

NEW ZEALAND.

EDUCATION:
TECHNICAL EDUCATION.

[In continuance of E.-5, 1916.]

Presented to the House of Representatives pursuant to the Legislature Act, 1908.

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No. 1.

EXTRACTS FROM THE FORTIETH ANNUAL REPORT OF THE
MINISTER OF EDUCATION.

TECHNICAL INSTRUCTION.

EXTENSION OF TECHNICAL EDUCATION.

Of about fifteen thousand pupils returned as having left public schools last year, over five thousand proceeded to secondary education at district high schools, secondary schools, and technical high schools, while over two thousand were admitted to technical classes, many of the latter becoming at the same time wage-earners. These figures must be regarded as only approximately correct, but it is probably safe to assume that about half of the pupils who left the public schools last year did not continue their education. Of this number, about 75 per cent. reached the age of fourteen without having passed Standard VI, and hence left the public school without a certificate qualifying them for further free education. It is not unlikely that among this number there are many who would, if facilities for appropriate further education were placed within their reach, eventually fit themselves to enter the ranks of the industrial workers of the Dominion. The recent extension of the regulations governing free places providing for free education at classes related to industrial occupations (including agriculture and domestic occupations) of pupils leaving the public school without the recognized qualification for further free education will enable the technical schools to move in the direction indicated. These provide, *inter alia*, for the free education of recommended pupils over fourteen years of age who have left the public schools not more than six months previously without obtaining a Standard VI certificate qualifying for further free education. Pupils thus admitted must take subjects bearing upon a trade or industry, including agricultural and domestic occupations, but not including commercial subjects. An increase in the scale of payment is provided to assist the finances of technical high schools and also those of rural classes, the maintenance of which is generally more costly than that of urban classes. These new features are in the direction of making a differentiation between the test or qualification required for further admission to high schools, which will tend to give a bias towards technical and industrial training. In addition, parents whose circumstances necessitate the sending of their children out to work immediately they may leave school will be able to secure further free education for such children.

It is recognized that the proposals under consideration, which do not involve more than an extension of the present system of voluntary attendance, are but a step towards the solution of the problem of post-primary education, with particular reference to the adolescent wage-earner, and a problem which has been engaging the attention of educationists and social reformers for many years. Hitherto voluntary attendance at evening classes has for the most part been relied on, and, although large numbers of young people have undoubtedly benefited thereby, there is a growing conviction in the minds of a large body of thinking men and women that there is a limit to the usefulness of the evening class, and that that limit has been reached. It is now generally admitted that the instruction to be effective must be compulsory, and must be in the daytime. Compulsory attendance at evening classes has been tried in Scotland, and has proved a failure so far as the general application of compulsion is

concerned. In New Zealand legislative provision for compulsory attendance has been in existence for seven years, but the fact remains that last year "compulsory regulations" were operative in only seventeen school districts, confined to four education districts, all in the North Island. As illustrating the trend of thought in England on this important question, reference may be made to the report, recently published, of the Departmental Committee set up by the British Board of Education on juvenile education in relation to employment after the war. Of the twenty-one recommendations made by the Committee one of the most significant is as follows: "That it be an obligation upon all young persons between fourteen and eighteen years of age to attend such day continuation classes as may be prescribed for them by the local education authorities during a number of hours to be fixed by statute, which should not be less than eight hours a week for forty weeks in the year." Certain exceptions are made which need not be detailed here. The Committee points to numerous examples of experiments in "time off" by prominent business firms in England as evidence that the trend of thought amongst employers gives reasonable ground for the hope that a more general reform in the direction in which they themselves point will be met with sympathy and co-operation. The recommendations of the Committee as a whole may well be kept in view here in New Zealand as constituting an ideal to be gradually worked to as local circumstances and conditions permit, not the least important of these being the attitude of the people as to what they intend to make of their boys and girls through the forces of industry and society.

GENERAL.

The work of the schools and classes has proceeded satisfactorily considering the many unavoidable hindrances and disabilities arising out of the war. The ranks of the teaching staff and of the students have been thinned by numerous departures for the front. The published lists of distinction for bravery, initiative, and resource, and of killed, and wounded, include the names of many instructors and students. When the time arrives for reviewing New Zealand's effort in the cause of freedom it will be found that the technical schools, in common with other educational institutions, have responded well to the continued calls for reinforcements. As was to be expected, the returns for the year show for the first time a falling-off in the attendance at evening classes, while the technical high schools show a small increase, and this in spite of the demand for young people to take the places of those who have enlisted. The total number of students in attendance at all schools and classes was 19,691, a decrease of 511. In the circumstances such an attendance must be regarded as very satisfactory. The total number of students receiving free education under Government regulations or as holders of local scholarships and free places was 7,574, an increase of 591. The practical interest hitherto taken by local bodies, industrial organizations, and others in technical education has been continued in face of the many and increasing demands on the pockets of the community. Contributions in money from the above sources (carrying a Government subsidy of £1 for £1) totalled £4,200 for the year.

The school authorities have, for obvious reasons, considerably refrained from making application for grants for other than urgent requirements in the way of necessary buildings and equipment. Consequently, the amount (£4,040) distributed in the shape of Government grants was very much less than usual; in the previous year £13,461 was distributed. The number of buildings specially designed and equipped for technical instruction is now about sixty. Where such buildings have not yet been provided (*e.g.*, in remote centres) use is made of the local public schools or of suitable rented buildings. During the year classes were held at twenty-nine such centres in Taranaki, at sixteen in Wanganui and Canterbury, at twelve in Otago, and at seven in Auckland and Southland, and in smaller numbers in the remaining three education districts.

CLASSES OTHER THAN CLASSES AT TECHNICAL HIGH SCHOOLS.

Classes were held in 151 centres, seventeen less than last year. The number of classes and the number of individual students in attendance were as follow :—

Description of Class.	Number of Classes.		Number of Students.	
	1915.	1916.	1915.	1916.
(a) Conducted by Education or High School Boards ..	1,016	1,058	10,616	10,169
(b) Conducted by Technical School Boards or by Managers	636	678	6,855	6,699
(c) Conducted by University Colleges	165	179	776	718
Totals	1,817	1,915	18,247	17,586

Of the above groups classes of the (a) group continued to be the most numerous and the most widely distributed. Most of the classes in remote centres belong to this group. Classes of the (b) group, though held at a relatively small number of centres (thirty in all, including subcentres), constitute most of the largest and best-equipped schools in the Dominion. Classes of the (c) group are held at three of the four largest centres, and include some classes not of University rank.

Following are some particulars of the ages, sex, and occupations of students :—

—	Seventeen Years of Age and Under.		Over Seventeen Years of Age.		Totals.	
	1915.	1916.	1915.	1916.	1915.	1916.
Males	3,948	4,620	5,142	3,991	9,090	8,611
Females	3,361	4,007	5,796	4,968	9,157	8,975
Totals	7,309	8,627	10,938	8,959	18,247	17,586

SUMMARY OF OCCUPATIONS OF STUDENTS.

	Number of Students.	Percentage of Total.
Clerical pursuits	2,207	12·5
Professional pursuits	2,382	13·5
Students	3,290	18·7
Domestic pursuits	3,179	18·1
Agricultural pursuits	1,207	6·9
Various trades and industries	4,952	28·2
Other occupations not included in above	369	2·1
	17,586	100·0

It will be noticed that, while there was an increase of about 15 per cent. in the number of students under seventeen years of age, there was a decrease of about 18 per cent. in the number over that age, due, of course, to enlistments and the demand for women to fill vacancies caused thereby. Of the total number of male students, 46 per cent. were over seventeen years of age, as compared with 56 per cent. last year. More than half of the total number of students were females, while over a quarter of the students were engaged in various trades and industries. The summary of occupations of students indicates that the curricula of the schools as a whole are framed with a view to meet as far as practicable the educational needs of students engaged in a wide range of occupations.

NUMBER OF CLASSES IN CERTAIN SUBJECTS OF TECHNICAL INSTRUCTION HELD IN 1915 AND 1916.

Subjects of Instruction.	Number of Classes.	
	1915.	1916.
Mathematics and science	148	170
Engineering	164	195
Wood and lead working and other trades subjects	179	193
Agriculture, wool-sorting, dairy-work, &c.	134	105
Art and art crafts	254	255
Domestic subjects	369	346
Commercial subjects	259	322
Subjects of general education	310	329
Totals	1,817	1,915

The increase (thirty-one) in the number of classes for engineering is indicative of the rapidly growing demand for instruction bearing on occupations calling for a practical knowledge of mechanical, electrical, and civil engineering. The increasing use of mechanical and electrical power for industrial and other purposes must lead in the near future to very considerable developments in connection with this important branch of technical education. At present ten schools, including those in the four chief centres, are provided with well-equipped engineering workshops, and offer fairly full courses, both elementary and advanced, while the Engineering School in connection with Canterbury College, Christchurch, offers full degree and diploma courses in mechanical, electrical, and civil engineering.

The classes relating to the building, plumbing, and other important trades continue to be well supported particularly in the larger centres, by various industrial organizations. The setting-up in some districts of advisory committees representing masters and men has had a beneficial effect in bringing the trades concerned and the technical schools into closer relationship.

Classes bearing on rural pursuits were held at seventy-eight centres during the year, and were attended by 1,626 students. The subjects dealt with included agriculture, dairy-work, wool sorting and classing, shearing, horticulture, and orchard-work. It is gratifying to note, as an indication that the value of the instruction is recognized, that the farmers willingly contribute to the funds of the classes.

Classes for domestic subjects were held at most of the schools. There was a decrease both in the number of classes and in the number of students in attendance, due no doubt to the fact that the services of a large number of young women have been availed of for patriotic and other purposes arising out of the war. The special courses in home science and domestic arts at the Otago University continue to meet with satisfactory support. The number of students in attendance during the year was thirty-six, of whom twenty-one were prospective teachers of domestic subjects holding Government bursaries. Of these bursars twelve took the degree course and nine the course for the diploma. Payments totalling £1,160 were made by the Government on account of home-science bursaries, being at the rate of £55 per bursar. Fourteen students have on the completion of their courses been appointed to positions in various schools in the Dominion.

NUMBER OF STUDENTS TAKING GROUP COURSES.

Course of Instruction.	Number of Students.	
	1915.	1916.
Elementary and higher commercial, and general courses for public examinations	2,682	3,055
Industrial (including agriculture)	1,417	1,480
Pure and applied art	684	671
Domestic	855	711
Totals	5,638	5,917

Group courses occupying not less than four hours a week and eighty hours a year were provided at fifty centres, an increase of 9 per cent. About 34 per cent. of the students in attendance took such courses, the total number doing

so being 279 more than last year. The attendance at commercial and general courses shows an increase of 14 per cent., and at industrial courses of 4 per cent.

NUMBER OF STUDENTS RECEIVING FREE EDUCATION UNDER THE REGULATIONS FOR FREE PLACES.

