extra-curricular activities.

XIII. *Religious Education.*

No fundamental change from the existing system is envisaged. It is desirable that the religious education in schools be given by the ministers of religion. It is recommended that efforts be made to improve this work by:—

(1) Provision being made by the various churches for special training of their ministers.

(2) Better organization and facilities in the school.

D. Notes on Other Years.

Specialization in academic electives (except languages) is not desirable in Second Year. A plan for education for better social living must of necessity provide opportunities for gaining experiences in a wider field of subjects. A little depth may be sacrificed for breadth at this point. The depth will soon be made up in the four years following. Mathematics, for example, would have 9 periods for each of these four years and if more specialization were desired periods could be increased in Fifth and Sixth Years by having as electives both Mathematics I and II.

Languages must be possible as electives in Second Year because:—

(*a*) they are not included in the compulsory courses, and

(*b*) it is necessary to find those who are adapted to study them in the third and successive years.

Pupils in Second Year continue with the compulsory courses for 30 periods per week. This provides 10 periods for electives so that a pupil may attempt two of them. Reference to the list of electives will show that these may have a slight vocational bias while the ordinary academic electives, except languages, are all held over until Third Year.

All pupils coming into Third Year may change their electives completely if they wish in the light of their experience in Second Year. This can be done, too, without dropping behind other pupils in any way. This means that Second Year is still providing "orientation" and pupils are not committed to the courses finally until they enter Third Year. Specialization, therefore, does not really begin until Third Year (average age 14+).

In Third and Fourth Years the compulsory course is reduced to 25 periods, leaving 15 periods for *three* electives, providing for varying degrees of specialization. Every pupil may confine his electives to the ordinary academic subjects or he may choose from the special electives which have some vocational bias. Should he choose the latter it is hoped that with 15 periods per week for two years he could achieve a useful standard of proficiency when reaching the Leaving Certificate, enabling him to gain satisfactory employment in his chosen field without further study from specialist colleges.

For convenience courses have been divided into:—

(1) Three languages.
(2) Two languages.
(3) One language.
(4) No language.

Reference to the Tables I and II will show how these are organized.

The choices given here should provide for pupils of very varying abilities and tastes. It should also be possible for any pupil to enter Fifth and Sixth Years if he wishes.

Every effort has been made to provide for the very bright pupils, those of average ability and those not so bright from the academic point of view but who may find suitable avenues for progression in the more practical courses. At the same time it is hoped that all will receive a general education that will enable them to live their lives with purpose and satisfaction to themselves and to the society of which they form an integral part.

E. Methods of Teaching.

The manner and spirit in which a proposed course of study is taught is as vital to success as is the new content itself. In view of this we have thought fit to present in the preceding "Notes" some suggestions on method which should in themselves reflect what we have already stated regarding our aims and the nature and needs of the pupils.

Our opinion is that great profit for pupils will result from replacing the more formal type of lesson, in which they are mainly passively receptive, by a variety of lesson procedures in which they are active participants. Such variety can be achieved by the use of discussion; by the carrying out of experiments and giving practice in recording (in his own words or by drawing diagrams) the information resulting therefrom; by lecturettes and debates; by the use of projects, and especially in presenting the end results of a project; and by the organization of some parts of the course in units. Out-of-doors work, necessary in Biological and General Science, but equally desirable in Mathematics and Geography, should be undertaken as a matter of course in the school grounds or near neighbourhood; and an extension of it, by means of excursions, should be encouraged in connection with History, Social Studies and other relevant subjects. Such excursions may become the occasion for the co-ordination of parts of the programme of work in different subjects, though this co-ordination will best be done by the form teacher or other teacher who has the responsibility for teaching several subjects, especially in the earlier years. The occasion for co-ordination and the use of a variety of methods will almost certainly arise in attempting to solve some problems.

Section IV.

EXAMINATIONS.

The re-organization of secondary education recommended in the Report would mean that for most secondary pupils the final examination would occur at the end of the fourth year. We feel, that at that point, an examination of a type different from the present Leaving Certificate is required; further, it is the opinion of this Staff that such an examination should be mainly of the internal type; it would not be acceptable for university matriculation and therefore would not be dominated by university requirements.

The Function of Examinations.

The present Leaving Certificate attempts to serve too many purposes, and therefore carries out none really effectively. It is used—

(*a*) as a major factor determining the award of scholarships of various kinds;
(*b*) to qualify students for matriculation;
(*c*) to select students for different vocations;
(*d*) to indicate the extent to which a student has profited from secondary education.

While there is some support for the view that the Leaving Certificate could fulfil all four functions satisfactorily, it is agreed by all that the prime function of a major secondary examination should be to assess the general academic quality of a student resulting from secondary education. This statement refers to the examination at the end of the general four-year course advocated elsewhere in this evidence, or to any other universal examination which may be held. Presumably any further and later examination, such as that recommended at the end of a sixth year of secondary education, will be influenced by matriculation and other external requirements.

KINDS OF EXAMINATIONS DESIRABLE.

Ideally a system of internal tests allows greater freedom for teachers to vary their teaching procedures, to cater more adequately for student interests, and to adapt their courses to local needs and conditions. It also makes possible a progressive and reliable evaluation of student performance. To establish such a system would then be the ultimate aim, but it would have to be developed carefully, and teachers would need to make their assessments with considerable skill, and in order—

(*a*) that their assessments would carry weight with the community generally and with employers and parents in particular, and

(*b*) that their system of assessments conformed to sound principles of measurement.

We consider the procedure recommended in the Fyfe Report worthy of investigation and trial for general leaving certificate purposes.(1) This is a combination of internal examinations and a process of standardization based on a uniform external test to which all candidates are submitted. The proposed external test, which need not be very long, contains numerous short-answer type questions on the "minimum essentials" of a secondary course, and deals with facts, principles, skills, and reasoning processes which would be included in any sensible programme. The average mark and the spread of marks of an individual school's candidates in this uniform test are then used to scale the school's own assessment of its students; the school's order of merit is retained.

This method would not necessarily obviate cramming and coaching in the "minimum essentials"; but as the fate of any student is not so definitely dependent on a single external examination, there should be greater flexibility in teaching, greater freedom from strain, and more reliable assessments.

Students who have completed four years of secondary school should be eligible for a school certificate based on internal assessments. To achieve some uniformity in the issue of such certificates we recommend that an accrediting committee be appointed. This committee might be made up of representatives from the secondary inspectorial staff and from private and Departmental secondary schools. Such a committee might also assist in co-ordinating assessments at the general Leaving Certificate level.

NUMBER OF SUBJECTS IN FINAL EXAMINATION.

We believe that the existing limitation to *six* subjects of the Leaving Certificate leads to an undesirable restriction in the Fourth and Fifth Year courses followed at present in the secondary schools. If the primary purpose of secondary education is to fit the child to live in his environment, and to develop his qualities and capacities, and only in the second place to serve as a basis for later specialization directed towards his chosen vocation, then, within limits, the wider the course followed in the secondary school the better.

This staff advocates elsewhere a general four-year course, followed by two years of greater specialization leading to tertiary education or a special career. However, as long as the present Leaving Certificate is retained, undue specialization may be avoided by increasing the permissible subject load to seven; by re-arranging the grouping of subjects; or by making it possible for a student to pass in different subjects at successive years, and to be credited with all such passes. More than one of these plans might be followed.

CONTROLLING BOARD FOR SECONDARY EDUCATION AND EXAMINATIONS.

An examination is a link between one stage of life and another, and the course of study for an examination is, among other things, a preparation for the next stage of living. It follows that the body which is ultimately responsible for courses and for final examinations should be representative of both the stage where the preparation takes place, and the stage for which the preparation is made.

(1) Scottish Education Department, *Secondary Education.* His Majesty's Stationery Office (1947), Chapter VIII; in particular, pp. 47-49.

The courses of study in secondary schools lead to further stages of living—commerce, industry, the university and other tertiary educational bodies, and living generally. The present Board of Secondary School Studies has representatives of the Education Department, the University, and secondary schools public and otherwise. To give voice to other interests there should be representatives of commerce, of industry, and of the home. The original recommendation by the Committee established for the purpose of setting up a Board in 1933 was that the Minister should nominate such representatives. It is our considered opinion that this should be done; further, that the present University representation of five members is excessive.

Such a re-constituted Board might well be concerned with all phases of secondary education.

We are strongly of the opinion that examiners appointed by the Board to conduct the external test at the general Leaving Certificate level should be officers who are in close touch with the work of the secondary schools.

NATURE OF EXAMINATIONS.

The following recommendations, both for internal and external examinations, are made:—

(*a*) There should be an attempt to test understanding of principles and ability to apply knowledge rather than to test knowledge of isolated facts. This should tend to broaden the curriculum.

(*b*) Practical and oral examinations should be held in all subjects or sections of subjects where this is practicable.

(*c*) No examination paper should exceed two hours in length.

(*d*) More use, than at present, should be made of the short-answer form of question, in order to cover a wide sampling of the course being tested, and to reduce the time both of answering the paper and of marking it.

We are of the opinion that English Expression should be the only compulsory subject at the Leaving Certificate level.

Section V.

THE STAFFING OF SECONDARY SCHOOLS.

This section of the memorandum commences with a statement of general principles, and then proceeds to enlarge on some of the general points where it appears necessary to indicate some of the practical implications of those principles.

A. GENERAL PRINCIPLES.

We have already stated what we consider to be sound aims for secondary schools (Part I). In this section of the memorandum, we start from the assumption that secondary schools should do more than impart knowledge in a variety of subject fields. We do not for one moment ignore the importance of the intellectual development of secondary school pupils, but we stress the necessity for the schools to develop a moral tone and an atmosphere which will stimulate the healthiest total development of pupils. To achieve this, each school must be given an opportunity to develop its own personality: it is essential for the staff of a school to work as a group for a sufficiently long period to be able to develop and implement a coherent philosophy of education, so that the school operates as a school, and not as a loosely knit federation of subject departments.

Teachers need to be aware of their responsibilities to play their part in the total pattern of the life of a school, both within and without the classroom, to foster the fullest development of harmonious moral and social attitudes in their pupils. One obvious implication here is that pupils need to have fairly close and constant contact with at least one member of the school staff, so that they will come to see that secondary education implies more than the sum total of a number of lessons in various subjects from a number of specialist teachers.

We would expect to find the following qualities and skills in a secondary teacher at the point of his entry to the teaching profession:—

(*a*) We would place emphasis on the quality of the teacher as a person; he should be self-reliant, well-adjusted, socially mature, and prepared to consider new ideas. Modern concepts of teaching present a challenge to the qualities of the teacher as a person.

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(*b*) He should have undergone a sound general education at the tertiary level.

(*c*) He should have a sound knowledge of the subjects he is to teach.

(*d*) He should have developed his professional skill to the point where he is ready to commence practising his profession in a competent fashion.

(*e*) He should have the desire to continue his own education, to grow in professonal competence, and to make a real contribution to the development of a sound philosophy of education in his school.

(*f*) He should know—and preferably have experienced—something of life outside the school, and should be able to appreciate the relevance of the school's work for the total life of the community.