		1915.			1916.		
		Males.	Females.	Total.	Males.	Females.	Total.
Junior free pupils	First year ..	850	501	1,351	820	596	1,416
	Second year ..	549	358	907	534	418	952
Senior free pupils	First year ..	447	348	795	433	354	787
	Second year ..	305	262	567	310	273	583
	Third year ..	162	109	271	175	147	322
Totals		2,313	1,578	3,891	2,272	1,788	4,060

Nearly 25 per cent. of the total number of students in attendance at classes held free places as above. The total number of junior free pupils was 2,368, an increase of 110, and of senior free pupils 1,692, an increase of 59. Over 50 per cent. of the students who entered technical classes as first-year junior free pupils in 1915 continued to attend in 1916. Of the total number of senior free pupils in their first year over 35 per cent. had previously completed two years at technical classes as junior free pupils. The remaining 65 per cent. had previously attended technical high schools, secondary schools, or district high schools. In addition to students holding Government free places, 310 students held scholarships or free places provided locally.

Regulations requiring the attendance of young persons between the ages of fourteen and seventeen who are not otherwise receiving a suitable education or who are not specially exempted from attendance were in force in ten school districts in Auckland, in three in Wanganui and Taranaki respectively, and in one in Hawke's Bay. The number of students attending under these regulations was 1,219, an increase of 361. Of this number, 654 were males. Returned soldiers to the number of 70 were admitted to free education under regulations gazetted last year providing for the free education of duly accredited returned soldiers at technical schools. Although, as was confidently expected, the school authorities offered facilities up to the limit of their available resources, the attendance was much below expectations. It is not difficult to advance reasons for what appears to be a meagre response on the part of the soldiers. For example, many of them being men of good education do not stand in need of further education, and are able to take up or return to profitable employment. Again, the courses of work at technical schools are not designed to enable students quickly to become proficient in the technique of a particular trade or industry and put them in a short time in the way of commanding good wages. Yet another cogent reason is the unavoidable disturbing effect which the sudden change from civil to military life must have on the individual. If, presently, it is found that there is any considerable number of returned soldiers who desire and stand in need of further industrial training, means must be found for giving them such training either at selected technical schools prepared, with the assistance of grants if necessary, to specialize in particular trades or industries, or, possibly, at one or more special institutions.

The following technical schools had roll numbers of 500 and over, exclusive of the technical high schools carried on in connection with some of them :—

School.	Roll Number.	
	1915.	1916.
Auckland Technical College	1,451	1,329
Christchurch Technical College	1,156	1,225
Wellington Technical College	1,163	1,207
Dunedin Technical Collège	1,277	1,204
Wanganui Technical College	984	814
Palmerston North Technical School	566	673
Dunedin School of Art	535	560

The fall in the attendance at some of the above schools is due to withdrawals as the result of enlistment. The attendance at the schools and classes generally must be regarded as satisfactory in view of the fact that it is for the most part voluntary. That so many students are prepared to take up definite courses of study involving attendance on three or more evenings a week is not the least gratifying feature of the present voluntary system.

Capitation earnings for the year totalled £34,771 (including £9,599 on account of free pupils, pupils admitted under "compulsory regulations," and returned soldiers), being at the rate of nearly £2 per student. The rates of capitation vary from 2d. to 8d. per hour according to the year and nature of the instruction. These rates are increased by one-half in the case of classes in remote centres. An additional rate of 3d. per hour is paid on account of free pupils, "compulsory" pupils, and returned soldiers. Payment is not made on account of any student for more than 400 hour-attendances a year, but this maximum is only reached by a small proportion of students.

The science examinations of the Board of Education, London, and the technological examinations of the City and Guilds of London Institute were held as usual, the former at nine and the latter at thirteen centres. The total number of entries was 421, and the number of passes 262. In connection with the technological examinations bronze medals were awarded to two Auckland students on the results of the examination in electrical wiremen's work, Grade I, and plumbers' work, Grade II, respectively. Two candidates, one at Wellington and one at Invercargill, attained the standard required for a prize in the subjects of mechanical engineering, Division II, Grade II, and cabinetmaking, Grade I, respectively, but being instructors were disqualified.

TECHNICAL HIGH SCHOOLS.

These schools, eight in number, are of secondary grade, and provide industrial, commercial and general, domestic, agricultural, and art courses. They are under the same management as the technical schools of which they form part.

The number of pupils in attendance during the year was as follows:—

Technical High School.	Number of Pupils.	
	1915.	1916.
Auckland	464	508
Wanganui	185	250
Wellington	254	285
Napier	108	111
Westport	20	29
Christchurch	421	376
Dunedin	304	315
Invercargill	199	231
Totals	1,955	2,105

The total enrolment for the year, which shows an increase of 7·7 per cent., must be regarded as satisfactory, indicating that these schools, which are mainly vocational in character, are fully justifying their existence as units in the system of secondary education. Speaking generally, it would appear that requirements in the way of secondary education in the case of a rural centre, or, indeed, of any centre outside the larger urban centres, would be best met by the establishment of what may be termed a general-purpose school, of which the technical high school may be cited as a typical example.

The number of pupils taking up the various courses provided was as follows:—

Course.	Number of Pupils.		
	Males.	Females.	Total.
Industrial	480	...	480
Commercial and general	338	831	1,169
Domestic	...	301	301
Agricultural	153	...	153
Art	2	...	2
Totals	973	1,132	2,105

Over 55 per cent. of the pupils took commercial and general courses, industrial courses being taken by 22·8 per cent., and domestic courses by 14·3 per cent. There was an increase of thirty-eight in the number of pupils taking agriculture. Seven of the schools offered industrial, commercial, and domestic courses: four of these offered also an agricultural course, and one an art course; while one school (Westport) offered an industrial (engineering) course only.

NUMBER OF PUPILS RECEIVING FREE EDUCATION AT TECHNICAL HIGH SCHOOLS UNDER THE REGULATIONS FOR FREE PLACES.

		1915.			1916.		
		Males.	Females.	Total.	Males.	Females.	Total.
Junior free pupils	First year . .	501	505	1,006	518	577	1,095
	Second year	267	266	533	280	320	600
Senior free pupils	First year . .	60	121	181	70	109	179
	Second year	15	26	41	11	28	39
	Third year	1	7	8	..	2	2
Totals		844	925	1,769	879	1,036	1,915

Of the total number of pupils in attendance 91 per cent. were receiving free education under the Regulations for Free Places. Junior free places were held by 1,695 pupils, an increase of 156, and senior free places by 220 pupils, a decrease of 10. Over 50 per cent. of the pupils who entered the technical high schools in 1915 as first-year junior free pupils continued to attend in 1916, while about 22 per cent. of the pupils who completed the second year of their junior free places in 1915, having qualified for senior free places, continued to attend in 1916. Of the pupils who left on completing their junior free places in 1915, 28 per cent. qualified for and were admitted to senior free places at evening classes in 1916.

The rates of capitation vary from £12 10s. a year for first-year free pupils to £15 for third-year free pupils, and from £8 5s. to £10 in the case of other pupils. Capitation amounting to £23,295 was earned in respect of 2,029 pupils, of whom 1,845 were free pupils, as compared with £20,985 for the previous year. The rates of payment for pupils who qualified for capitation were £11·93 in the case of free pupils and £6·97 in the case of other pupils. To earn the full rate an attendance of not less than 800 hours a year is required. The scale of payments hitherto in force has been recently amended with the view of simplifying the computation of claims and at the same time of augmenting the funds at the disposal of controlling authorities. Coincidentally, a system of regular monthly payments has been inaugurated, the total effect being to place the finances of the technical high schools in a more favourable position than heretofore. Under the new scale the rate of payment in respect of free pupils who qualified for capitation in 1916 works out at £12·7 per pupil.

FINANCIAL.

The total capitation earnings of all classes, including technical high schools, was approximately £58,066 (giving a rate of £2·9 per student as compared with £2·6 for the previous year), of which £24,723 was earned by classes conducted by Education Boards, £29,284 by classes conducted by Technical School Boards and Managers, and £4,059 by classes conducted by University Colleges and High School Boards.

The following is a summary of receipts from all sources and of expenditure for 1916 in respect of classes conducted by Education Boards or High

School Boards, or by Technical School Boards or Managers (including in each case technical high schools) :—

	RECEIPTS.				Classes conducted by—	
					Education or High School Boards.	Technical School Boards or Managers.
					£	£
Capitation	27,153	29,300
Class fees	3,822	4,834
Voluntary contributions and subsidies thereon	2,529	5,239
Grants for buildings, &c.	1,997	1,602
Sundry receipts	4,874	6,585
Totals for 1916	40,375	47,560
Totals for 1915	£40,131	£49,767
EXPENDITURE.						
Staff salaries	23,722	29,072
Working-expenses	8,642	12,109
Buildings, &c.	6,017	5,193
Totals for 1916	38,381	46,374
Totals for 1915	£34,789	£46,084

Working-expenses represented 26 per cent. of the total receipts, exclusive of grants for buildings and equipment, in the case of classes conducted by Education Boards or High School Boards, and 29 per cent. in the case of classes conducted by Technical School Boards or Managers.

For the year the total receipts from all sources exceeded the total expenditure under all heads by £3,180, indicating that the available funds were wisely administered by the school authorities as a whole. Payments by the Government by way of capitation, grants for buildings and equipment, and subsidies on voluntary contributions represented 76 per cent. of the total receipts for the year.

With the view of placing the finances of the technical schools in a more favourable position than formerly and of enabling controlling authorities to meet their liabilities month by month, the system of interim capitation claims extending over the school year and into the financial year, hitherto in vogue, has been replaced by a system providing for the payment in regular monthly instalments within the school year of an amount approximating to the estimated capitation earnings for that year, thus obviating the carrying forward, as has been the case in the past, into the following year of any large amount due on account of the previous year. This change in the method of payments involves an increased appropriation for the current year.

The following is a summary of monetary assets and liabilities, as at the end of the year, of Education Boards as controlling authorities of technical classes and of Technical School Boards and Managers :—

	Education Boards.	Technical School Boards and Managers.	Totals.
MONETARY ASSETS.			
	£ s. d.	£ s. d.	£ s. d.
Bank balances	5,040 13 1	5,930 1 2	10,970 14 3
Other assets	15,064 0 0	18,663 11 5	33,727 11 5
Total assets	20,104 13 1	24,593 12 7	44,698 5 8
LIABILITIES.			
Overdrafts	11,909 1 10	2,765 16 11	14,674 18 9
Other liabilities	820 0 0	4,290 19 7	5,110 19 7
Total liabilities	12,729 1 10	7,056 16 6	19,785 18 4

In the case of Education Boards, nine in number, four show net credit balances totalling £11,957 14s. 3d., while five show net debit balances totalling £4,582 3s., the total net credit balance being £7,375 11s. 3d. In the case of Technical School Boards and Managers, nineteen in number, eighteen show net credit balances totalling £20,064 18s. 11d., and one a net debit balance of £2,528 2s. 10d., giving a total net credit balance of £17,536 16s. 1d.

It is evident that the financial position as a whole is satisfactory, and indicates that the school authorities collectively are not hampered by insufficiency of funds. It will be noted that the financial position of some of the Education Boards does not compare favourably with that of the majority of the Technical School Boards. Account must, however, be taken in this connection of the fact that the classes conducted by Education Boards include a number of classes for elementary or single subjects at small centres—classes which earn capitation at lower rates than in the case of most of the classes conducted by Technical School Boards, where definite courses of work, both elementary and advanced, are the rule rather than the exception. Three full-time technical high schools (787 students) and 985 classes (over 10,000 students) were conducted by Education Boards at 115 centres during the year, as compared with five full-time technical high schools (1,318 students) and 678 classes (nearly 7,000 students) at thirty centres in the case of Technical School Boards. Further, the funds of the classes conducted by Education Boards are augmented annually to a lesser extent by voluntary contributions and the Government subsidy of £1 for £1 thereon than are the funds of classes conducted by Technical School Boards. Voluntary contributions and subsidies in 1916 totalled £2,149 in the case of the former and £5,239 in the case of the latter.