All teachers—whether in public or private schools—should have undergone a course of professional training, the minimum requirements of which would be approved by the Minister for Education.

The personality and attitude of the teacher should be major factors in determining professional quality at various points: entry to training, entry to the profession, and at various points of promotion.

Every secondary teacher should have a university degree or equivalent qualification.

Since we want the best types of people to enter the profession, all possible measures must be taken to raise the status of the profession, and the working conditions of teachers, to the point where teaching can compete with the other professions in attracting the best recruits.

As one of the best means of raising the status of the profession, we would recommend that the colleges giving secondary training should become affiliated degree-granting colleges of a university, or units in a university college of education, and that within a reasonable time all teachers' colleges should become so affiliated.

There is a heavy responsibility on the administrators of the educational system to take every opportunity to encourage the continuing professional growth of teachers.

B. Recruitment.

The minimum standard for entry to training as a secondary teacher should be university matriculation or an equivalent qualification with, in general, passes in the subjects which are to be the subjects for specialization in the secondary teaching field. In the case of other students, a condition of the award of a full teachers' college scholarship and Teachers' Certificate should be that they qualify for matriculation by private study at their own expense.

The profession will have to be made sufficiently attractive to bring into the field people of the right quality and in sufficient numbers to staff secondary schools adequately. Adequate salary is only one aspect of this problem. Teachers need to be given working conditions which will not only compare favourably with those enjoyed by other professional workers, but which will enhance the prestige of the profession. Some of the more important amenities to be provided, and which should be regarded as routine provisions, might be noted: adequate staff room facilities, clerical staff, laboratory and workshop assistants, ample supplies of equipment, reasonable teaching loads and class loads.

Special attention is drawn to the need for satisfactory provisions for leave. Long service leave, as provided for in the present Public Service Board Regulations, should be available as soon as the requisite number of years of service have been completed. Time spent on a genuine enquiry into some educational problem should be granted as special leave on full pay, additional to any period of long service leave which may be due.

While we do not enter into any discussion of the details of teachers' salaries, we would stress that the salaries of heads of schools and of administrators should be such as to compare favourably with the salaries of people holding posts of comparable importance and responsibility in the fields of industry and commerce. This is necessary if the teaching service is to be assured of getting its fair share of the most able section of the community.

We expressed the view above that teachers should be able to bring to their professional work some experience of life outside the school. Many teachers are limited in experience because they pass directly from school to professional training, and it will always be difficult to provide them with this sort of experience before they go back to the schools as teachers. However, much can be done by encouraging them to gain experience in the evenings, at week-ends, and during vacations, working with youth clubs, various voluntary organizations, and even taking part-time posts in various occupations during their long vacation. A lengthening of the course of professional preparation might even permit of the sort of arrangement, which is found in some American colleges, which permits students to leave college for a part of the year and take up some occupation.

While the majority of intending teachers, as pointed out in the preceding paragraph, will go straight from school to professional preparation, the profession stands to gain a great deal if it can attract people who have had experience of the world at work. The present practice of recruiting such people for the two-year September session primary course conducted at Sydney Teachers' College should be extended on a large scale, with a vigorous and widely-ranging recruiting campaign; adequate facilities need to be provided for assisting those who wish to take the matriculation examination. Such recruiting campaigns will have enhanced prospects of success if the profession itself is attractive.

In this connection, no obstacle should be placed in the way of any teacher who wishes to obtain vacation employment. Such a period of employment would help teachers see the connections between school and community. This would be particularly valuable, for example, for teachers of science or manual arts, who could keep abreast of modern industrial developments.

We are of the opinion that the existing system of teachers' college scholarships which carry with them bond liability is not sound in principle. The system of scholarship-cum-bond should be discontinued, and preparation for teaching placed on the same footing as preparation for the other professions. It may be that many potential teachers, who now leave school before completing the full secondary course, would stay on to complete the full course if some financial assistance were available to help their parents keep them at school, and if a substantial system of income-tax rebates were introduced to cover the real hidden costs of keeping a growing adolescent at school between the ages of 16 and 18. We would want such a scheme to apply to all secondary pupils in the senior school, and not only to those who undertook to enter the teaching profession.

C. Professional Preparation.

Although this is not a report on teacher education, we thought it advisable to indicate briefly a few of the implications, for teacher preparation, of the general principles which we have stated.

The pattern of organization which we should like to see developing follows from the idea we have expressed, namely, that all secondary teachers should hold a university degree or equivalent qualification. We feel that this is needed, not only as a guarantee of a high level of preparation, but as a major factor in raising the prestige of the profession. Eventually those teachers' colleges giving preparation for secondary teaching should become degree-granting colleges, affiliated to the universities or units in a College of Education of the universities as is found in other countries. As a first step towards that goal, certain courses within teachers' colleges should carry credit towards a university degree. There already exist precedents for such a move. Already some members of the staffs of Sydney and Armidale Teachers' Colleges are regarded by the Universities of Sydney and New England as being competent to teach at the University level, and are part-time lecturers or teaching fellows on the University staff. Further, almost all the work for the Diploma in Education of the universities is carried on by the staffs of the teachers' colleges.

We feel that three patterns of preparation are needed to provide the teachers needed to staff our schools in accordance with the ideas being worked out in this memorandum. Two of these patterns would give the sort of preparation needed for the teacher who is to be a specialist teacher in a narrow range of subjects, the third would prepare for general teaching in the orientation year.

We regard the present non-degree courses for secondary teachers as a necessary expedient, but not as a satisfactory permanent arrangement. Until the practice can be firmly established of requiring all secondary teachers to be university graduates or people of equivalent standing, the non-degree course will have to continue, but should be extended immediately to a minimum of three years of professional training.

The professional courses for such a three-year course should deal with (*a*) child growth and behaviour; (*b*) principles and practice of teaching, this covering both general method and short special method courses; (*c*) content of teaching subjects. The general strand would cover (*a*) English language and literature and speech training; (*b*) Health and Physical Education; (*c*) Music, Art or Craft; (*d*) one of the group History, Geography, Economics, Anthropology, Sociology; (*e*) Biological or Physical Science.

We have referred to three patterns of training. Briefly, they would be these:

(*a*) The present "end-on" plan, with the student spending three (or in some cases four) years working for a pass degree; this period is followed by one year of professional training, leading to a Diploma in Education. During the Undergraduate years some work is done at a teachers' college, and some opportunities are provided for intending teachers to get to know something of what goes on in schools, but almost the whole of the student's time and energies are devoted to obtaining his degree.

(*b*) The same pattern, except that the student takes an honours degree before commencing the Diploma year.

(*c*) In this pattern, there would be a four-year Bachelor of Education degree, during the last two years of which professional training would be included. The degree requirements would cover courses from the fields of Education, Psychology, Anthropology, Philosophy as general professional background, together with subjects which would be of use for people who were to be the class teacher in the orientation year. Courses would be taken in the departments of English, History, Geography, Mathematics and, perhaps, Economics.

We feel that these three patterns are desirable for the following reasons. In the type of secondary school which we describe in Section III of this Report, there will be three different tasks to be done.

If the orientation year described in Section III is to fulfil its real purpose there must be available teachers capable of (*a*) teaching a fairly wide range of subjects, of the uniform curriculum for the first year of secondary school, and (*b*) giving pupils at that level the guidance which is so important at that stage when the transition from primary to secondary schooling is taking place, and when a beginning will have to be made to decide the stream within which a pupil is likely to gain satisfaction. We feel that pattern (*c*) would prepare teachers to do this.

On the other hand, the extension of secondary schooling to cover six years will present a challenge to the teaching profession to lead pupils to attain standards of high scholarship in the final two years of the course generally, but during the final year in particular. If the standard of work done at that level is to approach that done in the English sixth forms or in the upper classes of the French lycees, it would be an advantage to have as many honours graduates as possible in our schools. For them, pattern (*b*) would be the best course. So long as a bond system operates, we believe that the maximum period to be served under bond should be three years. Such a reduction of the period for honours students—at present five years—would encourage more students to take honours degrees.

Pattern (*a*) would be that followed by those secondary teachers—probably the large majority, who would be the specialist teachers throughout the first four years, and even in some cases throughout the full six-year range.

This account undoubtedly over-simplifies what would happen; we should not expect to find such clear-cut divisions between the three groups, nor would we want them to be present. But the three different patterns would be needed, and should be recognized in any discussion and planning for the reorganization of teacher training. Each should be of equal value in determining status and promotion prospects.

D. In-service Teacher Development.

Problems of the in-service development of teachers are matters of paramount importance. Secondary teachers need to consider themselves as professional workers, sharing in the organization of the educational process within the school and keeping constantly in mind a clear idea of the wide ranging function of the school.

The Staff Meeting should be a powerful instrument both in defining clearly the function and nature of the school's task, and in constantly seeking better ways of fulfilling those functions. The fact that, for most of his course, each child is taught by a number of specialist teachers makes it necessary that there should be some place at which all the people who have contact with a child have the opportunity to confer together and to develop some consistency in their treatment of children and in the demands that may reasonably be made on them. Staff meetings can perform the useful function of helping specialist teachers understand the place of their own subject in the total programme and of appreciating the contributions that can be made by other departments. The Staff Meeting provides an opportunity for the principal to tap the resources of the Staff and to make use of the best advice they have to offer.

Every possible encouragement should be given to teachers to extend the range of their own professional experience by attending vacation refresher courses, joining their professional associations, and so on. Opportunities should be provided for attendance at full-time refresher courses during school terms, and on full pay.

Careful guidance should be given to young teachers. This might be done by the appointment of liaison officers who would supplement the work done by inspectors, heads and subject masters. Working on a regional basis they would be attached to the staff of a teachers' college and could visit probationary teachers —not to inspect and evaluate their work—but to ascertain their difficulties, spend time with them and, if necessary, refer their difficulties back to the college for suggestions. In this way not only would all possible agencies be engaged in helping the young teacher, but the teachers' colleges would be materially helped in modifying and improving their courses in the light of the reports from their liaison officers.

In-service courses should be available to give guidance in administration to teachers who are ready to assume promotion positions.

E. Administrative Problems.

We have already stressed the importance of each school being given every opportunity to develop a coherent philosophy of education and to enjoy sufficient stability of staff to be able to do this. We therefore recommend that promotion positions should be advertised, and that the Headmaster of the school in which the vacancy occurs should have an opportunity of playing a major part in the selection process. In this way the head would be able to build up a staff which, over the years, would be able to develop sufficient understanding among its members to enable them to function as a closely knit team. This would reduce considerably the mobility of teachers, and would enable members of staff to sink their roots in a community.

We have referred to the desirability of having some secondary teachers who, while not having high academic qualifications in any one subject, would be capable of acting as class teachers over a fairly wide range of subjects in the orientation year, and would be capable of giving sound guidance, not only at that stage, but generally throughout the school. For such teachers there should be a line of promotion open to them; the first promotion position could carry a title such as Master/Mistress of the Junior School, with particular responsibility for the organization of the orientation year and of the guidance that is involved. Such a position would rank equal in status to that of Subject Master/Mistress.