The following is a summary of the expenditure by the Government on technical instruction during the financial year ended the 31st March, 1917 :—

Capitation	£	64,856
Subsidies on voluntary contributions	4,206	
Home science bursaries	1,180	
Grants in aid of material for class use	3,187	
		8,573
Grants for buildings and equipment		6,614
Conveyance of—		
Instructors	790	
Students	235	
Free pupils	2,361	
		3,386
Examinations		449
Inspectors' salaries and travelling-expenses		1,226
		85,104
Less recoveries (examination fees, &c.)		173
		£84,931

The expenditure was at the rate of £4.3 per student, as compared with £3.5 for the previous year. Included in the total is £2,424 from national-endowment revenue.

No. 2.

REPORT OF THE INSPECTORS OF TECHNICAL INSTRUCTION.

SIR,—

Wellington, 31st March, 1917.

We have the honour to submit the following report on technical instruction in the Dominion for the year ending the 31st December, 1916 :—

Reviewing the year's work of the technical schools it is gratifying to be able to report that although so large a proportion of the youth of the Dominion has enlisted in response to the call for reinforcements, the majority of the classes have been maintained at their normal strength. A few only have been abandoned through lack of support, while others have had so large an influx of students that the average attendance has been well maintained. Few new developments have, however, to be recorded, but speaking generally it has been a year in which reconsideration of purpose, concentration of effort, and increasing efficiency may be said to be outstanding features. It is now quite clear to progressive and well-informed members of the community, as well as to those most intimately connected with the conduct of the schools and classes, that, now that the value of and the necessity for vocational training is well established, the time is more than ripe for the reconsideration of some of the fundamental problems of vocational education; and probably the most important of these is the readjustment of educational, industrial, and economic ideals with a view to arriving at definite conclusions as to the forms the industrial training should take, the amount of time to be devoted to it, and at what period of the day the instruction should be imparted.

Industrial and economic changes largely brought about by the growth of scientific knowledge, and the keen competition between the nations in the markets of the world, have proved that the old system of apprenticeship which was developed when industry was stable, methodical, and regular does not of itself give a training which fits boys for modern industrial conditions; and that intelligent manipulative ability and the formation of industrial habits cannot be attained in the workshop under the ordinary conditions of labour; and, further, it is no longer debated that if "recognized types of vocational efficiency" are to be reproduced the requisite training can be accomplished only in schools and institutions in which the best equipped laboratories and workshops and the best teaching skill of the country are available, supplemented later by a period of training in the industrial workshop under the best conditions of productive effort. If, as is asserted, "vocational training is designed to make efficient producers," then the technical colleges in which practical and theoretical training receives for the most part proportional attention appear to be, at present, the best institutions for providing the future producers with their preliminary training; and if this country is to reap a full harvest from the effort and money expended on them, and if as a nation we are to have the invaluable asset which is to be found in a large body of skilful and intelligent mechanic and general workers, such economic and industrial adjustments will have to be made as will afford the State and the individual the greatest advantage of the training given. "What a man is trained for—the skilled performance of his own trade, and the enlightened service of his country and his race—these things he will do."

Trade and industrial concerns being organized on the assumption that the labour of a fairly large proportion of boys and girls is available for eight hours of each working-day—any suggestion that attendance at classes for technical training during the evening is unsatisfactory from many points of view is, in some quarters, viewed with the gravest suspicion; and if a further hint be given as to the desirability of all technical training for young persons under eighteen years of age being conducted during the day, visions of dislocated industry, diminished output, and monetary loss arise in the same quarters. It is, however, gratifying to know that there is a growing conviction both in this country and at Home that this problem will have to be considered from a totally different point of view, and much has already been done in the Motherland in that direction. From the report of a departmental committee on "Juvenile Education in relation to Employment after the War" presented to the Right Hon. H. A. L. Fisher, President of the Board of Education, England, it is gathered that the most extensive inquiry has been made on, and the best thought given to, "what steps should be taken to make provision for the education and instruction of young persons after the war." The necessity for the provision is stressed by showing the failure of the apprenticeship system, and the number of boys and girls who drift into blind-alley occupations; and, further, after showing that without the aid of formal training it is impossible to establish the character and develop the industrial efficiency of young citizens, remedies and proposals are suggested. Under the heading "Remedies" the following introductory remarks are worthy of the closest consideration: "What then are the remedies? In a sense there is only one remedy—*Porro unum est necessarium*. But it is a pretty thorough-going one: nothing less than a complete change of temper and outlook on the part of the people of this country as to what they mean through the forces of industry and society to make of their boys and girls. Can the age of adolescence be brought out of the purview of economic exploitation and into that of the social conscience? Can the conception of the juvenile as primarily a little wage-earner be replaced by the conception of the juvenile as primarily the workman and the citizen in training? Can it be established that the educational purpose is to

be the dominating one, without as well as within the school-doors, during those formative years between twelve and eighteen? If not, clearly no remedies at all are possible in the absence of the will by which alone they could be made effective." Proposals follow, the principal being that "Early legislation is required (a) to establish a uniform elementary school leaving-age of fourteen years, which entails the abolition of all exemptions, total or partial, from compulsory attendance below that age; (b) to require the attendance for not less than eight hours a week, or 320 hours a year, at day continuation classes between the ages of fourteen and eighteen."

Space does not permit of even a *résumé* of the committee's comment on and expansion of these proposals, but it appears pertinent to the points we are stressing to quote part of the comment on the "Attitude of employers" on the questions of compulsory attendance at day technical classes and "time off": "We may at once say that nothing has more impressed us throughout our investigations than the progress that has been made amongst employers in recent years toward sound ideals of working-class education. Two converging forces appear to have been at work. In the first place we have become conscious of a growing uneasiness, which is rapidly becoming articulate, as to the ethical aspects of the prevalent attitude toward child-labour. There have always been protests against the attitude, but during the nineteenth century they were mainly from the outside; now they make themselves heard within the industries. Employer after employer has come before us to recount his personal experience of "time off," and in so doing has expressed a strong conviction of the responsibilities which firms incur by the employment of juveniles. Side by side with this awakening of conscience has gone a growing appreciation of the direct industrial value of education both technical and general."

The question as to whether or not the desired changes in this country as to the time at which young people should attend technical classes should be brought about through legislative enactments need not be discussed in this report, but there are evidences of more than "stirrings of conscience" in some of those controlling the industries of the Dominion on the question of "time off." The Christchurch master painters have the honour of being the first body of employers to give practical expression to their belief in the value of the technical training available in their city by allowing their apprentices time off to attend at the School of Art for four hours, provided the apprentices attend for four hours in their own time; and the classes have begun under the most encouraging and happy auspices. There can be no question as to the relative value of instruction given during the day and that given to students attending evening classes after a day's hard manual labour. Knowledge can be more readily assimilated, retained, and made available for immediate use when the mind and body are fresh; and there is no question that for many of our lads it is too great a strain to concentrate their mental powers on technical problems when their bodies are weary. To quote again the report referred to above: "Quite apart from the cash value of strictly technical knowledge, it has proved an industrial discovery of the first magnitude that the personnel of a factory is part of its equipment, and that time and money are well spent in bringing that equipment to a high state of perfection, in keeping it well lubricated, and in saving it from disastrous stress and strain. The conception, for example, of a statistical inquiry into the conditions and results of industrial fatigue is a significant indication of the altered point of view."

In a previous report it was suggested that "if a Government Department would 'blaze the trail,' or even follow the lead given by the Victorian Government and inaugurate the necessary day technical training of their apprentices, there is little doubt that other departments and private firms would follow." Is it too much to expect that a Government Department will now follow the lead of the Christchurch master painters, and go a step forward and make it a first provision of employment that youths shall, wherever possible, have satisfactorily passed through approved courses of theoretical and practical training at a technical college, and a condition of apprenticeship that during the period of employment every apprentice shall attend approved day classes for eight hours a week during the period of their apprenticeship?

A condition of things appears to have arisen which needs a little serious thought. On the one hand we have the Government through one Department making ample provision for the training of its future citizens and mechanics, and on the other hand not insisting that the provisions are utilized at least by its own young employees. It may be retorted that the training is unsuitable. If this be so the remedy is near at hand. Speaking generally, those responsible for the conduct of our technical colleges and classes are doing their best for the young people in attendance, and are, for the most part, ready to receive guidance and advice from those actively engaged in and responsible for the industries of the Dominion as to the form the training should take. It would therefore be a simple matter if the particular kind of training required is known to ask that such be arranged for, and it is contended that within reasonable limits courses of training would be provided to meet special needs. Before the Marine Department accepted the training in engineering at the principal technical colleges as counting toward the requirements of the third-class engineers' (marine) certificate it satisfied itself that the training was suitable and sufficient. Probably if other Departments had as intimate a knowledge of the range of subjects taught and of the kind of training provided at the technical colleges it would lead to a wider utilization of the facilities offered, and further to a change of attitude as regards the technical training of their apprentices.

This matter of change of attitude or temper towards vocational training—that is, the making of an efficient producer—has been given prominence in this report, as it appears necessary in view of its importance, particularly at a time when educational values are being forced into the arena of thought and truer estimates attempted.

The review in detail of and comment on the work of technical schools and classes indicate the place these institutions are taking in the educational and industrial life of the Dominion;

and, provided we know exactly what we propose to make of the boys and girls of this country, there appears to be no question as to the part they can play in the formation of national character and efficiency.

Technical High Schools.—In a comparatively young country where every factor which goes to make up the sum total of its life and activities is growing, and adapting itself to the ideals and needs of the country, every institution designed to assist in the formation of the national life must pass through the natural evolutionary changes before the type is fixed; and technical schools in common with other educational institutions not only assist in shaping the character, but are themselves moulded by many and varied forces and influences. At their inception there was little to guide us except the experience of older lands, and if mistakes were made they were no doubt due to an attempt to establish in this country (the industries of which were practically in their infancy) a type of school better adapted to older countries where industries of every kind had been established for centuries. It is now, however, being realized that while the fundamental educational needs of new and old lands may be similar, the conditions of new lands demand that schools adapted to their special needs must grow with the needs; and this is what has been going on in the Dominion. The needs of young people who had left school and were waiting for employment, the necessity for a type of school designed to give instruction in the foundation principles underlying all vocational training, and thus prepare the ground for more advanced work, called day technical classes into being. It was soon discovered that the need for such classes had been accurately gauged. They were appreciated by parents who saw that in the new form of practical instruction an education having a closer relationship to industrial life was available, and from their inception onwards, the classes and the appreciation of their value, as shown in the number of young persons in attendance, and the work they are doing, have grown apace. From this small beginning has grown the sturdy institutions known as technical high schools, and present indications are that as fuller knowledge of the intention and value of vocational training is realized and the growth of the country demands it, these schools will take a very much more important place in the industrial life.

The courses of instruction appear to meet present-day needs. Commercial interests loom largest, although it must be noted that while in the commercial course (which appears to offer an easy and direct path to remunerative employment) the highest percentage of attendances are maintained, the other courses are either fully maintaining their average or the number in attendance is increasing. One of the most gratifying features is the steady growth of the course in agriculture, and it would appear that the technical high schools may presently be in the position to do for the primary industry what they have done and are doing for other industries.

The commercial course provides a sound elementary training in business principles, practice, and methods, and as the classes in connection therewith are for the most part in charge of instructors who know their business not only from the book but from actual contact with commercial life, a training which fits young persons to fill creditably at once junior posts in offices is responsible for the large and increasing demands for their services. While fully recognizing the value of the instruction given, it may not be out of place briefly to indicate an addition to the course that appears to have features worthy of consideration. Vocational education demands that this training shall be given under the closest possible approximations to the actual conditions of demands and use. The college office may therefore become a training-ground for more advanced students; but this only opens a limited field, and there appears to be no reasonable objection to the adoption of a method of instruction which has produced good results elsewhere. It is this: The interest of business men having a large clerical staff is secured, and, assuming that business arrangements permit and all interests are duly safeguarded, selected senior students from technical high schools are permitted to visit the offices at stated times, to see, with certain limitations, the routine and methods adopted, and if time allow to take part in some of the work. A report on the visit is afterwards written by each student, and these reports after careful scrutiny by the instructors are forwarded to the head of the firms visited, who makes such comments on them as will give guidance to both instructors and students. It is considered that some such method, if adopted, would help employers more readily to discover suitable junior clerks, and at the same time assist those taking up this form of life work to discover the place they are best adapted to occupy.

The domestic course not only provides a suitable training for those whose circumstances permit them to remain at home and intelligently and methodically assist in home duties, but also the elementary training required by those who propose to become teachers of domestic subjects; and for the latter, as for the former, the type of instructors, and the kind and quality of the instruction, with few exceptions, appear admirably suitable. The importance of a sound training in elementary science and scientific method is steadily being realized, and although circumstances do not yet permit of the science and domestic work being correlated as closely as appears desirable, the instruction is sound along certain lines. We may expect, however, that the best results in this branch, as in others, will be attained when trained domestic-science teachers are available for all the schools. A fuller interest could be added to this part of the report if a brief outline of the activities of a day in the domestic department of the schools could be given. Space, however, forbids; but the suggestion is offered that the institution of what is known as "mothers' day" would not be without interest. In a number of the American institutions of a similar character to our technical high schools the domestic department is open to mothers on certain days of the year. As the ordinary work of the school is not altered, it is necessary that the number of visitors be limited by invitation. They attend and have an opportunity of seeing for themselves the kind of training offered, and it is affirmed that many mothers in doubt as to the value of the instruction have shown their appreciation by sending their daughters to the school. The day is not used for advertising purposes, nor is the work of the day arranged on spectacular

lines for the mothers' benefit. The ordinary day's work is performed with the exception of the preparation by the pupils of a simple meal, of which the visitors partake at the conclusion of the day's work. We are too prone to form judgments of the general from the particular. Only a limited few actually know what is going on in our schools, and while the "open door" policy is not advocated, parents should be encouraged under certain conditions to make themselves personally acquainted with the work of the schools.

The course in needlecraft appears to be worthy of special mention, particular attention being given to the artistic side, as well as to the actual making of garments, &c. For the most part both the instruction and the work done reach a high standard of quality. Cookery, laundry-work, home nursing all receive consideration, and the work as a whole, whether viewed from the standpoint of home and its duties or from that of the future instructors in domestic subjects, has a high personal and national value.

The exact place the training provided in industrial pursuits is taking, and is intended to take, largely depends on the attitude of the various industries towards it. So far the industrial (engineering) course has been recognized, and the stamp of approval placed upon it by the Marine Department, and evidences of interest and changes in the viewpoint of labour organizations are not wanting. It now only awaits the complete recognition of the employers, and through them of the Arbitration Court; given this, the path to the beginnings of true vocational training in particular industries will be cleared of many difficulties. At present the industrial course is more or less closely related to architecture, building, cabinetmaking, and mechanical and electrical engineering, and the course as a whole approximates more closely to general and technical training than to the vocational, inasmuch as conditions at present render it inexpedient to devote the time vocational training demands to actual constructional and productive work. At one school, however, a nearer approximation is possible, and half the total time of instruction is given to theoretical work and the other half to workshop practice, as provision is only made at this school for instruction in engineering. The course generally at all schools provides for instruction in mathematics, geometry, and mechanical drawing, elementary science, mechanics, electricity and magnetism, and stated periods for practical work at the bench or at machines. Speaking generally the theoretical instruction is thorough, and the average lad, if he so desires, is in the position to gain a solid foundation knowledge of the elementary principles of his chosen trade. The schools are for the most part strongly staffed on the science and theoretical sides by men who may be regarded as masters of their craft, and with certain limitations the same may be said of the workshop instruction; but, as indicated above, conditions at present do not permit of the general adoption of more time being given to practical and productive work. If it is true, as is contended by an authority on vocational education, that "vocational knowledge and intelligence must grow out of the conditions of productive work; therein are to be found the source of its strength, as well as the centres of evolution for vocational intelligence, adaptiveness, and enthusiasm," the question arises, have we on our workshop staff instructors possessing the masterly skill in manipulative operations, and at the same time that force and enthusiasm without which a teacher cannot hope to produce vocational efficiency? That the best teachers available are engaged appears unquestionable, and good sound accurate work along certain lines is for the most part being done. But further consideration of the function of the workshops of technical colleges may lead to the conclusion that, if we are to get the best out of them, more time, particularly for students who can remain three or four years at school, will have to be given to workshop practice, and the course of work adjusted to suit the altered conditions. One illustration may be given to show that the training provided in the industrial course is not without vocational value. Two lads who had spent three and four years respectively at a technical high school were employed in the fitting-shop of an important industrial concern. An accident happened to the main electrical-power supply on which the works depended, and the whole was at a standstill. A mechanic effected repairs, but again the power failed, and the two lads, whose sole training had been received at the technical school, were allowed to take the matter in hand. Their knowledge of elementary electrical testing soon put them in the way of discovering the cause of the breakdown, and they satisfactorily made the necessary repairs. These youths are now receiving men's wages and are doing responsible productive work, and the system of technical instruction may be credited with placing them in the position to do it.

In previous reports the paucity of attendances at classes dealing with the principles of agriculture has been repeatedly emphasized. It therefore affords pleasure to have to report that at the technical high schools attendances in the agricultural course have risen in the last four years from seventy-one to 153, an increase of over 100 per cent.; and with this increase in numbers better facilities for instruction have been made possible. At the principal schools the services of an expert instructor is available, and the work done, both theoretical and practical, while not, it may be acknowledged, equalling that which may be undertaken in a specially equipped school, is nevertheless helping to complete the bridge in our educational system which leads to efficiency in agriculture. There is no need to stress at this time the value to be placed in this country on high productivity in all branches of the primary industry, and anything tending to speed it demands encouragement. That the technical high schools are doing their share in the necessary training for it is encouraging. The course includes instruction in chemistry, physics, geology, biology, and animal physiology in their relation to the soil and to the farm, with practical work on a more or less suitable area of ground. This latter work may be limited, but it is contended that the instruction in elementary principles of agriculture can for the most part be carried on in the laboratory and on small experimental farm plots, and the vocational training left until normal conditions permit of ampler and better provision being made. The recently established agricultural bursaries should ensure a satisfactory supply of students for agricultural colleges, and in the preparation for attendance thereat the schools under review will be able to do their share.

The provision for instruction in commercial and general history and geography and in the elements of industrial history and the mother-tongue is most satisfactory. A necessary modicum of formal grammar is taught, but the time devoted to the accessories of literature is for the most part wisely limited. Earnest and sustained effort appears to be made in the teaching of English to secure an interest in and love for good literature, and an attempt made to lead the student to go straight and swift to the mind and heart of the author; nor is the fact overlooked that good reading, with all the refinements of emphasis and clear diction, may be secured and at the same time the mind of the reader may remain a blank as to the sense and import of the matter read. Attention is also given to expression.

Although not quite pertinent to this report, mention must be made of the training in citizenship and the use of leisure. Training for work is important, but training for manhood and womanhood is equally important, and attention is given to it. In the after-school training, the school parliament, debating societies, reading circles, socials, and old students' associations, and other agencies appear to be used for the desired end.

Day and Evening Classes.—In view of the abnormal times, and a growing feeling in many directions that pure and applied art are luxuries that could at the present time be dispensed with, it is gratifying to report that the attendances at classes in these subjects have maintained a satisfactory average, and that the work of art classes generally is steadily becoming more rational and more closely related to life and purpose.

Referring to the growth of the feeling that in war-time the study of art should be abandoned, it may be pointed out that art in all its branches has established itself as an integral part of education; and if, as was stated at a gathering of art teachers and experts at a meeting of the Royal Drawing Society, "the purpose of the drawing lesson is not academic proficiency, but the making of better citizens of the world," there appears to be no just reason why all forms of art instruction should not be continued and encouraged in the same spirit as any other branch of education.

One of the most gratifying features of the work in art schools and classes generally is the large proportion of young people that are in attendance. The work they are producing appears to indicate the presence of a good deal of artistic ability. Some of the work in the design classes is excellent, and should industries arise requiring the services of designers there ought to be no difficulty in finding for the purpose young students with a sound knowledge of New Zealand flora, and the ability to adapt both its form and colour to decorative purposes. In a country abounding in such varied and easily procurable forms of interest and beauty, the question often arises, why use the old conventional and often meaningless type of models and casts in the drawing-lessons when other living and beautiful things are available? In connection with the elementary drawing-lessons a more extensive use of memory exercises is strongly urged. With carefully-thought-out schemes of work and carefully chosen subjects this branch of the work may be made, according to the headmaster of the Birmingham School of Art, "to develop keener observation, greater concentration, and deeper imagination than any other branch of drawing." His "Art School Notes" are worthy of the closest study by those who view drawing as something more than the accurate reproduction of things visible to the eye. In some of the classes students need to be delivered from "the bondage of the model." The instruction in advanced drawing and painting is for the most part on excellent lines, and the work as a whole reflects a good deal of credit on both instructors and students.

The provision of a graded course of drawing, design, modelling, and practical painting and decorating for painter apprentices has been made in the principal schools and classes for some years, but the advantage taken of it has been limited. Much may be expected from the effort of the master painters in one district to elicit sufficient interest from these young tradesmen in their work to lead them to attendance at classes specially arranged for their benefit, and if this effort induces similar efforts in other districts throughout the Dominion, adequate provision for the vocational training of young painters appears to be assured.

The facilities provided for the study and application of sound principles of art to varied artistic and decorative purposes attract a fair number of students to these classes, and some good examples of art-craft work are produced. Many of them, however, while excellent in conception, bear evidence of weakness in construction. The development of the constructional faculty would probably be facilitated if students had more opportunities for studying typical examples of art-craft work by skilful craftsmen.

Reference must also be made to the steadily increasing attention given to the teaching of drawing to teachers of primary and other schools. For the most part the instruction is excellent, and the effect of it will soon be apparent in the schools, provided that the instructors always keep in mind the necessity of giving hints on rational methods of teaching drawing during their drawing-lesson. Attention is again drawn to the needs of teachers far removed from centres where sound instruction in drawing is available. Evidences of the need abound, and if effect could be given to the suggestion made in a previous report the time, money, and effort expended thereon would, it is considered, be well spent.