We have drawn attention to the need for some members of secondary staff to have honours degrees. There must be adequate incentives for intending teachers to take honours degrees, since such degrees normally require a year's study beyond that required for the pass degree, and with a consequent delaying of the point at which the young teacher begins to earn a salary. We recommend that the incremental scale for secondary assistants be so adjusted that the total amount of salary earned by the honours graduate by the time he reaches the top of the incremental scale should equal that earned by the teacher with the pass degree.

APPENDIX C

EVIDENCE PRESENTED BY ARTHUR DENNING, DIRECTOR OF THE NEW SOUTH WALES DEPARTMENT OF TECHNICAL EDUCATION

Introductory Statement.

1. VIEWS GATHERED FROM MANY SOURCES HELPED DRAFTING OF THE STATEMENT.

The majority of the views expressed are strongly supported by officers of this Department, as well as by representative industrial and commercial men. Some are the personal views of the Director. Many of the opinions expressed are necessarily based on personal observations and experience and not on research evidence, for it is not always readily available.

The various comments and suggestions offered were intended to be constructive, so that a secondary education system would be planned which would give due regard to the importance and functions of technical education and, at the same time, be capable of integration with the course structure we have developed.

2. TECHNICAL EDUCATION—THE LARGEST "CONSUMER" OF SECONDARY SCHOOL PRODUCTS IN THIS STATE.

The Department of Technical Education has a very significant role to play in the Secondary School Enquiry, for it is by far the largest single "consumer" of the secondary school products in the State.

In round figures, the intake of new students to technical college courses each year is approximately 15,000, of which at present approximately 8,000 are apprentices and 2,000 are training in certificate type courses for the technician field, whereas new students beginning university and teachers' college courses in this State total in the vicinity of 5,000 annually. The Department then, particularly with regard to the 10,000 apprentices and future technicians, is vitally concerned with the preparation they have received in the secondary system. They require a desirable minimum of secondary education—3 years for trades; 3-4 years, with at least Intermediate Certificate standard of entrance, for technicians. The structure of the courses, contents of syllabus (especially commencing points) depend in the first instance on what has been covered in the secondary school syllabus.

Not only do we recruit from the State school system, but also from private secondary schools. Thus, approximately 20 per cent. of the enrolments in technical colleges come from non-State secondary schools. We must therefore consider the structure of their secondary course, too, in planning our syllabuses and curricula.

3. OVERSEAS TECHNICAL EDUCATION DEVELOPMENTS—CONCERN IN U.S.A.

Vast expansion programmes in the training of craftsmen, technicians and technologists have been undertaken in the post-war period in various overseas countries. In Russia, for example, 1,500,000 technicians are in training at present according to reliable reports.

The Sub-Committee on Automation and Technological Change—the United States Congress Joint Committee on the Economic Report states:

"The most disturbing thing which came to the sub-committee's attention during the hearings was the near-unanimous conclusion of the witnesses that the Nation is faced with a threatened shortage of scientists, technicians, and skilled labour . . .

"We can certainly not dismiss lightly the generally accepted evidence that professional engineers are currently being graduated at a rate nearly twice as fast in Russia as in this country, and that *technicians are currently being turned out at* 30 *or* 40 *times our rate.* This evidence is not to be taken as necessarily indicating that our science and capacity for technological advancement have been surpassed elsewhere. It must, however, be taken as a plain warning that others can catch up with us and, indeed, at current rates, are doing so. The president of the Carnegie Institution of Washington, Dr. Vannevar Bush, summed up the problem for the sub-committee:

'We already have a shortage in this country of skilled men of various sorts. We also have a shortage of engineers and scientists. And not enough men are entering these fields. It has been brought out in these hearings that Russia is in some ways doing a better job in this regard than we are; they are certainly training more scientists and engineers.'

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"But the larger and longer run problem is that the Nation recognise *the need for keeping up and advancing its resources in the form of trained experts in every field.* The training problem exists at all levels.

"Under our traditional system of education, the first responsibility for this must fall upon the local communities and the individuals and business directly interested in specific kinds of skills and expertness. Many companies are already demonstrating their awareness of this problem by providing in-training technical courses and by endowing and supporting company fellowships and advanced education.

"There are important reasons why this need for increased attention to the training of experts should be underscored and recognised as a real problem. The fact is that much of the knowledge and personnel upon which we are drawing so heavily today comes as a by-product of the military background of the past decade. Under the necessity of war and defence expenditures, the Federal Government has contributed immeasurably to the building up of a comfortable present supply of trained personnel. This is all well and good, but none of us want a situation to arise in which we must depend upon war or defence expenditures as the means to securing such beneficient by-products . . .

". . . It is a question of finding and accepting a peace-time programme to take the place of in-service training of technicians, the war-accelerated and militarily sponsored college programmes, and the later support and encouragement of education afforded by the so-called GI bill of rights."

4. Recruitment of More Women from which to Draw our Future Technician Staff.

Whilst it is well recognized that the recruitment pool is not unlimited, one way of increasing the number of recruits, particularly into the technician field, is to draw on the relatively untapped numbers of women. In the past insufficient have offered, largely because of the fact that the secondary course they have followed has not been oriented sufficiently towards the technical field. Training in physics and chemistry, for example, has not been possible for many girls who might be attracted towards the scientific or technical areas of employment.

A similar position has applied in England, as the 1956 British White Paper points out:

"Apart from teaching, the most popular courses with girls cover such subjects as nursing, commercial and secretarial work, commercial and industrial design, art, the needle trades, catering, cookery and domestic subjects. Fair numbers are taking courses in scientific subjects, but there is no doubt many more could take up science and would find openings for most successful careers. The problem is how to increase the number of girls asking for science courses, and the weakness here is in the secondary schools, where there is a shortage of teachers of mathematics and science more pronounced than in boys' schools. The best point to attack this problem must be in the girls' schools, where the Head could influence more girls, who have decided to take up teaching, to choose science or mathematics as their special subject. Only small numbers of girls at present decide to study science or mathematics at the universities or training colleges. It is in the national interest that more should be encouraged to do so".

5. A Proper Balance Needed between Craftsman, Technician and Technologist.

The British White Paper sounds the same note of urgency. It defines the technologist, technician and craftsman as follows:

"*A technologist* has the qualifications and experience required for membership of a professional institution. Most university graduates in engineering and other applied sciences, . . . become technologists.

"A technologist has studied the fundamental principles of his chosen technology and should be able to use his knowledge and experience to initiate practical developments. He is expected to accept a high degree of responsibility and in many cases to push forward the boundaries of knowledge in his own particular field.

"*A technician* is qualified by specialist technical education and practical training to work under the general direction of a technologist. Consequently, he will require a good knowledge of mathematics and science related to his own speciality. Examples of technicians in the factory are assistant designers and junior ranks of management on the shop floor.

"*Craftsmen* represent the skilled labour of manufacturing industry and account for more than one-third of its manpower. With the growing complexity of machines and the introduction of new materials, it becomes all the more necessary for them to appreciate not only the how but also the why of the work they do."

If Australia, and New South Wales in particular, is to hold its own, there is urgent need to develop a balanced labour force of craftsmen, technicians and technologists in correct proportion. Industry is becoming more and more conscious of this fact, particularly in its long-range planning. Thus, one large Australian concern has established that it must increase its labour force progressively in the forseeable future in the ratio of one new technologist to six new technicians and seven new craftsmen. Whilst this is not necessarily a standard pattern in industry, since there will be variations in the proportions in many different fields, it does highlight the point that in order to keep up the supply of trained technical staff, the Departments of Technical Education and of Education must give due regard to this factor in any planning they are required to do. Considerable publicity over recent years has been given to shortages at the technologist level, but insufficient emphasis has been given to the equally serious shortages at the technician and skilled craftsman levels. Technical education has the major responsibility in terms of training in the craftsman and technician fields, and some responsibility along with the universities with regard to technologists.

Australia is particularly short in the field of technicians at the present time. The position will be seriously aggravated as the move towards automation progresses. We are developing a pattern of technician level courses to meet the new situation as rapidly as possible but *more of the right type of students need to be attracted into this field from other areas. In other words, in the national interest this Department should not only be taking more students per annum who have graduated from the secondary school system than other tertiary training institutions, but it should be enrolling more again if the needs of industry, particularly for technicians and craftsmen, are to be effectively satisfied.*

6. AUSTRALIA'S URGENT NEED FOR TRAINED TECHNICAL STAFF.

The need for greatly increased numbers of trained technical staff is already recognized on all sides in Australian industry to-day. It is significant that we are attempting to recruit skilled men by specially selecting our immigrants. Many of our big national constructional projects have had to be let to foreign contractors because, among other things, our own resources of trained manpower were insufficient. We cannot continue to do this.

For economic survival as a nation we must balance our overseas trade. This means increased and better quality production at competitive prices and, in turn, increased numbers and quality of trained personnel to produce the goods.

The new demands created already by TV, the growth of automation, the developments which will follow the introduction of atomic power and the by-products of that industry, the effects of increased power from hydro-electric schemes, increases in rural mechanization—all point to generally increased technical staffs to undertake the related designing, operating, servicing and supervising work which will accompany them. In particular, large increases in the numbers of craftsmen and technicians must follow these developments. We in technical education know that industry and commerce have been starved for the numbers and quality of recruits required to satisfy their demands in recent years. This imbalance must be corrected.

Secondary education has an equal responsibility with us in spreading information about industry's needs. It must help us awaken fresh and positive attitudes towards things technical amongst our young people and their parents, for the next decade can be very crucial if our standard of living and security are to be preserved.

These introductory remarks are intended to assist in providing a perspective against which the general statement which follows may be read. They emphasize that technical education has reached an important point in its development—a point where a new orientation throughout the community generally must be encouraged as an urgent priority in order to ensure that, on the one hand, the nation's future manpower needs will be met, and on the other, each citizen will have the opportunity of living a full life.

CONTENTS

1. Introduction

1.1 THE TERMS OF REFERENCE.

The terms of reference of the Secondary Education Inquiry which has been meeting over the past two years are as follows:—

(*a*) "To survey and to report upon the provision of full-time day education for adolescents in New South Wales."

(*b*) "In particular, to examine the objectives, organization and content of the courses provided for adolescent pupils in the public schools of the State, regard being had to the requirements of a good general education and the desirability of providing a variety of curriculum adequate to meet the varying aptitudes and abilities of the pupils concerned."

In some respects the Departments of Technical Education and of Education are both concerned with (*a*). My Department is involved already in the full-time training of apprentices. It is possible that the trend will be towards more and more full-time training courses, although the greater majority of students in the immediate future will undoubtedly continue to attend part-time courses.

1.2 THE N.S.W. SECONDARY EDUCATION PRODUCT AND TECHNICAL EDUCATION.

(*a*) *The Division of Responsibilities between the Education Department and the Department of Technical Education.*

The theme presented in this statement relates to the need for proper recognition of the function of the secondary school system in providing wide opportunities for obtaining a broad general education which includes in the first three years at least the subjects English, Arithmetic, Social Studies, General Science and preferably some handicrafts. The latter is considered necessary to assist in developing creative skills and should be selected from subjects such as Woodwork, Metalwork, Cooking, Needlework, Art. The handicrafts should be given as part of a general education and should in no way be regarded as a preparation for a vocation.

The pre-vocational and vocational aspects are the concern of the Department of Technical Education. By pre-vocational training is meant pre-employment vocational instruction which is aimed at ensuring the learning of the basic skills and knowledge required to be employed productively in a particular vocation, or group of vocations.

The secondary education system is being examined and suggestions are being offered here then, from the point of view of the vocational/technical training organization in this State.

(*b*) *Industry, Commerce and Technical Education.*

Because of its concern with preparation for specific vocations, the Department of Technical Education maintains a close liaison with industry and commerce, and is in a position to speak with some confidence not only on what is expected of the secondary education system in the way of general preparation for its courses, but also on matters affecting the future employment of secondary school students.

Whilst vocational/technical training institutions must use their utmost endeavour to devise courses which will satisfy business and industrial needs on the one hand and those of individuals on the other, their success to some extent will depend on a proper appreciation of these needs by those responsible for the development of the secondary school system. The aims, the principles governing its development and the general structure of the secondary school system—even the syllabuses—are therefore of vital interest to educators from the vocational/technical section of the tertiary education field—representing in any one year over 70,000 enrolled students in courses conducted by the Department of Technical Education alone.

Again, enrolment trends, and policy with regard to selection for special secondary courses, are of major concern for this Department in its future planning in this rapidly changing technical and technological age. The Department's function is to be sensitive continually to the needs for the development of new courses, or the review of old ones. First-hand industrial surveys made within industry itself, together with expert advice from representative advisory committees from business and industry can contribute towards this planning, but the secondary education system must have a significant influence also, both directly and indirectly. It will not only affect the quality of the recruits entering industry and technical courses through the preparation they receive in secondary schools, but also the quantity, by way of careers orientation, the development of attitudes, and the other factors I list below.

What of the individuals who come to technical education and to industry? What preparation should they bring?

(c) *Preparation for Future Technical Training.*

In general, the Department is vitally concerned with the following types of information about individual students, and again with groups of students, coming from the secondary school system. We consider it desirable that they should have:—

(i) *An adequate general education level,* which will permit the undertaking of advanced technical study, e.g., at the professional, technician or the skilled craft level.

(ii) *A minimum standard and adequate groupings of subjects as pre-requisites* for the many and varied courses offered.

(iii) *An orientation* through suitable elective subjects which will offer the opportunity for *creative experiences,* the *development of satisfactory attitudes towards the world of work,* and encourage increased understanding of the commercial, industrial and home life of the community.

(iv) *Positive attitudes and values* towards study, towards attending classes, towards citizenship responsibilities, towards future employers, towards a job well done, and towards the community generally.

(v) *A reasonable level of social/emotional maturity*—e.g., acceptance of responsibility, confidence in group situations, etc.

(vi) *A healthy and reasonably wide range of interests*—both vocational and otherwise.

(vii) *A sound degree of confidence in the choice of a career, or the preliminary steps taken towards a general career idea*—based on the acceptance of personal responsibility for the choice made in the light of the fullest information available about themselves, jobs and training required.

As these factors vary among individuals and groups, so the structure of this Department's courses and syllabuses must vary.

It is on these and many other grounds that the Department feels justified in offering information, views and suggestions to this Committee of Inquiry, quite apart from the fact that we, as a sister Department of the Education Department, want to make a contribution in view of our knowledge of the requirements of vocational education and our appreciation of the training needs of industry and commerce.

2. Features of Some Overseas Systems as They Relate to Technical Education.

Before proceeding to make specific suggestions for presentation, I wish to refer to some of the outstanding features of two overseas educational systems, those of the U.S.A. and England, both of which have a clear relationship to ours, and both of which may have features worth considering and ideas worth adopting. *Those features selected and mentioned here will relate only to technical education,* since I have no doubt the systems have already been examined in other respects by this Committee.

2.1 Some Features of the U.S. Educational System.

2.1.1 *General Features.*

The oustanding features of the American educational structure are its great *diversity* and its magnitude—a total of 23,000,000 elementary, secondary and tertiary level students, and thousands of separate, and decentralized, school systems. Decentralization means that local responsibility for education is encouraged, so that the *"local-needs",* of the "grass-roots" *approach* is very noticeable. Strong parent-teacher associations (with emphasis on *all* teachers participating and not merely the headmaster or headmistress), Business, Industry and Education Days, Career Days, elected local Boards of Education and so on are evidence of this. Some disadvantages naturally flow too from such decentralization—for example, the harmful *influences of local prejudices,* do occur. This Department has a strong belief in satisfying local needs too, and so it has developed close ties with business, industry and community in technical education, through our advisory committee system and our day to day services to, and contact with, industry generally. Such regular interchanges of ideas have been invaluable in planning for the future.

Perhaps the secondary system here could also develop closer ties with the community, not only through such excellent avenues as at present exist through Education Week and so on, but also through, for example, an advisory committee system, widely representative of the many groups outside the Department who are interested in education, to help with course developments, syllabuses and similar activities.

The Americans, too, seem to have a *higher level of educational aspiration* than we tend to have. This is reflected in their growing Junior College system (covering the 13th and 14th years of schooling); the raising of the minimum school leaving age; the growing importance of full-time co-operative vocational training schemes (linked in some States with the moves towards the separation of general and vocational education under separate Boards); as well as the appearance of many full-time pre-vocational and terminal courses for what I call technician level training within the College/University and Vocational Institute structure. Opportunities should be created here for more and more of our secondary pupils to cross over to a pattern of pre-vocational courses (including a core curriculum in general education, as well as pre-vocational subjects), which my Department is investigating now as a long range development.

With the age of "automation" already becoming firmly entrenched in some countries, we shall want better skilled craftsmen and certainly a tremendous increase in the number of technicians and others trained at sub-professional level. With the advent of such an age the economic urgency for early school leaving, and the need for untrained juniors, should decline. These factors should combine, therefore, to make a strong case for raising the minimum school leaving age to 16 years and for ensuring pre-vocational and vocational training alternatives within the Department of Technical Education up to this age on a required basis, and beyond on a voluntary basis. There is much merit in the trend in Germany, in some American States, and in England towards requiring further education, at least on a part-time basis, to the age of 18 years. I strongly support my colleague, the Director-General, who has publicly recently urged further full-time and part-time education beyond 15 years.

Any transfer to pre-vocational training should not be earlier than 15 years, or the end of 3 years of secondary schooling. At the point of such transfer there is a case for some selection by the Department of Technical Education—the first "selection" I believe the primary or secondary pupil should have encountered. From this remark you will gather I do not favour selection at the age and for the purpose it is applied in our system at present, with the subsequent "streaming" of students into schools with different curricula.

A feature of American education has been the strong *group of Industrial Arts* (i.e., Manual Arts) *elective subjects* available in Senior High Schools. These are given by specially trained teachers, often with co-operative industrial experience as part of their Bachelor of Education, Vocational Education, Degree. These are regarded as a part of the general educational system and are not intended as pre-vocational in nature but are offered as opportunities for voluntary "exposure"—as the Americans would say—to any student as an exploratory, general educational experience. These electives are available *to all* students, not to a selected group, or to those remaining after a selection programme has operated as here in New South Wales. As a result, there is far less of a stigma on such subjects (e.g., Manual Arts, Domestic Science, etc.) for either boys or girls than we find here, since selection, or non-selection, is done *by* the individual and not *for* him. No arbitrary choice is made and imposed by school administrators, however expert and good intentioned the latter may be. There seems to me to be room in our secondary school system for such a range of electives, which the boy or girl, having undertaken a solid *core of required subjects,* ((i) English; (ii) a much less heavily loaded Mathematics than at present; (iii) a suitable combination of Chemistry, Physics and the Biological Sciences; (iv) and a suitable combination of History, Geography and perhaps Civics), may add, *as he or she wishes.* The choice of emphasis would normally only be made after proper consultation between the individual and a full-time specially trained *school counsellor,* who should be readily available to students to help with individual educational and other problems if they so desire.

As I have said above, I favour increasing the opportunities for full-time pre-vocational training for our adolescents, not as a replacement for part-time training—our major commitment in technical education—but as a supplementary method of meeting the country's needs for trained technical staff in selected fields. A strong feature of the American approach in this regard is use of *train-*

ing co-ordinators who are responsible for both teaching in the vocational training institutions and supervising and observing practical "on-the-job" experience which is often arranged as a part of the full-time course. In our system with the clear division of responsibility in training the adolescent between our two Departments, such co-ordinators—specially selected technical teachers—would have important functions in helping the pre-vocational student bridge the gap between school and the world of work. I therefore favour arrangements for limited numbers of adolescents to transfer from the secondary system where they are desirous of pre-vocational training. This transfer need not preclude in any way further qualification for matriculation purposes during the course, nor should it occur before 15 years of age (or completion of 3 years of secondary schooling whichever is the sooner), and then only after investigation of suitability for such transfer by arrangement between the Departments.

I feel that the highly undesirable and unfortunate—and clearly undeserved—stigma associated with Domestic Science and Junior Technical courses at present to be found among teachers in the schools and the community in this State, in Australia—and in England, too, for that matter—will be partially removed at least by encouraging the participation of *all* secondary students through numerous electives to partake of some such subjects voluntarily and by encouragement—all as a part of his, or her, recognized general educational "diet", as it were. The dignity of the wide diversity and levels of vocation could be dealt with. All students could be acquainted with our apprenticeship system and our community and manpower structure, and the place of the many vocations in the economy could be handled through selected general and practical orientation courses in, say, General Handicrafts, Women's Handicrafts, General Printing and Journalism, Homemaking, and so on. These subjects would need to be regarded, and presented, as part of a sound general education.

The question of educational selection inevitably arises also when the existing community attitudes concerning such subjects are mentioned. Selection does not apply in the U.S.A. in the same way as here, except in those universities and colleges which can afford to select by objective and standardized procedures after high school graduation. At the age this occurs, and for the reasons stated, I would say they are quite justified in doing so. Below this level American schools are featured by co-educational groupings by age, but little else. The unfortunate teacher then has to develop and to make allowances for a wide range of talents. I know how important it is to effective teaching, and for the purpose of maintaining the right level of pressure on individual students, to have some grouping. The "brights" must be given an enriched educational opportunity, the "dulls" must be kept working at the level appropriate to their potential and this means a considerably reduced syllabus, whilst the average majority must have their share of attention too. *Too wide a range of students in one class* makes it difficult to do a proper and efficient job with all, and so *groupings for teaching purposes become desirable and economical.* I think, however, such necessary grouping should be *within the one school,* and where possible within the one grade, though there may be a case for a more flexible approach with some children. Again, I believe such *groupings should relate ONLY to the core curriculum and not to the electives* where individual talents might be allowed to be recognized and developed in various groups which represent community samples.