That the same value has not hitherto been placed on organized instruction in subjects related to building (except plumbing) as has been given to, say, engineering may be regarded as largely due to the type of buildings, and the growing requirements of a young country in which developments in every direction are taking place. But more settled conditions and more enlightened ideals demand buildings of a higher type than those erected in the early days; and even the most casual glance at the type of public, domestic, and commercial structures erected during the past ten years in the principal cities and towns of the Dominion indicates that a great advance has been made both in the style of architecture and in the type of building erected, and with this there must be a corresponding growth in the establishment of organized courses of instruction

destined to train the architects and builders of the future. During the year under review the building trade has been, for obvious reasons, practically confined to works of absolute necessity, and a corresponding diminution in the number of workers has had its effect upon the classes. As a corollary a conspicuous feature at most classes connected with the building trades is the absence of the more mature students—journeymen who, anxious to improve their knowledge and ability, were prepared after a day's laborious work to tackle abstruse problems in, say, staircasing, and produce by hand fine examples of the joiner's craft, far removed both in design and execution from the ordinary bench-work engaged in during the day. The young craftsmen are, however, present, and the type of instruction offered in both the theory and practice of the carpenters' and joiners' art and craft appears calculated to have a good effect on both the design and construction of buildings. In view of an award by which attendance of apprentices at approved classes carried with it an increase of wages, a large increase in the number of attendances in some districts may have been expected, but probably the disturbed conditions and social unrest caused by the war make concentration of purpose and effort difficult, and the demands of other and less exacting interests receive undue attention. A corresponding decrease in the number of attendances at classes dealing with the principles and practice of architecture is also shown; but the character of the work, although carried on under somewhat depressing conditions, does not appear to have been affected. Viewed as a whole the work of the year in architecture, building-construction, carpentry, and related subjects has many encouraging features, and good results have been achieved. With the return of normal times it may be expected that the training in building subjects will be brought more completely into line with other branches of technical and vocational training, and the importance of it to the individual and to the State be recognized by increased attendances. The increased attention given to the theory and practice of cabinet-making is encouraging, and the increasing demand for cabinet work in the home of a better type than the usual stock work will no doubt react favourably on the attendances and work of the classes.

Some excellent examples of carpentry and cabinet work have been constructed at classes attended by amateurs, and any form of instruction intended to lead to a more profitable use of the leisure hour, such as creative work in furniture-making for the use and adornment of the home, must, it is considered, produce good results.

In connection with the trade classes under review it is noted that no attempt appears to have been made to provide instruction in upholstery, a subject which might with advantage find a place in the syllabus of the larger technical schools, and open the way to employment for those unfitted physically for trades demanding a strong physique.

It is to be regretted that the number of students in attendance at classes in the principles and practice of plumbing continues to decrease, owing to the war and other causes. In the larger centres a few years ago these classes were, speaking generally, among the best attended, the number of students in attendance ranging from fifty to a hundred, with a large proportion of advanced students engaged in carrying out intricate examples of lead-beating and pipe-jointing, and it was quite a common thing to find students attending for four and five consecutive years. This, however, has been changed, and if, as an instructor asserted, "the stimulus to attendance has been removed," it is to be hoped that something will be done at an early date to revivify interest in one of the most important branches of the building trade.

The increasing demand for clerical assistance has had its effect on most of the classes related to business life, and for the most part the courses of instruction are designed to fit the students to occupy junior positions in offices, and in the more advanced classes to qualify them for the higher positions of accountants and book-keepers. Speaking generally the whole of the teaching is in the hands of capable instructors having more than book knowledge of their subjects. Many of the instructors in evening classes occupy important positions in large business concerns, and, as may be expected, the training offered is soundly practical, and the knowledge to be gained available for immediate use. Improvements are noted in the instruction at some of the smaller centres, and an attempt made to bring the methods of instruction into line with those obtaining at the larger schools. A suggestion as to the value of the "touch system" of typewriting made in a previous report appears to have borne fruit, and an endeavour has been made to carry it out. It must, however, be acknowledged that the limited time available for practice at the typewriter in the case of many evening classes, and the limited supply of machines, renders sound and systematic instruction in typewriting a difficult problem; but an effort is made to increase the efficiency of the instruction, and this is to be commended.

The interest in classes dealing with subjects related to home life and work appears to be unabated. For the most part the classes in dressmaking and millinery attract a large number of pupils, particularly in the country centres, who learn to make articles of wearing apparel they would probably have to do without if they were wholly dependent upon the professional dress-maker. Without exception the instruction appears to be in capable hands. At some of the centres there is a slight falling-off in the number attending, largely due to the fact that many of those who would be likely to join the classes have already passed through a course of instruction in cookery and dressmaking at primary or secondary schools.

It is a fact worthy of remark that, so far as can be discovered, only one male student has since the inception of technical classes in cookery attended for instruction, and this in an island community with large shipping interests, employing a fairly large staff of men cooks and assistants, also a large number of hotels and other establishments requiring similar service; and the question arises whether or not an attempt has been made to provide a course of instruction for these branches of domestic duty. Surely the vocational training of boys and men for these not unimportant services is worthy of consideration.

The engineering and science staff of the technical high schools being for the most part available for the instruction of evening classes, a similar earnestness and thoroughness are characteristic features of the work, but as the instruction is given under different conditions the best results are not always achieved. The instruction in science includes subjects required by those preparing for the examinations of the Pharmacy Board, and for the more advanced course in engineering, and the methods of instruction leave little to be desired. Hygiene and physiology are also effectively taught at some of the larger schools, and the classes are mostly attended by public-school teachers preparing for examinations in the subjects. The course in engineering includes such subjects as geometry, mathematics, mechanics, machine-drawing, electricity and magnetism, machine construction and design, electric installation work, and workshop practice, and the majority of students are taking a more or less complete course in two or more allied subjects; but it is again asserted that the instruction of these young mechanical and electrical engineers will not be placed on a satisfactory basis until the principal part of the training is carried on at classes held during the day. For the most part the well-equipped workshops afford opportunities for doing types of work with which they may not become familiar during the course of their apprenticeship, and full use appears to be made of the opportunities provided. Some of the examples of constructional work, such as small electric and internal-combustion motors and workshop and laboratory appliances for their own or school use, are well designed, and in most instances accurately fitted, and this work with the training in principles appears to provide an admirable training supplementary to that of their daily work. The value of handwork training has been publicly emphasized in connection with the training of young engineers. It is gratifying to report that adequate attention is given to this matter, and the degree of accuracy attained in some of the workshops with hammer, chisel, file and scraper, and with hand tools at the lathe, is one of the most pleasing features of the instruction. Given the full opportunity our schools are for the most part in a position to provide a vocational training in workshop practice of a valuable type.

At all the schools and classes adequate provision is made for the teaching of English. The quality of the instruction varies, but is, speaking generally, on sound lines, tending to an understanding of the author studied, and an appreciation of some of the beauties of our literature. A feature of the work at one institution is worthy of wide extension: it is the encouragement and stimulus given to students to commit to memory passages from standard and well-known authors of both prose and poetry. The novelty of being invited at a visit of inspection to listen to the recitation of brief passages by both male and female students given with clear enunciation, and in a manner generally indicative of clear understanding and appreciation of the passage rendered, will not readily be forgotten. Work on these and similar lines make for interest and good work. Brief mention must be made of the excellent work done for the most part in classes for instruction in wool-sorting, photography, and typography. The wide use of photography beyond that made of it by the amateur appears to warrant the placing of this subject on the timetable of the principal schools, and making provision for the instruction of those who practice photography for commercial purposes. Extensions in this direction cannot, however, be expected under present conditions. The movement to provide technical and vocational training for the printing and publishing trades appears to be a step in the right direction. At one school fairly complete provision is made, and most successful classes are in operation; and at another it is proposed to commence classes shortly, part of the necessary equipment having been provided by the Managers out of their own funds.

M. H. BROWNE, | Inspectors of Technical Instruction.
E. C. ISAAC, |

The Director of Education, Wellington.

No. 3.

TECHNICAL INSTRUCTION IN THE SEVERAL EDUCATION DISTRICTS.

AUCKLAND.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE AUCKLAND TECHNICAL COLLEGE.

Technical High School.—The school continues to increase in popularity, the number of pupils enrolled for 1916 being 508, as against 464 in the previous year. Courses of instruction were provided as follows: For boys—agriculture, business training, science and technology, and engineering; for girls—business training and domestic science.

The agricultural course, which is intended specially to attract sons of farmers, and also the boy from the town who desires to make his living on the land, was taken by sixty-one pupils—forty-one first-year, seventeen second-year, and two third-year. The practical work at the experimental paddock at Otahuhu was in charge of Mr. F. E. Ward, diplomé of the Hawkesbury Agricultural College, who temporarily took Mr. Donnan's place whilst he was away at the front. Excellent work was done by Mr. Ward, but at the end of the year he enlisted. Fortunately, Hawkesbury College again came to the rescue, the Principal, Mr. G. H. Potts, agreeing to send over to us his son, Mr. G. G. Potts, who was a diplomé in agriculture and also in dairying of the College, and who was medically unfit for military service. By this means the work of this important course will be carried on under efficient supervision. The annual camp for second-year students was held at the end of the year at the Government Experimental Farm at Ruakura. The Manager did everything in his power for the comfort and well-being of the students, and most valuable instruction was received.

The business-training course, which aims at providing, in addition to a good general education, special training to boys and girls who intend to take up a business career, was again the most popular in the school, the number of students enrolled being 252, as against 227 of the previous year. This number was made up as follows: Boys—first year, 40; second year, 80; third year, 1; girls—first year, 121; second year, 52; third year, 17; and fourth year, 3. Owing to the dearth of male clerks, who were away on active service, there was a greater demand than ever for well-qualified students in business training.

The domestic-science course is designed to supplement the home training which girls usually receive, and to better fit them for the duties of the home-maker, whilst their general education is not lost sight of. The number of girls taking this course last year was fifty, being five less than that of the previous year. Excellent work was done in cookery, needlework, dressmaking and millinery, but the course still suffers very much on account of the lack of real practice in housewifery and laundry-work, such as would be provided in a hostel or house attached to the College. The second-year students again attended the Campbell Creche and received practical instruction in the care and feeding of infants from the Matron, who spares neither time nor energy in making this part of the girls' course a thorough success.

The science and technological course, which provides a preliminary two-years training for boys who intend to take up a trade or profession such as building, plumbing, cabinetmaking, engineering, &c., or for those who wish to take up a specialized course at the College in the various branches of engineering, was again well attended, the number of students being 126—eighty-four first-year and forty-two second-year—against 120 in 1915. Before students are admitted to the engineering course they must receive at least two years' training in our science and technological course, or in a high school. The number of students attending last year was nineteen, as compared with seventeen in 1915. In addition to providing training for those who wish to take up civil, mechanical, or electrical engineering, the curriculum covers the work required for the Public Service Senior Examination.

In the Senior National Scholarship Examination one scholarship was obtained, while seven students passed, two with credit. Nine students passed the Public Service Entrance Examination, two with credit, and two passed the Intermediate Examination. In the City and Guilds of London Institute examination fourteen successes were obtained, and three in the examination of the Board of Education, South Kensington, London. 109 students were awarded senior free places by the Education Department.

The most disappointing feature is the period of time for which students attend. About 50 per cent. of the students who enter the school leave at the end of the first year. It is true that a fair number of these continue at evening classes, but the majority are quite content with one year's post-primary education. The longer I live the more I am convinced that it is practically a waste of time and money for students to attend a technical high school for one year only. In my opinion parents should be required to enter into a bond for the minimum attendance of two years. One of the causes that mitigate against longer attendance at technical high schools is that the time spent there does not count as part of the apprenticeship in the case of students who afterwards enter a trade such as engineering. Many parents would be quite prepared to keep their boys at school until eighteen or nineteen years of age provided there would be a

corresponding shortening of the period of apprenticeship. As it is at present, even if a boy has spent three or four years in a technical high school, in say, the engineering branch, he has still to serve the full period of apprenticeship.

Evening and Special Day Classes.—There was a still further falling-off in the attendance of students at the evening and special day classes last year, the number having decreased from 1,451 to 1,329. This, of course, was chiefly due to the increased military demand, the attendance at the College as far as male students was concerned being almost entirely confined to those below military age. The attendance of junior male students was also to some extent affected by the fact that in many trades, such as building, plumbing, painting, &c., on account of lack of work, employers have not taken any new apprentices. The war also had an effect upon the College by removing several members of the staff, as, in addition to Mr. F. E. Ward, temporary instructor in agriculture, Dr. O'Shannassy and Mr. C. McCarthy also enlisted. Of the members of the staff who had previously enlisted, the College experienced a severe loss through the death of Mr. C. E. Burgess, assistant engineering instructor, who died of wounds in France. A new departure was made by instituting a course of instruction for butchers. This course included arithmetic, book-keeping, English, and butchery technique. The practical part of the latter was held on one evening per week in Messrs. R. and W. Hellaby's shop, the firm not only placing the shop at the disposal of the students, but also all the carcasses required for instruction in cutting up, &c. Of the eighteen students who enrolled, very few had received any education above the Fourth Standard. At the examination six students were successful, and were thus entitled under the arbitration award to an addition of 2s. 6d. per week to their wages.

Other classes were held as usual. Continuation classes for pupils who had not yet passed the Sixth Standard were even more popular than ever. During the year 163 students were enrolled, and of the 120 who sat for the examination forty-nine gained proficiency and twenty-six competency. In the various external examinations sixty-six students were successful in those of the City and Guilds of London Institute, and thirteen in those of the Board of Education, South Kensington, London. Four students passed "A" examination of the Pharmacy Board, and three the "B" examination. Three students passed the Matriculation Examination of the University of New Zealand; three obtained partial passes, and two completed the examination, having previously obtained partial passes. In the special examination for certificates in book-keeping held by the University of New Zealand three successes were obtained. In the examinations held by the Education Department two students passed the full teachers' C certificate, one with special distinction; four students passed in four subjects, ten in three subjects, and nine in two subjects. For the teachers D certificate seventeen were successful, whilst eighty-eight obtained partial passes. In the Public Service Examinations ten passed the Senior Examination, whilst three passed in four subjects, three in three subjects, and seven in two subjects. Twelve students passed the Public Service Entrance Examination, six passed the Intermediate Examination, and eighty-eight senior free places.

Teachers in training at the Auckland Training College attended the Technical College for the following subjects: Agriculture, art, domestic science, and manual training (woodwork).

The more one has to do with evening-class work the more one realizes how unsatisfactory the state of affairs is whereby so large a number of growing boys and girls are compelled to obtain education to better fit them for their life's work by attending evening classes after they have been fully occupied during the daytime. In many cases the knowledge so acquired is obtained at the expense of their health. It is surely high time that this should cease, and compulsory attendance at continuation classes in the daytime be instituted in its place. It should also be part of every Arbitration Court award to compel employers to send their apprentices during the daytime for at least two half-days per week to receive instruction at technical classes.

As I have previously pointed out, we are most seriously handicapped through the Technical College not having been completed. In conclusion, I wish to tender to my staff my appreciation for their efforts, which have been responsible for such excellent work during the last year.

GEORGE GEORGE, Director.

EXTRACT FROM THE REPORT OF THE SUPERVISOR OF MANUAL AND TECHNICAL INSTRUCTION.

Technical and continuation classes were held regularly at ten centres, and the numbers of individual students in attendance were as follows: Dargaville, 76; Te Kopuru, 49; Whangarei, 118; Otahuhu, 74; Devonport, 85; Pukekohe, 59; Hamilton, 140; Te Aroha, 55; Waihi, 120; Thames, 129.

Classes in English, arithmetic, book-keeping, woodwork, and dressmaking were held at all the centres, and in most of them there were classes for shorthand and typewriting. At Thames a plumbing class and at Hamilton plumbing, engineering, and ticket- and sign-writing classes were held.

Regulations requiring the attendance of all young persons between the ages of fourteen and seventeen years, excepting those attending any school and those who have attained a certain standard of education, are in force at Te Kopuru, Dargaville, Devonport, and Pukekohe; regulations requiring the attendance of boys only are in force at Whangarei, Otahuhu, Hamilton, Te Aroha, Waihi, and Thames.

Experience has shown the wisdom of making the above regulations, which enable all young persons to get free education at technical and continuation classes. Unless these regulations are made those young persons who have not obtained certificates of proficiency are debarred from getting free education. The behaviour of the compulsory pupils has on the whole been

most satisfactory. There is one great defect, however. It is a distinct hardship to compel young persons who work long hours in the daytime to rush home after their day's work, make a hasty meal, and then hurry off to the Technical School to start work there at 7 p.m. Legislation is urgently needed to make it compulsory for employers to allow their employees time off on at least two days each week for two hours each day so that they may attend technical classes in the daytime. When this is done there will be no injustice inflicted upon the students. Experience has shown the desirability of establishing classes for mechanical drawing at the technical schools, and at every centre a "trade-drawing" class been arranged for in 1917. The work is based on Darling's "Elementary Workshop Drawing" and Spooner's "Industrial Drawing."

The Waikato dressmaking classes were under the charge of Miss Noble, who held classes at Hamilton, Morrinsville, Cambridge, Paeroa, and Thames. Special teachers were engaged for the dressmaking classes at the other centres. The senior girls from the following schools attended special classes in needlework for one hour weekly: Thames Central, Thames South, Te Aroha, Hamilton East, Hamilton West, and Cambridge. Girls attending these special needlework classes are required to take ordinary school needlework for one hour a week.

Teachers' classes in hygiene, botany, and agriculture for practical work for the D-certificate examination and an agriculture class for the C-certificate examination were held in Auckland City. A hygiene class for the D examination and an agriculture class for the D and C examinations were held at Whangarei throughout the year. Dairy-science classes for instruction of teachers taking the subject in their schools were held in Whangarei and Hamilton.

Farmers' classes were held weekly for twelve weeks at Morrinsville and four weeks at Gordonton, the attendance at both places being exceedingly good. Experimental work (variety and manurial trials) is being carried out by several farmers at Matamata and at Morrinsville under the supervision of Mr. J. W. Hadfield, instructor in agriculture.

Two short courses in book-keeping for farmers were held, one at Mangere (ten weekly lectures) and another at Kaukapakapa (seven weekly lectures). The classes were attended by sixteen students at Mangere and twenty-two at Kaukapakapa, and those attending were very pleased with the instruction they received.

Arrangements were made with the Auckland Branch of the New Zealand Farmers' Union for a correspondence class for farmers, and twelve sets of notes in all on such subjects as soils, manures, crops, plant-life, dairy science are being sent out monthly to 140 farmers.

J. P. KALAUGHER, Supervisor.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE "ELAM" SCHOOL OF ART.

The attendance during the year has been practically the same as during 1915, which may be said to be quite satisfactory, considering the constant and increasing drain on the time of both sexes caused by the various branches of war work. 25,349 attendances have been registered during the year, as against 25,362 in 1915; but, just as 1915 was slightly better than 1914, 1916 would have been rather better than 1915 if the last week of the year had not been marred by bad weather. This 25,349 does not include 2,690 attendances made by school-children on Saturdays, who are too young or otherwise barred from earning capitation under the Regulations for Technical Instruction.

The work of the year has been generally very good; in most classes there has been a general improvement, perhaps more especially in applied-art work, in which the work of the year is certainly superior to that of any previous year, and does the instructor great credit. The life and antique work has shown a considerable improvement, especially in the cases of two or three students, whose work has shown a very marked advance during the year. Excellent work was done in the classes for light and shade, still-life painting, mechanical drawing, and sketching from nature, and the instructor has interested a larger number of students than usual in design, of which section a very interesting collection was brought together at the annual students' exhibition. I regret that there are still no Government examinations or competitions in art and applied art held in New Zealand. They would be of great assistance to students, as a definite object to work for greatly increases their interest in their work. Some of our students who competed in the art section at the agricultural and pastoral shows at Palmerston North and Wanganui were very successful, taking ten first prizes and six second prizes against many other art and technical schools.

I am sorry that the offer of the school to give free education to all classes to returned soldiers approved by the Returned Soldiers' Information Department has not been taken advantage of at all, as there are many trades taught in our applied-art section that could be easily taken up by wounded soldiers who might be unfit for a more vigorous life. One would have thought that design, wood-carving, leather-embossing, metal-working, enamelling, jewellery-making, and photography, all offering good means of livelihood, would have appealed to some of the returned soldiers.

I am glad to say that I have been able during the year to find positions, as workers in some branch of art, for several of our advanced students, to whom it became a necessity to take up some remunerative work. The photographic dark-room, which was completed and equipped during the year, has been a great success, and is equal to accommodating a large number of students. There are, so far as I am aware, no photographic classes in Auckland, and I anticipate that this latest extension of the school-work will prove very popular.

E. W. PAYTON, Director.

TARANAKI.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE NEW PLYMOUTH TECHNICAL COLLEGE.

During the year classes were held at New Plymouth (475 students), Stratford (73 students), Eltham (62 students), Hawera (228 students), and Inglewood (14 students).

New Plymouth Technical School.—During the year 207 students attended the day classes. The courses taken up were—Commercial, agricultural, engineering, domestic, arts and science, and art and art crafts. Lack of accommodation made the carrying-on of the work somewhat difficult. We are badly in need of rooms for dressmaking and typewriting respectively, and also of two class-rooms. During the year the theoretical work in connection with the engineering and the arts and science courses was carried on in rented buildings. The completion of the engineering building, which is in course of erection, will enable the students taking that course to have suitable accommodation, but there is still much need for the rooms specified above.

The extraordinary labour conditions existing during the year meant that a number of students were not able to finish the course. In some cases the parents were unable to allow the boys to continue, while in others the offers made to boys who had received a practical training were too tempting to resist. The boys were booked up three months ahead for work during the holidays.

The following passes were recorded in the various examinations during the year: City and Guilds of London Institute—Plain cookery, one pass; motor-car engineering, eight passes; electrical engineering, three passes; Public Service Entrance, one pass; Matriculation, one pass, one partial pass; senior free place, one pass; junior free place, one pass; teachers D and C, one partial pass; teachers' D, two partial passes.