The urge to go "to College" (28 per cent. of each age group does in fact do so at present) is a further feature of the U.S.A. secondary system. The social pressures are very strong indeed to do so, and I recognize it has some undesirable results, but I consider further education of all kinds a sound investment whether it be for the community, to overcome the shortages of skilled manpower, or for recreational purposes. On the other hand it means that with a wide variety of terminal courses in the colleges, universities, technical institutes, or in their associated Junior Colleges, as in California, for example, the serious manpower shortages at the technician level are to some extent being met. At least the structure is there to deal with the shortages. I must stress that it is in this area that I foresee a very necessary and a most significant development in this country, and this State, in the next decade. The need is there already. Our universities are not geared to provide sub-professional and technician level training, nor should they be. Their function is to satisfy professional needs effectively. We know too, there is a significantly high wastage rate at universities because some aspirants for professional training set their sights too high. Perhaps their special aptitudes or their luke-warm interest in careers for which the universities exist should have encouraged them to consider technician type training. But I am

afraid lack of knowledge about possibilities, or adverse general attitudes towards any "technical" career, have had their effect. Such factors could have been corrected in the secondary school. I think the secondary system can do much to orient students towards this field of training which has now so much to offer, and will have more in the future.

I favour *more* general education (in the sense I speak of general education) for *more* people for the increased leisure opportunities bcoming increasingly available, and have drawn attention to it by stating my belief that the minimum leaving age should be progressively advanced to 16 years, whilst more elective opportunities and opportunities for senior secondary students to transfer to Department of Technical Education courses should be created.

2.1.2. *Probable Reasons for the American Educational Developments Mentioned.*

Attention should be drawn to the following reasons which have influenced the American educational developments mentioned:—

(i) Firstly, there is a strong *belief* in America, *in Education* as such. Because of this belief, fostered through locally inspired acceptance of responsibility for it, there has been shown willingness and ability to pay for it. Can we too develop these attitudes in our community? I am convinced we can by going after public interest, encouraging feelings of belonging to the educational movement and so on.

(ii) *"Equality of opportunity"* pervades all education in America, and here too. But there is a difference. The American tends to say *"it is up to the individual if we provide the means"*, and the means provided permit a considerable measure of individual choice. Perhaps our selective approach to particular sorts of schooling at an early age somewhat contradicts any genuine acceptance of the principle of "equality of opportunity". Again, the American is prepared to fit the system to the individual—in many ways ludicrously I know—in so many more, however, to the considerable benefit of that individual. Is it true that we are inclined here to have a cut and dried, structured, system and the individual is *required* to conform to it and not it to him?

(iii) The readiness of expression of popular feelings and needs in frequent and continuing revisions of educational policy permitted by decentralization have been emphasized earlier. Do we not need more and more of this questioning of the accepted, and the traditional?

(iv) The demands upon education from America's headlong industrial development in the past 50 years, and the need to assimilate a huge migrant population in the same period, has led to a breakaway from the traditional British and Continental secondary school systems, relatively unrelated as they were to urgent community needs and depending on a traditional grouping of subjects and a belief in the now outmoded "formal discipline" (Latin is a good subject for disciplining the mind) principle as the basis of a good general education. Are we being posed the same problems which America has been facing for 50 years and is still trying to face? I think we are. Do we not then need to take advantage of their experience?

(v) Universities, for historical reasons, and because the many thousands of education systems do not "pyramid" to the university as they tend to do here and in England, have probably had less downward influence in America on the secondary systems. It is the practice rather than the exception for all universities and colleges to enrol students prepared by hundreds of differing (sometimes widely differing) systems, not only in their own, but in other States or countries. They are not operating in a relatively "closed" system as we are perhaps doing here. In some ways the American situation with less pressure being exerted from above, appears to have advantages to offer, even though American universities and other degree granting institutions enrol probably three or more times the proportion of the relevant age group than we do. I feel that my Department and other interested tertiary training institutions who wish to, and are required to, accept the secondary school product should have at least as much influence on the secondary structure in general terms, as well as the syllabuses, as do universities in this country. I should like to go further and devise a system where lay members could also have a substantial say as well as educationists.

2.1.3. *Advantages.*

Some of the advantages of the American system are summarised:—

(i) The wide range of electives which allow opportunities for highly desirable industrial and commercial orientation as a part of the general educational stream. As a result, more and more interests and talents are given an opportunity to flower.

(ii) The systematic attempt to avoid even the appearance of direction. There is guidance and individual choice, rather than imposed selection. Some of the injustices due to inevitable selection errors are as a result avoided. The individual has the opportunity at least to grow then towards the acceptance of personal responsibility.

(iii) In many ways, because of its closeness to, and even identification with, community needs (*e.g.,* Driver Instruction classes, etc.), the secondary system, where equal opportunities exist for all, tends to have a unifying effect on the social structure.

(iv) The system develops the individual's social skills in many ways, and seems to strike a more even balance between academic and other values.

(v) It takes more students further along the educational road.

2.1.4. *Some of the Disadvantages in the American System.*

Some of the major disadvantages as I see them:—

(i) The American High School system appears to be less academically efficient than here, there being a lack of depth in treatment of some core subjects by our standards. More go further educationally, it is true, but the minority suitable for higher studies tend to be less adequately prepared for those studies than ours. (The American asserts with some degree of truth that this élite group should be able to look after such deficiencies themselves). The institutions of higher learning, therefore, must cater for some of this deficiency and, hence, the emphasis in universities on general education courses, even in the technologist and scientific fields and the invariable four-year Bachelor's Degree course compared with our three-year Degree in say, Arts or Science.

(ii) The system tends to cater for the average and may hold back the bright, and often makes no real provision for the dull.

(iii) The schools in the system must be large to function properly. For example, to enlarge the range of electives offered, a minimum population of 1,000 to 1,500 is necessary for economical staffing of all subjects offered. Schools of 2,000 and more students are sometimes found in America. To cater for the wildest possible range, however, such very large schools tend to present administrative difficulties which have some disadvantages, though on the other hand they are able to provide amenities not available in the smaller unit.

2.2. Features of the Present English Educational System.

In discussing the present English educational system I am again only highlighting the features I feel are important to the particular emphasis I want to give—that is, the features as they affect the technical education structure in England, and their relevance for vocational/technical training here.

2.2.1. *The Present Unilateral Schools—Three Types.*

Selection for the three types of school—grammar, secondary modern and secondary technical—creates many social problems, particularly in the stratified English social system. It is commonly considered a social disgrace to fail to gain entrance to a grammar school. Consequently, there is likely to be undesirable pressure exerted on the primary pupil and a tendency to force him to concentrate on those subjects which will be of most advantage in gaining entrance to the coveted grammar schools. There is a danger for subjects less essential for this purpose, but perhaps equally important in themselves, not to be given the attention they deserve. Teachers, too, often coach children in how to do the standardized intelligence and attainment tests used in "screening" for the three types of schools. Can that undesirable development occur here, where selection is so important? I am afraid it is likely, though I feel bound to say I know of no instances I can quote.

The grammar schools are intended primarily for students destined for an academic type of education and, as seems to be a view widely current with regard to the curriculum of New South Wales high schools, the curriculum there, too, according to many educationists, is to a great extent conditioned by academic and university requirements. Yet only about 15 per cent. of the 30 per cent. of all secondary pupils entering grammar schools go on to a university (i.e., approximately 4 per cent.). If the contention is true that university requirements appear to exert considerable influence on the grammar school curriculum, is it not fair to say it appears to be disproportionate? Perhaps the same applies here.

2.2.2. *The Secondary Technical School.*

The secondary technical school in England appears to me to have failed to achieve the status and responsibilities planned for it following the 1944 Act.

The function of the secondary technical school in contrast to the technical colleges is claimed to be to prepare students for entry to an industry, whereas the latter is necessarily concerned with preparing students for a specialized craft in it. The syllabus in the secondary technical school usually covers a wide area relating to a particular industry, for example, the building industry.

Unfortunately, the common misconceptions, even by teachers, of the aim of the 1944 Act have meant that instead of selected students entering them, the secondary technical schools have tended sometimes to be a "dumping ground" for misfits.

As a result, the present status of the secondary technical school in England appears then to be unsatisfactory. Selection at 11 plus for secondary modern, or grammar, schools means that when selection for secondary technical schools occurs at 13 plus some of the "cast-offs" from the grammar school tend to "revert" to the technical stream, while many of the better students suitable for secondary technical schools tend to be kept back in the secondary modern stream. It seems to me, therefore, that the original aim in the establishment of secondary technical schools is not being achieved as effectvely as was hoped. In the same way our junior technical and domestic science schools, whose students are recruited rather by non-selection than any other way, assume the same function—at least in the eyes of the disgruntled parents, and of many teachers and pupils, despite the many attempts to arrange it otherwise.

2.2.3. *The Newer Multi-Lateral Schools.*

Some educationists consider the multi-lateral school the answer to the tendency towards "educational snobbery", which has been remarked on with regard to the present unilateral system. Important points from recent discussions about such schools, which have been reported to me, and which are relevant to the suggestions I shall make later, include the following:—

(*a*) *Classification* of pupils into three types and their *segregation* in separate schools appears to be a bad feature of the present general education system, and the multi-lateral schools now being developed appear to be a step in the right direction.

(*b*) In general, the large numbers in multi-lateral schools are broken down into "houses" (e.g., there would be 10 houses in a 1,500 pupil school). Each house is planned to contain a cross-section of the school's population, and house assemblies are held and pupils may be taught in house units, to permit growth in a relatively "normal" community sample.

(*c*) A transfer from one course to another is more simple than under the orthodox system—i.e., it is easier to rectify mistakes in selection by either administrators or pupils.

(*d*) To form homogeneous classes for teaching purposes a very large school is necessary with consequent over-loading of organization and undesirable centralization.

I favour the multi-lateral approach as a general principle.

2.2.4. *The General Certificate of Education, U.K.*

Since I wish to take up the matter of the award of a standard qualification at the conclusion of a required portion of the secondary course, I propose to refer to the features of the English General Certificate of Education, introduced in 1950 in the English system.

One of the characteristics of this examination is the fact that it is awarded on a *subject* basis. A student passing in one subject only is granted his General Certificate of Education.

According to some university authorities, despite its very short trial this has had a detrimental effect, both in England and Scotland, on the standard of examination passes particularly since students may accumulate G.C.E. passes over a number of examinations. This, they claim, tends to depreciate the value of the certificate. Perhaps this criticism only applies with respect to the university entrant group and the critics omit to say this and perhaps it is fair to ask how such a criticism can be tested so soon after the commencement of the G.C.E. approach. We must remember, too, that about 2½ per cent.-3 per cent. of the original British secondary school enrolments have been securing Bachelors' degrees.

On the other hand, it may have some advantages over the system where a certificate is awarded only after a minimum number, and grouping, of subjects at one examination, has been achieved. Under the latter system many students not securing a certificate may have no clearly recognized evidence of any satisfactory educational standard attained, and have little or no encouragement to add to their examination performance. It is an "all or none" approach in many ways.