The evening classes were conducted on similar lines to those of the day classes. The compulsory attendance of young people at the classes was given a thorough trial, and in connection therewith I beg leave to make the following observations: (a.) There appears to be no penalty for the non-registration of students, either on the part of the parent or of the employer. This throws on the Board's officials the onus of ascertaining what boys and girls should be attending the classes. I suggest that a penalty is necessary. (b.) Many of the students reach their seventeenth birthday during the year. As they are then exempt from classes it means that the instructors do not know from week to week what the class numbers are likely to be; also, it engenders a spirit of unrest among the class generally, and militates against good work. I think the compulsion should extend to the end of the year in which the student reaches his seventeenth birthday. (c.) Capitation is not payable on more than 150 hours a year. This means that the best students—those who have become interested in the work—have to stop instead of being allowed to continue for the full 400 hours allowed in the case of other pupils.

A noticeable feature among the evening classes is the rapidity with which the students forget their Standard VI work. Students after securing their proficiency certificate in the previous year can seldom gain 50 per cent. of marks in Standard VI arithmetic. This seems to show that there should be a considerable amount of recapitulation during the first year after passing Standard VI in order to "dinch" the work of the primary schools.

Although among employers there is a greater appreciation of the value of technical work, yet there are many who do not insist sufficiently on their apprentices and junior employees taking advantage of the evening classes. I am prepared to meet employers in every possible way, and I feel sure that they could make much greater use of the school than they do. The number of students travelling by train continues to increase, and the railway officials do their utmost for the comfort of the travelling students.

At the Hawera Technical School the following courses of work were carried on: Commercial, art, domestic, and handicrafts. As is usually the case, the commercial classes were the best attended, and much good work was done. It is pleasing to record that domestic classes were also well attended, the girls showing a keen interest in the work. The art course had not so many students, while the handicraft course, chiefly designed to meet the requirements of those plumbers requiring certificates, suffered from the dearth of young men. In addition to the courses mentioned, instruction was given in woodwork, first aid and ambulance, and agriculture.

At the Stratford centre technical classes were held in plumbing, dressmaking, invalid cookery; and continuation classes in shorthand, education, and higher mathematics. Besides these, classes were held for pupils preparing for the proficiency certificate examination, for Public Service Entrance, and Matriculation examinations. The work done by the plumbing students was of a high order of merit, and the progress made of a very satisfactory nature. Dressmaking was a very popular subject, and instruction was given in it for three terms. A number of the students came in from East Road district, some from as far back as Te Wera. The class in invalid cookery was conducted for one term, at the end of which an examination was held. The members of the class were hospital nurses, and all were successful in gaining either a first- or a second-class certificate. Among the continuation classes shorthand was by far the most popular; instruction was given in this subject for three terms. The class in education was confined to teachers who were working for higher certificates; of those who took the subject two students were successful at the examination held at the end of the year.

At the Eltham centre technical classes were conducted in commercial English and arithmetic, book-keeping, shorthand, typewriting, and dressmaking. The classes were well attended, although here again the labour-conditions were not conducive to large numbers towards the end of the year, when a number of the boys left town employment to take up positions on farms. The thanks of the town are due to the Borough Council, which installed a gas cooker free of cost.

At the Inglewood centre the only technical class conducted was that in dressmaking. The class was well attended, many of the students coming from considerable distances in order to obtain the instruction.

ALFRED GRAY, Director.

WANGANUI.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF MANUAL AND TECHNICAL INSTRUCTION.

Technical and Continuation Classes.—Classes were held at Wanganui, Wanganui East, Patea, Marton, Taihape, Mangaweka, Apiti, Ashhurst, Bunnythorpe, Feilding, Halcombe, Glen Oroua, Hunterville, Ohakune, Pohangina, Raetihi, Rangiwahia, Rangataua, and Rongotea. The enrolments totalled 4,313, the number of individual students being 1,931. These figures show a decrease of 1,204 and 697 respectively compared with the numbers at the end of 1915. This is to a large extent accounted for by the fact that the portion of the district transferred to the Taranaki Education Board included a number of centres at which technical education had made considerable progress, particularly Hawera and Eltham.

Very successful classes were inaugurated in the Main Trunk district, the most successful being at Raetihi, at which centre the residents are taking steps to secure a site for a building. The effects of the war were felt especially in the trade classes, where there was a marked falling-off in the attendance, and also in the number of male students. The number of students taking the commercial course, however, showed a decided increase.

At the Feilding Technical School classes covering a wide range of subjects were held. Eighty-nine free-place pupils attended. At the Senior Free Place Examination fifteen candidates qualified, and for certificates in book-keeping offered by the Board six passed in the preliminary and three in the junior grade. Lectures on fruit-culture and poultry-rearing respectively were delivered by Messrs. Pierce and Brown, of the Agricultural Department. The school again showed up well in athletics by winning the junior football competition and the Rogers Cup. The initial steps for the establishment of a technical high school at this centre have recently been taken.

Classes in nine subjects were conducted at the Marton Technical School. This school promises well for the coming year. At Taihape only one class was held. This centre possesses a good building, but there is a decided lack of interest. Apiti still continues to be an active centre, there being seventy individual students on the roll. A good commencement was made with classes at Patea, but these closed down after running for one term. Dressmaking was a popular subject at all centres, no less than 281 pupils attending, excluding those on the roll of the Wanganui Technical College. Despite the fact that expert instructresses were available, only twenty-one students outside of Wanganui took up the study of cookery.

Compulsory Continuation Classes.—There has been no cause to regret the Board's action in bringing section 124 of the Act into operation. Classes under this clause were held at Wanganui, Wanganui East, and Pohangina, the number of pupils being 257. At the beginning of the current year the section became operative in the Feilding and Marton districts. Reports to hand show that those who were required to attend quickly fell into line, and that in no case was it necessary to take proceedings to enforce attendance. In connection with the classes at Wanganui and Wanganui East eighty-three warnings were issued to parents by the Truant Officer. It was found necessary to take proceedings in thirteen cases. Seven convictions were recorded, four cases were withdrawn, and two dismissed. Court proceedings are instituted only when all other means of inducing regular attendance fail.

Wanganui Technical College.—The number of pupils who enrolled in the Technical High School was 250, compared with 194 for the previous year. The capitation for the Technical High School showed an increase of £734. In the evening classes the number of individual students was 735, which was about the same as for 1915. There was a slight increase in the capitation earned. The total number of individual students attending the College was therefore 985. In addition about 500 primary-school pupils attended for instruction in woodwork and domestic science, and some forty-five teachers attended Saturday classes. The total number provided for was thus over 1,500.

A boys' hostel was opened by the Director, some eighteen boys taking up residence there. Since the College reopened this year the number of boys has increased to twenty-six. A girls' hostel has recently been opened under the supervision of a lady member of the College staff. The number of girls in residence is fourteen. Country pupils are thus for the present provided with suitable homes, but the time is not far distant when the question of erecting suitable buildings for the accommodation of boys and girls from the country districts will have to be faced. The figures quoted above show that the College is making solid progress, but the question of finance always looms large, and the strictest economy has to be observed in order that the expenses may be kept within the income. The following are excerpts from the Director's annual report:—

The staff on the whole has done excellent work during the year, and I feel that much of our increase in numbers is due to their loyal efforts to maintain the efficiency of the teaching.

The courses of study have not been altered. We have, however, made it possible for pupils in the commercial, engineering, and agricultural courses to enter for public examinations, and this has tended to give the boys and girls more interest in their work and a more definite objective. Now that the General Council of Education has given its official verdict that the courses in operation here are those most desirable for every secondary school there is some reason to hope that the Public Service Commissioner and the University Senate will recognize technical courses by adopting their subjects for the Public Service Junior and the Matriculation Examinations, and that Government Departments will give a substantial recognition to the product of our technical courses. Something in this direction has already been done. In its examination for third marine engineers' certificates the Marine Department has given a substantial and valuable recognition to boys who attend the engineering courses, while the Public Service Commissioner has also notified that he is prepared to recognize the training given in the engineering course to boys who wish to enter the Lands and Survey Department as draughting cadets. Boys who have

made satisfactory progress in trade courses will also receive special attention when applying for Government positions. We have nevertheless received very little help from those who select persons for the Government service, and until we do the Technical School cannot do the work it is capable of doing.

The following are the numbers of pupils who passed the various examinations: Public Service Entrance, 12 (one was third on the list for the Dominion); Matriculation and Solicitors' General Knowledge, 8 (one headed the list for the Dominion); Engineering Preliminary, 1; Senior National Scholarships, 9 (three scholarships were won out of six allotted to Wanganui Education District); Junior National Scholarships, 5 (two scholarships were won by our pupils); Public Service Commissioner's Shorthand-typists' Examination, 2; Education Board Book-keeping Examination, Senior Grade 9, Junior Grade 15; Pitman's Shorthand Theory Certificate, 53 sat; Pitman's Speed Rates, from sixty to ninety words per minute, 14 sat (the results of these examinations are not yet to hand); City and Guilds of London—Mechanical Engineering, Grade I, 2; Electrical Engineering, Grade I, 1; Surveying, 1; Plain Cookery, 1; Dressmaking, 3.

Book-keeping: The Board each year holds an examination for certificates of proficiency in book-keeping. There are three grades of certificates—preliminary, junior, and senior. The examination is conducted by an outside accountant. At the examination held in November last twenty-three students passed the preliminary examination, twenty-four the junior examination, and eleven the senior examination. The total number of students who sat for these examinations was seventy-four.

The College time-table provides a two-hours period on Wednesdays, when each day pupil is required to take part in organized games. The statement of accounts shows an expenditure out of the Sports Fund of over £100 in providing the necessary materials for cricket, football, hockey, tennis, and basket ball, and prizes for swimming and athletic sports.

In addition to our own grounds we have had the use of Cook's Gardens and the Rugby Union's grounds. The boys won the Junior Cricket Cup for the past season, being beaten only once, and won three out of four football matches played. Our cadet team distinguished itself at Palmerston at Easter by winning the physical drill test and being placed third in a squad drill competition. The girls have had instruction in physical drill and dancing, and both girls and boys have had full provision made for their physical training.

We are much indebted to the Borough Council, the Wanganui and the Waitotara County Councils, the Chamber of Commerce, the Master Builders' Association, the Master Plumbers' Association, and numerous firms and private persons for contributions to the College funds. Without these contributions the College could not exist, and I trust that our contributors will feel that they have given in a worthy cause.

An appeal for funds for additional typewriters was heartily responded to, and we were able to add seven machines to our equipment. In this connection my very hearty thanks are due to our Chairman and the members of the Committee for the great amount of their valuable time which was given to the task of collecting. The typewriting-room is now well equipped, and though the cost of maintenance is high the students themselves are easily induced to bear the cost of this.

The statement of accounts shows a total income of £5,386 16s. 10d., and the total expenses of £5,130 6s. 7d., there being an excess of £256 10s. 3d. on the income side.

Of the income about £4,300 was derived from Government grants, £392 from contributions and subsidies, £405 from fees, and about £200 from sales of material, stationery, and games fees; almost £1,000 being thus derived from local sources. Of the expenses the chief item is salaries, which absorbed £3,235. For the first time we are able to show more assets than liabilities, there being at the end of 1916 an excess on the assets side of £80.

Technical education has in recent years received increasing attention from the authorities, but our balance-sheet points conclusively to the fact that inadequate funds are placed at our disposal. Without liberal help from local bodies the Technical College could not pay its way, and though the town decidedly benefits from the existence of such an institution, it is certainly a first essential of success that our position should be assured. This is certainly not yet the case, and though this year promises to be even better than last year, I feel that it is still essential that our funds should be very carefully administered. I cannot help feeling, therefore, that until the technical schools are placed on the same basis as the secondary schools in regard to capitation, and get a share in New Zealand's educational endowments, there will be difficulty in providing adequately for our students. Fifteen hundred individual students used our facilities last year, and yet the College, in order to establish itself firmly, feels induced to do without many things which are almost necessities. The capitation paid on evening classes seems adequate, but in the day school the capitation is almost absorbed by the salaries of the staff.