I feel there is virtue in a "subjects" approach to examination qualifications. The American system of awarding "grades" and issuing cumulative "transcripts" of gradings when requested—and these are official documents—is in many ways to be preferred to the system whereby no qualification is obtained until all minimum requirements are achieved. I favour the award of a basic certificate which can be replaced by a further one as other subjects are added. Safeguards may be needed, of course, but I see advantages in the adoption of the scheme.

3. Features of Secondary Education in N.S.W.

The following general comments, concerning the features of secondary education in New South Wales, which affect technical education are offered in summary form. They again emphasize those aspects of interest to us in the Department of Technical Education:—

(i) The attitudes of early "leavers" towards further education at technical colleges in many ways are unhealthy. Technical teachers report this to me and my officers time and again. It seems legitimate to ask why this is so. And to go on and ask, should it be so?

(ii) Selection by intelligence and attainments test for education in relatively single purpose secondary schools influences pupils *towards*, or often unfortunately for us with the better qualified lad, *away from* technical college courses at which I think is too early an age (11 years plus). In this Department's view, selection should not occur until about 15 years, and then perhaps (and this not necessarily) only for admission purposes to, say, one of our courses, or for further general education, or again for a university preparatory course. In general, the principle of selection as much as possible by the individual is the one I favour.

(iii) At present there is a tendency for the majority of our secondary school students to leave shortly after 15 years, whereas normal apprenticeship begins after 16 years. I cannot emphasize too strongly that apprentices are the backbone of our economy, and should therefore include in their ranks, in the main, lads with average potential as well as a leavening of those with above average capacity. Responsible officers in technical education and employers in industry are of the opinion that such a distribution from those offering has not been achieved. Industry and, therefore, this Department have been getting the "rejects" far too often of recent years. The present selection system has in some ways helped to encourage this attitude. This is wrong and could prove a disaster to our economy.

The "dead year" between 15-15½ and 16-16½ years is one which has been a matter of grave concern to us, for many, suitable for apprenticeship or technician training, are attracted by high commencing wages to unskilled jobs with no future. I favour the elimination of this "dead" year and the further development of full-time pre-vocational courses by the Department of Technical Education as mentioned above. Such training would provide continuity of study orientation, this time in a "technical" atmosphere for some of the talent at present being "lost" to the technical callings. To cater for financial needs, a system of scholarships such as the Commonwealth Scholarships might be considered.

(iv) Whilst our late leavers are academically more mature, they are socially more immature than their counter-part in the U.S.A., for example—and I do not mean the latter are merely precocious. I think this can be attributed to different emphases in teaching methods and different views on what constitutes general education. Our approach may need review. By all means let us develop social maturity earlier.

(v) A disproportionate emphasis on university preparation seems to influence the secondary school syllabuses. Could there not be more orientation towards the needs of, preparation for, or orientation towards, other tertiary training courses? The proportionate numbers seem to warrant it. I do not advocate more vocational subjects in the secondary school at the expense of general subjects. But I would prefer to see *a change in balance* (in the main *only by addition* made possible by the desirable year of further secondary education to 16 years I have advocated elsewhere in this statement) through a review of the overall curriculum and of the syllabuses in some subjects.

(vi) At present the vocational/technical groupings of subjects in the secondary schools have a poorer relative status than the academic group in the minds of, at least some, if not many teachers, parents and pupils. This tends also to detract from similar types of courses in technical colleges. The stigma of "relegation" to a junior technical or domestic science school, for example, causes serious heart burnings and dissatisfaction with our system.

(vii) At present quite a number of students enrol from secondary schools with weaknesses (in varying degrees, of course) in the basic skills (study methods, note making, reading and arithmetic), sufficient to handicap them in handling the level of the course they wish to undertake. This factor could be one of the contributing causes to the significantly high wastage found in some of our courses. Some further strengthening of diagnosed deficiencies in these skills can be adequately handled in the secondary system, if additional time were available perhaps, without the need for as much emphasis on segregation into "opportunity" classes as now exists. I also recognize that some remedial work will still be necessary in our Department, both in ordinary classes and by special arrangement—in fact, we have established an Educational Clinic for work in this connection.

(viii) There is frequent confusion of the *pre-vocational* with the orientation functions of the many subjects at present appearing in the secondary school curriculum. Woodwork, Metalwork and Technical Drawing syllabuses should be recognized as part of a general education and have the primary aim of providing an opportunity for creative experience for better understanding of the industrial world and so on, even when taken to Leaving Certificate standard.

(ix) Selection, which indirectly limits the "pool" from which apprentices, future technicians and future technical teachers are to be drawn, has important disadvantages from our point of view. Boys from full high schools rarely consider skilled craft or technician careers yet many are highly suitable and would be well satisfied in such vocations. And let me emphasize again the economy needs a good sprinkling of young people with high level potential entering these fields. Every craft, for example, needs its leavening of the highly intelligent now guided away at 11 years or so, if industry is to have the benefit of some of its executives "graduating the hard way"—through the ranks. There is value in a proportion of our top professional men graduating by way of trades courses, matriculation and then professional training.

4. Suggested Amendments to Secondary Education.

4.1 Suggested "Principles" to be Observed in Any Review.

4.1.1 *The Need.*

The programme outlined very briefly below would educate the whole person in an adequate fashion, recognizing his needs as a dynamic and growing entity, but yet offering many opportunities for group adventures too. Only the general features have been mentioned, with no attempt to detail and structure a programme, which would depend on many other factors not considered here.

First, however, certain guiding "principles" or ideas are enunciated, which are intended neither as exhaustive in coverage, nor mutually exclusive, but which will provide a justification for the proposals offered. I recognize that they may well be in need of further modification or clarification. Much of the material here results from discussions I have had with my staff and industrialists.

I have kept in mind, in developing my suggestions, the need to recognize the proper relationship of the secondary school to the community, to commerce, to industry, and to the tertiary training institutions—and particularly to the technical colleges of this State. I have tried to correct the lack of balance due to pressures downwards on the system from the university—but it is not intended that there should be instead a disproportionate emphasis on a technical/vocational orientation to correct the past trend.

4.1.2 *Some Guiding "Principles".*

(i) *The broad aims of secondary education should be clearly enunciated, and be so phrased that the extent to which these aims are achieved in the future can be, and will be, regularly assessed.* A clear distinction is drawn here between assessment of individual students by examinations, etc., and what is intended—viz., assessment of the success of the curriculum itself. Such assessment is rarely done in a regular fashion, yet it is quite clear that some evaluation is urgently needed if we are to progress. This Enquiry has my strong support for this very reason. Perhaps the Committee should meet regularly, though if it became more permanent it might perhaps be constituted on a wider community basis than at present.

(ii) *These aims should weight the educational process to meet the needs of individual students in a realistic way, and in reasonably direct proportion to the subsequent place they will take in the community.* (Where training at a tertiary level is a possible outcome, the relative requirements for success in the various types of training institutions should be given proportionate consideration.)

(iii) *The priority of certain subjects over others should be reconsidered, and thought given to the need for the acceptance of all subjects with sufficient central "core" as equal in value. Thus the traditional importance* of some subjects (e.g., Mathematics and foreign languages) should be carefully reviewed, and similar weight and time be perhaps given to others. For example, Biology should rank as high in importance as, say, Chemistry—and be as available to as many students—including boys. The syllabus content, too, in many ways needs review, remembering the priorities in aims. Mathematics again is in this category. I am concerned at the depth of treatment aimed at for *all* students even in the earlier years of Mathematics I and Mathematics II, let alone what our Fifth Year boys are expected to know.

(iv) *The secondary education structure must recognize that, in the educative process, the individual must learn to function more and more as his education progresses, as an active and independent participant in the world outside.* (Therefore there should be a gradually developing "bridge" between the facts and techniques, and skill and knowledge being acquired at school, and what is required for reasonable adjustment in the community—i.e., between what might be called the "school-oriented-and-treated" and the "community-oriented-and-treated" experiences in life. The very many facets of getting along on one's own in a community should receive adequate treatment and consideration.)

(v) *Besides mastery of the basic techniques of communication to a reasonably advanced level, the individual must be given every opportunity to multiply his acquaintance with, appreciation of, and basic understanding of, a wide range of electives.* (Such opportunities for orientation should be encouraged by giving the subjects concerned adequate recognition. Staffing difficulties might be overcome by using perhaps part-time staff where sufficient full-time staff is not available, or where numbers do not warrant a full-time appointment since the subjects must be presented by appropriate experienced specialists and not by "general practitioners").

(vi) *Active individual participation is a basic pre-requisite to any programme with a view to the development of a self-reliant individual capable of self-evaluation and self-help.* (Mass instruction may tend to stultify this, so that methods, must be explored which will permit the autonomous growth of the individual. Free and guided group discussions, as well as project work, for example, are possibilities not exploited as often, or as early, in the secondary school classroom, as they might be, though I am glad to say they are featured strongly in the kindergarten and to an appreciable extent in the primary classrooms in this State. I should imagine the major emphasis on such methods should be in the secondary system).

(vii) *Selection, in the sense known in the English and N.S.W. systems, should be relegated to that point in a student's secondary education when he has gained sufficient basic knowledges and skills, and is ready to make an informed choice of the vocationally oriented educational programme he should follow.* (This should occur only after adequate investigation of his own strengths and weaknesses as well as the various broad vocational fields, both in fact as well as vicariously. At this point, should pre-vocational preparation become his choice, transfer to a technical college should be made, as there are adequate opportunities there for continuation of general education.)

(viii) *The curriculum and syllabus should be pitched at the level of the student of average capacity and interests with appropriate arrangements being made for the very bright and very dull, who might be grouped in homogeneous, graded classes at a proper level of endeavour in the "core" subjects within the normal classroom stream.* (Where diagnosis reveals the need for remedial educational treatment outside this environment, segregation should be only for the subject concerned. In general, for the *elective subjects,* there will be little to be gained from homogeneous grouping.)

4.2 Suggested Aims for Inclusion in the Major Objectives.

I believe there is a need to state clearly the general objectives of the secondary education system. I think the aims should include, inter alia, the following:—

(i) to educate young people to recognize the worthiness of all useful occupations, whatever their academic demands;

(ii) to educate young people to regard their present studies and future occupations as an opportunity to serve the community;

(iii) to develop both social as well as academic maturity in our young people by increasing opportunities for social and group interaction;

(iv) To educate young people to adjust more effectively to the rapidly developing technological society we live in; and

(v) to permit young people to approach their studies in a critical and evaluative atmosphere through the examination of, and group discussions about, differing points of view.

In addition I refer you to the major objectives Dr. Radford of the Australian Council of Educational Research enumerated recently as a paper he read at the A.N.Z.A.A.S. Conference in Melbourne. He classified them under the following broad headings:—

"(i) Health, Safety and Physical Development.
(ii) Social and Educational Development.
(iii) Ethical Behaviour, Personal Standards and Moral Values.
(iv) Social Relations.
(v) The Social World.
(vi) Aesthetic Development.
(vii) Communication.
(viii) Quantitative Relationship";

and in enlarging on (iv) Social Relations, he stated:—

"The pupil can contribute to group discussions, he can ask thoughtful questions; he can supply ideas; he can introduce himself and others naturally and courteously; he can make strangers feel at ease. He makes suggestions to bring about harmony and compromise. He uses the necessary social skill in games and at parties. He can carry out his responsibilities in a democratic group. He can help plan social events. He differentiates between persons and their behaviour, accepting a diversity of behaviour. He is able to enjoy a party at which both sexes are present. He is somewhat able to encounter and cope with ridicule, to discuss human behaviour objectively and impersonally and to discuss ethics and current events intelligently."

4.3 SUGGESTED AMENDMENTS TO THE STRUCTURE.

In offering some *general* suggestions concerning the secondary education structure I think the following should have priority:—

4.3.1 *Improving Communications between Schools, Business and Industry.*

(*a*) Improvement of communications between our secondary schools and business and industry is highly desirable. This implies greater opportunities for contact for *all* teachers and pupils with the activities of the commercial and industrial world, for the bulk of boys and girls leaving secondary schools go directly into employment. There is a danger that our teachers, involved as they are under present circumstances in a school—university—teachers' college—school cycle, will unconsciously emphasize academic things and perhaps tend "to reproduce their own kind." At this point I want it clearly understood that I am in no way disparaging our secondary teachers. Now this emphasis may be quite desirable for some students but certainly not the majority. How can a similar emphasis in other directions, for example in an orientation towards the technical/vocational fields, be ensured? Perhaps the Americans have some suggestions for us. There, the need for teachers with a proper appreciation of the relationship between the secondary school and the community, particularly the industrial and commercial community, has been fully recognized over recent years. Thus we see such relations strengthened through:—

(i) The strong *Parent-Teacher Association* movement embracing not only parents but all teachers. (N.B. This is rather different from N.S.W. practices in the Parents and Citizens' movement where only headmasters and headmistresses are regularly persona grata at P. and C. Meetings.)

(ii) The typical Business, Industry and Education Days (B.I.E. Days), during which teachers of all schools in a system are invited by representatives of business and industries to inspect their factories and banks, etc., and discuss problems of recruitment, personnel relations, etc., are strong public relation influences in American education.

(iii) The regular *Career Days,* during which representatives of various vocations are invited to address senior students on the requirements, advantages and disadvantages of various vocations, are perhaps worth emulation. The possibility of these becoming "recruiting drives" can readily be circumvented.

(iv) Locally elected Education Boards are the accepted pattern everywhere through the country.

4.3.2 *Variations to the School Organization.*

From my observations of overseas systems and my observations of the working of our own, there is a case for varying the existing school organization. I favor the establishment of some multi-lateral *schools* as the basic secondary school unit. These would be designed for a variety of purposes to replace the present system of unilateral, single purpose schools, which tend to stratify our boys and girls into separate communities relatively unrelated to the social situation to which they must learn to adjust. The general purpose, or comprehensive, school has a clear advantage I think in providing a broad cross section of the normal social structure, which will allow growth in an atmosphere more typical of their everyday environment.

The social educative experiences of the gifted, the less gifted, the average, and below average intelligence groups are rather limited by the present system of single level schools and pre-selected curricula, and to some extent prevent balance in their growth. Such a limitation should be avoided, at least as much as possible. I am not making a plea here for extremely large central schools (2,000 students plus) but for multi-lateral *schools of the* 1,000 *to* 1,500 *size* in place of the present segregated schools. I strongly favour *co-educational schools* also for the same reason.

The principles of giving full consideration to individual differences in interest, aptitude, intelligence and future plans, would not be abrogated by such comprehensive and co-educational schools. In fact, if they are sufficiently large and properly staffed, there is ample opportunity for a degree of selection into *homogeneous groups for instruction in the basic or core subjects,* while for the wide range of electives no selection would be required or desirable. I quite recognize that the provision of many electives, selection for teaching purposes of the limited type mentioned, and co-educational facilities are not practicable in a school population of 300-800 and that is why I am advocating some experimenting with the 1,000-1,500 size as having many advantages. Again, the provision of proper amenities such as cafeterias, theatrettes and so on is very difficult in the smaller school to which we are accustomed.

All secondary schools should be called "high schools" in order to avoid continuing the present undesirable hierarchy of schools.

4.3.3 *Conversion of Subjects Approach into a Patterned or Global Education.*

The "subjects system" under which pupils do a collection of subjects with little apparent effort towards integration should be constructively examined. The difficulties of the "teenager" in integrating all the different subjects, taken in different rooms under different teachers and often in different groups, can be very real. It is essential, of course, to use staff members who are "experts" in various subjects, particularly in the higher stages of secondary education, but it is equally essential that there be a co-ordinating influence if education is to be "for a fuller life". Group and individual project work, "field" activities and other co-ordinating media need development at the secondary school level.

4.4 Summary of More Specific Suggestions.

The following summary of more specific suggestions is made in the light of my earlier remarks, or indeed may only have been implied by them but I offer them as my considered opinion of what should be features in our system:—

(1) *Further education* beyond school, and beyond the minimum school leaving age, whatever may be determined, either on a full-time or part-time basis should be encouraged at first, and in certain categories later become compulsory.

(2) *All secondary schools should be called high schools and be co-educational and multi-purpose in character.*

All should be sufficiently large to allow co-education, a *core curriculum* of basic subjects, numerous *electives,* and an opportunity for some degree of selection into homogeneous teaching groups, but only for the core subjects.

Each secondary school should cater for approximately 1,000 to 1,500 students to permit multi-purpose activities in terms of curriculum, and yet not become unwieldy in terms of organization and administration.

(3) Successful completion of *four years* of secondary education should be a minimum *for all,* or 16 years, whichever is the first reached. Whilst administrative, accommodation and staffing difficulties will affect implementation now of such a policy, a determined effort must be made to implement the plan as early as possible.

(4) At the end of the fourth year there should be a *"subject" examination, public in character,* and perhaps optional—i.e., open in any one year to adults, private study students, etc. (i.e. not just students who have attended "such and such" schools), so long as candidates were over a certain minimum age, 16 years, or had completed 4 years of secondary school.

(5) *All* students, *passing in at least one subject, would receive a Certificate* (say a High School Leaving Certificate, which would state the subjects attempted at the examination, those passed, and the grade achieved (A, B C or F) in each. *Subjects could be added* in succeeding years, either by full-time or part-time study, and the Certificate replaced, so long as it indicated the year in which each subject was passed.

(6) At the same time it would be possible to institute some system whereby *students who secured a minimum number of points, or "credits"* (allowing for subject groupings and weightings), *in either one, or perhaps two, successive examination periods could "graduate"*, or receive a H.S.L.C. at a standard, which would be an academic step towards selection for further specialist education in a general education, a university preparatory course, or a technical college.

(7) After completion of the four-year basic secondary course a *University Preparatory Course* of say two years full-time duration normally would be possible at the high schools in a general education course, with a proper balance of both core subjects and other general subjects, together with electives. *Alternatively perhaps it could be carried out in a pre-vocational technical college course.* Arrangements for part-time completion of such qualifications, spread over an appropriate period, would be available as it is now in the technical colleges.

(8) The *"core" curriculum* of subjects should be developed at an appropriate level *for the average students,* with no suggestion of any reduction in time spent on them, but rather with the opportunity to go further with them in an additional required year, which could, however, be oriented more generally than at present (e.g., the present Mathematics syllabus is inappropriate and should be developed for the average student).

(9) *The present group of electives should be broadened* and should be readily available from as early as possible in secondary schooling for as many students to sample as possible.

(10) *Such electives should be clearly recognized as general education, and not pre-vocational in character in the secondary school system as such.*

(11) *Selection* of the type employed now at 11 plus (or even earlier in the primary school) would not occur before 15 years, as a minimum, though full-time counselling facilities would be available readily on a voluntary basis.

(12) Students of a minimum age of 15 years and *of their own choice* should be permitted to apply at the end of three or four years of secondary schooling, as appropriate, for selected admission to the Department of Technical Education's pre-vocational courses, designed for ultimate entry to the skilled craft or technician type field. The technical college course structure in such an event could be varied and developed for such purposes, although a pattern exists in several fields already—Women's Handicrafts, Art, Sheep and Wool, Pre-Apprenticeship and Day Secretarial. This pattern could be broadened in approach quite readily to permit, among other things, of progression towards matriculation, for example. These could be appropriately constructed to include core curriculum as well as general education electives, whilst giving weighted instruction in the selected pre-vocational direction.

4.5. PRE-VOCATIONAL TRAINING AS A TECHNICAL EDUCATION RESPONSIBILITY.

In addition to the original point I made that there should be a clear division of responsibilities between the Department of Education for those electives subjects, particularly of the Manual Arts type, which are intended for general education and orientation purposes, and the Department of Technical Education for all full-time pre-vocational and part-time vocational training I would like to add the following arguments for consideration. I have said that the boy, or girl, should transfer from the secondary system, either at the end of the third or fourth year of such schooling, but not before 15 years of age, once he or she wishes to embark on a pre-employment vocational training course.

Such a transfer I believe to be in the best interests of the student for the following reasons, which for the sake of simplicity in development are the ones which would be used with relation to the pre-apprenticeship training scheme with which most are familiar.

(1) Firstly, *pre-vocational training* (in this case pre-apprenticeship training) *is likely to be most effective in a craft or technical atmosphere.* This arises from the specificity of the vocational section of the course. Some might object to this specialization beginning too early; I consider it quite appropriate at about 15 years in a full-time course, which also includes a "core" of general education, and also so long as the degree of specialization is such that it permits flexibility in later choosing the particular avenue of calling. I see then the need, as we have at present for more emphasis on the type of pre-apprenticeship course typified by the Printing course, which emphasizes general printing, not just composing or letterpress machining, for example.

Boys are not trained in Woodwork but in general building (*i.e.*, woodwork applied), not in Metalwork but in general engineering. This is not only valuable as pre-vocational training but also serves as a motivating factor, particularly where the *teachers are industrially experienced men,* and where there is *access to a wide range of modern technical equipment.* Only the technical colleges can adequately provide both the level of craft training and this atmosphere, and at the same time be geared to handle the core of general education to which I referred.

(2) Secondly, the Department of Technical Education is the sole training authority in this State for apprenticeship training. The pre-apprenticeship courses are designed to merge gradually into the normal trade course by giving exemption from Stage I in each case. In a few instances to date (*e.g.* Building Industry) the apprenticeship period is shortened by a year for successful pre-apprenticeship recruits.

(3) Planned industrial contacts on an extensive scale for experience and observation, and of a more specialized nature, can be featured and be arranged as an integral part of a pre-apprenticeship course through technical college co-ordinating staff, with their day to day industrial contacts.

(4) *Avoidance of divided control.* At present pre-apprenticeship is a co-operative venture between this Department and the Department of Education. Co-operation has been good, but such divided control is unsatisfactory, particularly in cases where no "academic home" is available, where students are "shuttled" from college to school and back again.

The opinion has been expressed also that "school spirit" or "tone" is at its best as a motivating force when students are quartered and come to "belong" to the tertiary level institution, rather than the secondary school.

(5) General education is an important element in the present pre-apprenticeship scheme. Its value is fully endorsed by this Department.

(6) Finally, equal opportunities could exist in Department of Technical Education courses, as in Education Department courses, for suitable preparation for the suggested public H.S.L.C. examination, for which vocational/technical subjects, as approved by the Department of Technical Education, should be equally acceptable in securing (*a*) points towards the "subject" certificate or (*b*) accreditation as a "graduate" fit for progression to higher studies—either in technical education or in university courses.

The point of transfer would be guided by the following criteria:—

(*a*) Minimum age of 15 years, or completion of the third secondary school year, whichever was the sooner, and

(*b*) Acceptability by the Department of Technical Education in terms of potential aptitude and academic achievements (*e.g.*, graduation to this Department's certificate type course, designed for technicians and semi-professional occupations, would require minimum points and groupings).

APPENDIX D

SOURCES OF EVIDENCE

1. List of Associations and Individuals who presented Oral Evidence

ARNOTT, REV. DR. F. R.
AUSTRALASIAN TRAINED NURSES' ASSOCIATION.
AUSTRALIAN COUNCIL FOR EDUCATIONAL RESEARCH.
AUSTRALIAN INSTITUTE OF INDUSTRIAL PSYCHOLOGY.
AUSTRALIAN LIFE SAVING ASSOCIATION.
AUSTRALIAN PHYSICAL EDUCATION ASSOCIATION (NEW SOUTH WALES BRANCH)

BAKER, REV. H. W.
BARCAN, MR. A.
BARRATT, MR. P. E. H.
BASSETT, DR. G. W.
BAXTER, PROFESSOR J. P.
BELMORE SOUTH PUBLIC SCHOOL PARENTS AND CITIZENS' ASSOCIATION.
BENNETT, MR. A.
BOARD OF SECONDARY SCHOOL STUDIES.
BOYD, MR. E. H.
BRITISH AND FOREIGN BIBLE SOCIETY IN AUSTRALIA.
BRITISH ASTRONOMICAL ASSOCIATION (NEW SOUTH WALES BRANCH).
BROWN, MR. L. M.
BROWN, DR. M. S.
BUSSELL, MR. A. C.

COUNTRY WOMEN'S ASSOCIATION OF NEW SOUTH WALES.

DARBY, MR. E. D., M.L.A.
DEPARTMENT OF PUBLIC HEALTH, NEW SOUTH WALES.
DEPARTMENT OF TECHNICAL EDUCATION, NEW SOUTH WALES.
DOUGHTON, MR. H.
DUNCAN, MR. G.

EASON, MR. W. J.
EASTWOOD CENTRAL SCHOOL PARENTS AND CITIZENS' ASSOCIATION.
ENGLISH TEACHERS' GROUP.

FATHER AND SON WELFARE MOVEMENT, SYDNEY.

GILCHRIST, MR. A.
GILMORE, MR. W. J.
GIRLS' MISTRESSES' ASSOCIATION.
GOLLAN, MR. W. E.

HARRIS, MR. H. L.
HARVISON, MR. F. W.
HAUSER, MR. R. J.
HEADMASTERS' ASSOCIATION.
HEADMASTERS' CONFERENCE OF AUSTRALIA (NEW SOUTH WALES SECTION).
HEADMISTRESSES' ASSOCIATION.
HEARNSHAW, MR. E., M.L.A.
HISTORY TEACHERS' ASSOCIATION.
HOBDEN, MR. M. G.
HODGE, MR. R. F.
HOLT, MR. O. L. S.
HOME ECONOMICS TEACHERS' ASSOCIATION.
HUGHES, MR. DAVIS.

INSTITUTE FOR SEMANTOGRAPHY.
INSTITUTE OF CHARTERED ACCOUNTANTS IN AUSTRALIA.
INSTITUTE OF INSPECTORS OF SCHOOLS.
INSTITUTE OF PHYSICS.

JOHNSTON, MR. W. A.
JONES, MR. P. B.

KELK, MISS V. P.
KELLY, MR. M. N.
KEMP, DR. L. C. D.

LINDSAY, MRS. C. M.
LONG, MR. D. M.

MACKIE, MISS M.
MANUAL ARTS TEACHERS' ASSOCIATION.
MARQUET, MR. P. A.
MARRIAGE GUIDANCE COUNCIL OF NEW SOUTH WALES.
MATHEMATICAL ASSOCIATION (NEW SOUTH WALES BRANCH).
MCCALLUM, SENATOR J. A.
MCCAW, MR. K. M., M.L.A.
MCMILLAN, PROFESSOR J. R. A.
MELLOR, DR. D. P.
MEN TEACHERS' ASSOCIATION.
METCALFE, MR. J. W.
MURCH, MR. A. J.

NATIONAL FITNESS COUNCIL. (ASSOCIATED YOUTH COMMITTEE.)
NAY, DR. N.
NEWCASTLE AND DISTRICTS ASSOCIATION OF SCIENCE TEACHERS.
NEWCASTLE BUSINESSMEN'S CLUB.
NEWCASTLE CHAMBER OF COMMERCE.
NEWCASTLE-COALFIELDS MATHEMATICS TEACHERS' ASSOCIATION.
NEWCASTLE GIRLS' HIGH SCHOOL PARENTS AND CITIZENS' ASSOCIATION.
NEWCASTLE HEADMASTERS' ASSOCIATION.
NEWCASTLE MANUAL ARTS TEACHERS' ASSOCIATION.
NEW EDUCATION FELLOWSHIP.
NEW SOUTH WALES COUNCIL FOR CHRISTIAN EDUCATION IN SCHOOLS.
NEW SOUTH WALES COUNCIL OF CHURCHES.
NEW SOUTH WALES FEDERATION OF INFANTS' AND NURSERY SCHOOL CLUBS.
NEW SOUTH WALES FEDERATION OF PARENTS AND CITIZENS' ASSOCIATIONS.
NEW SOUTH WALES PUBLIC SCHOOLS AMATEUR ATHLETIC ASSOCIATION.
NEW SOUTH WALES TEACHERS' FEDERATION.
NEW SOUTH WALES TEMPERANCE ALLIANCE.
NORTHUMBERLAND COUNCIL OF PROGRESS ASSOCIATIONS.

ORME, MR. J. A.

PARKYN, MR. G. W.
PARRAMATTA DISTRICT COUNCIL OF PARENTS AND CITIZENS' ASSOCIATIONS.
PHYSICAL EDUCATION BRANCH, NEW SOUTH WALES DEPARTMENT OF EDUCATION.
PICTON CENTRAL SCHOOL PARENTS AND CITIZENS' ASSOCIATION.
PROFESSORIAL BOARD, NEW SOUTH WALES UNIVERSITY OF TECHNOLOGY.

RECREATION AND LEADERSHIP MOVEMENT.
RODERICK, DR. C.
ROOM, PROFESSOR T. G.
ROWE, MR. H.
ROYAL AUSTRALIAN HISTORICAL SOCIETY.

SECONDARY TEACHERS' ASSOCIATION.
SECONDARY TEACHERS' ASSOCIATION (ARMIDALE BRANCH).
SECONDARY TEACHERS' ASSOCIATION (TAMWORTH BRANCH).
SNEDDON, MISS H. M.
SOCIETY OF AUSTRALIAN TEACHERS OF DANCING.
STAINES, DR. J. W.
STANDING COMMITTEE OF CONVOCATION, UNIVERSITY OF SYDNEY.
STEVENSON, MISS J.
SUTHERLAND INTERMEDIATE HIGH SCHOOL STAFF.
SUTHERLAND, MR. J. A.
SYDNEY ESPERANTO SOCIETY.

TAPP, MR. E. J.
TAYLOR, MR. BRYSON.
TEACHERS' GUILD OF NEW SOUTH WALES.
TEACHING STAFF OF THE UNIVERSITY OF NEW ENGLAND.
TEN SELDAM, DR. R. E. J.
TRENT MIND AND MEMORY DEVELOPMENT.

UNION OF AUSTRALIAN WOMEN.
UNITED ASSOCIATIONS OF WOMEN.

WALTERS, MR. O. W.
WARD, PROFESSOR J. M.
WILLIS, MR. A. C.
WOMEN ASSISTANTS' ASSOCIATION.

YELLAND, MR. H. L.

2. List of Associations and Individuals who presented Written Evidence.

ALL SAINTS' PAROCHIAL COUNCIL, TUMUT.
ASSOCIATION OF TEACHERS OF AGRICULTURAL SCIENCE.
AUSTRALIAN BROADCASTING COMMISSION, SYDNEY.

BERRIMA DISTRICT FARM ADVANCEMENT LEAGUE.
BROKEN HILL PROPRIETARY COMPANY LIMITED.
BROWNE, PROFESSOR G. S.
BURNETT, MR. D. C.
BURSARY ENDOWMENT BOARD.

CAMPBELL, MR. G. A.
CAMPBELLTOWN PUBLIC SCHOOL PARENTS AND CITIZENS' ASSOCIATION.
CANTERBURY BOY'S HIGH SCHOOL PARENTS AND CITIZENS' ASSOCIATION.
CARR, MR. D. A.
CATHOLIC EDUCATION OFFICE.
CHAMBER OF MANUFACTURES OF NEW SOUTH WALES, SYDNEY.
CHILD WELFARE DEPARTMENT, NEW SOUTH WALES.
COMMONWEALTH PUBLIC SERVICE BOARD.
CONGREGATIONAL UNION OF NEW SOUTH WALES (YOUNG PEOPLE'S DEPARTMENT)
COOPER, MR. R.
CRADDOCK, MR. N. P.
CRAIGIE, MISS L. E.
CREW, MR. J. G.
CRICK, MRS. I.
CRISP, PROFESSOR L. F.
CROMARTY, MR. H. M.
CURTIS, MISS P. A.

DACOMB COLLEGE, MELBOURNE.
DAVEY, MR. J.
DENNIS, MR. C. J.
DEPARTMENT OF LABOUR AND INDUSTRY AND SOCIAL WELFARE (YOUTH WELFARE SECTION).
DEVONSHIRE PRESS.
DORAN, MR. H. N.
DUDLEY, MR. O.

ENGLISH ASSOCIATION (SYDNEY BRANCH).

FISHER, MR. G. A.

GALLIE, MR. F.
GANNON, MR. A. C.
GARDINER, MR. T. K.
GARSIDE, MR. L. C.
GEOGRAPHICAL SOCIETY OF NEW SOUTH WALES.
GEOGRAPHY SYLLABUS COMMITTEE.
GEOGRAPHY TEACHERS' ASSOCIATION OF NEW SOUTH WALES.
GILCHRIST, MR. A. D.
GOODMAN, MR. R. D.
GRANVILLE SECONDARY TECHNICAL SCHOOL PARENTS AND CITIZENS' ASSOCIATION.
GREENWICH PUBLIC SCHOOL PARENTS AND CITIZENS' ASSOCIATION.
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Sydney: V. C. N. Blight, Government Printer—1960