I am pleased to be able to report that the financial assistance given for some years past by local bodies, associations, and private individuals was continued last year, the total amount received in voluntary contributions for manual and technical classes being £608 19s. 11d. The thanks of the Board are due to the following, in addition to a lengthy list of private subscribers: Wanganui, Eltham, Patea, Marton, Feilding Borough Councils; Kiwitea, Pohangina, Manawatu, Rangitikei, Oroua County Councils; Raetihi Town Board; Wanganui Chamber of Commerce; Wanganui Builders' Association; Wanganui Master Plumbers' Association; Hawera Gas Company; Patea Harbour Board; St. John Ambulance Association; New Zealand Society of Accountants; Feilding Agricultural and Pastoral Association; Farmers' Unions or Clubs at Feilding, Alton, Rotokare, and Tokaora.

W. H. SWANGER,

Director of Manual and Technical Instruction.

EXTRACT FROM THE REPORT OF THE CONTROLLING AUTHORITY OF THE PALMERSTON NORTH TECHNICAL SCHOOL.

During the past year the school has made substantial progress not only in number, but in general efficiency. Although several members of the staff have enlisted for active service, the Board has been very fortunate in obtaining well-qualified instructors to fill their places. The number of classes held during the year was sixty-two. The number of individual students in the classes averaged approximately an attendance of from a thousand to twelve hundred. The financial position of the school is very satisfactory indeed, and the thanks of the Board are due to the Borough Council, Kairanga County Council, Working-men's Clubs, Farmers' Union, Defence Executive, and the Workers' Education Association for donations received from them during the year. New classes in home nursing were started and run most successfully. Thirty-one candidates sat for the St. John Ambulance Society's nursing certificate, and twenty-eight were successful. A class in industrial economics was also started for the workers, and good work was done. Seventeen junior-free-place students were recommended for senior free places, and all were granted by the Education Department. The staff has worked well, and been punctual and regular in attendance. A miniature rifle range was installed to give the cadets greater efficiency in shooting. The dressmaking and commercial departments are easily the largest in the school, followed by the art and engineering.

T. R. HODDER, Chairman.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE PALMERSTON NORTH TECHNICAL SCHOOL.

Although various members of the staff have gone to the front substitutes have been obtained, and the work of the school has gone on smoothly and well. So far it has not been necessary to bring in the compulsory clause regarding attendance at technical schools owing to the fact that at least 95 per cent. of those leaving primary schools and not attending high schools take up technical classes. It is hoped that this state of affairs will continue, as the tone and discipline of the school is so much more satisfactory when working without compulsion. No less than sixty-three of the present and past students, including instructors, have enlisted for the defence of King and country, of whom nine have made the supreme sacrifice. The classes for this year were attended by 673 pupils, of whom 184 were free places and 489 paying students. The total number of enrolments was 1,320. The majority of the students took grouped courses, and attended well enough to earn the higher capitation paid for such courses. The chief courses in operation were the commercial, science and mathematics, trades, domestic, agricultural, and arts and crafts.

The commercial classes still attract large numbers, there being seven classes in shorthand, two in book-keeping, and five in typewriting.

Most of the work done in the science and mathematics classes covered the ground for the Public Service Entrance Examinations, and were attended chiefly by boys working in various Government Departments. Considerable interest was shown in the work, and the results on the whole at the examinations were very good.

The trade classes were this year the smallest in the school, owing to the war, which has taken practically all the plumbers and woodworkers. Very satisfactory work, however, has been done in the engineering classes, which have been well attended on the whole. The dressmaking, millinery, and cooking classes have been very well attended, especially the dressmaking, which continues to be the largest department in the school, there being an average of eleven classes per week, with an aggregate attendance of between 160 and 170 students. The agricultural classes have fallen off, no doubt owing to the necessity for keeping the boys at home to take the places of the elder brothers who have gone from the farms. In connection with this department we are considerably indebted to the Agricultural Experimental Association of Manawatu for valuable assistance in the matter of providing plots, seeds, and manures for experimental purposes. The Standard VI proficiency class still continues to fill a most useful place among the classes of the school, and has been the means of many men getting promotion in Government positions in the Postal and Railway Departments. A course in home nursing was taken this year for the first time with great success, there being no less than seventy-five students in the classes. At the end of the period thirty-one students entered for the St. John Nursing examination and twenty-eight passed with credit. It is proposed next year to include this class in the domestic course.

The arts and crafts classes have been much better attended this year than during 1915. A small class in engraving on metal has been started, and has been attended by apprentices from the watchmaking and jewellery firms of the town. One of the employers kindly provided the silver necessary for the work. The life class and modelling classes have been very good, and some excellent work has been turned out—in fact, much good work has been done throughout this department.

The Board is again indebted to the Borough Council, Kairanga County Council, Working-men's Club, and the Farmers' Union executive for valuable assistance in the way of donations to the funds of the school. I have to express my appreciation of the whole-hearted support of the staff at all times in the interests of the school, and to the Board for the kind consideration given to all recommendations from myself.

F. D. OPIE, Director.

WELLINGTON.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE WELLINGTON TECHNICAL COLLEGE.

As in former years, I have to report that the natural growth of the College is still being stifled by lack of reasonable accommodation. The position is becoming worse year by year. The unsuitability and inadequacy of our present buildings, and the absence of reasonable breathing-space, the overcrowding of class-rooms, the absence of proper lighting, and the difficulties of sanitation, due partly to ill ventilation of many of the most important class-rooms, all render the work of the staff very difficult, and all militate against the efficiency of the work done by the students. The Technical School Board has lost no opportunity during the year 1916 of urging the removal of these great drawbacks to our work, and the Government has lent a sympathetic ear, but unfortunately no steps appear to have been taken as yet to place the College in a favourable position. It would seem, however, to be extremely important to the future of industry in this country that some general scheme of technological development should be considered and adopted now, since the attention of the people has been violently directed to the necessity of organizing the science and art of industry, so that this Dominion may not lag behind the other States in the Empire. The technical colleges must naturally have a large share in this development, and a comprehensive scheme for Wellington should certainly be adopted.

The site which has been suggested for our main Technical College is part of a large site which could well be adapted to national science and art purposes. There is ample room for technological laboratories, museums, art galleries, and storehouses of the archives of the country on the same site. There is no doubt that it will be necessary to provide, independently of the University or of any technological colleges, a range of technological laboratories in which expert scientists and technologists may be able to work at the many problems which will arise in connection with industry. It has been found undesirable in other countries to get such work done either in the universities or in the laboratories of private companies.

In New Zealand the difficulties of University and private work are much greater than in the large industrial centres, and it is certain that Government laboratories will be necessary. It will be advisable that these should be connected with technological museums in which some of the materials for researches may be found, and in which the results of researches may well be exhibited for the information of the public. A judicious scheme could easily be evolved, and maintained partly by direct contributions from the industries benefited. A well-equipped technical college in the immediate neighbourhood of the national physical and other laboratories would gain enormously by the association, and would in turn be of some considerable assistance in providing from its own workshops and by its own staff much of the special apparatus necessary for industrial research work, and probably such mechanical and other junior assistance as would be required.

Judging by what is now being done in the direction of science and art organization in Great Britain, it would seem to be advisable to construct a general policy and establish at least a preliminary organization at the earliest opportunity without waiting for post-war conditions. It is certain that all branches of technology must be far more seriously studied and much better provided for if the country is to receive the maximum benefit from the material available, and training which before the war was exceedingly desirable has now become imperatively necessary.

The numbers attending in the several departments of the College work show some increase over those for last year, and the total number of those who received instruction is a record for the College. Regular attendance was considerably interrupted through prevalent sickness and through the increase in overtime worked by juniors in the trade and commerce due to war conditions. Many of the advanced students in the trade classes enlisted during the year. The attendance in the Technical High School was satisfactory. The average class entries at classes other than those of the Technical High School were as follows: Art and art crafts, 190; building-construction, 22; carpentry and joinery, 43; plumbing, 67; engineering, 206; science, 417; domestic economy, 124; English, Latin, arithmetic, &c., 588; commerce, 548; "Amokura" classes, 96: giving a total of 2,301 as compared with 2,152 for the previous year. The numbers of those who took grouped courses during the year 1916 and attended well enough to earn higher capitulation were as follows: Elementary commercial, 175; higher commercial, 138; science and mathematics, 51; trades, 185; domestic, 34; art and art crafts, 48; returned soldiers, 7: total, 638. Adding 55 "Amokura" boys and 285 Technical High School students, it appears that, out of 1,493 students enrolled during the year, 978 took grouped courses of some value, a percentage of 65.5, as compared with 67.4 per cent. for the year 1915, and 70.4 per cent. for 1914. Omitting paying students in day classes, who were compelled to attend grouped courses, there remain 676 fee-paying students, of whom 198 took grouped courses. On the other hand, about 49 free-place students out of about 767 failed to take a grouped course.

The following is an analysis of the numbers of students admitted during the year 1916: Technical High School—Free students, 278; paying students, 7: total, 285. Other classes: Junior free students—First year, 134; second year, 98: senior free students—first year, 110; second year, 86; third year, 56; fourth year, 5: paying students, 676; returned soldiers, 18: scholarship-holders and others receiving free tuition, 25: total, 1,208. Of this number, 756 were males and 452 females. In addition the College staff provided instruction as follows: Wellington Boys' College—woodwork and drawing, 77 pupils; Wellington Girls' College—drawing and design, 271 pupils; while 171 Training College students, public-school teachers, and probationers received instruction in drawing, blackboard illustration, &c.: a total in all of 2,012 students.

Classes in art have been conducted with considerable success not only in the Art School itself, but also in the Technical High School, in the Wellington Girls' College, in the Teachers'

Training College, and for the Wellington Boys' College, on Saturday mornings for primary-school teachers. The influence of the teaching is therefore widely felt in the primary and secondary schools. Efforts have been made by the Technical School Board to come to some arrangement with the Education Board whereby the art staff might be more closely connected with the direction of the drawing in the primary schools, and it is probable that a satisfactory working scheme may shortly be adopted. In the case of the secondary schools the art department already does its share of the work, and it is hoped that the programme may be extended to include more work in the upper forms of the Girls' College, though it is difficult to arrange satisfactory time-tables in face of the demands of the Matriculation and Junior University Scholarship courses.

The classes for science and mathematics, engineering, and building trades continue to do good work, though many of the senior students leave before their courses are finished in order to enlist. The Building Trades Board of Control gave very careful consideration during the year to the question of the training of apprentices, and it is hoped that the courses approved by the Board will be largely attended by young tradesmen and apprentices.

Every facility is provided for a sound course in all branches of building and architecture. The plumbing classes have maintained interest and numbers, though the average age of the students is somewhat lower than usual. The Masters have continued to take great interest in the work of the classes, and have made many valuable suggestions. At the end of the year the Board decided to provide tools for the younger boys, in addition to the apparatus already installed. In accordance with a recommendation from the Masters, the subject of the heating of large buildings will be treated more fully than heretofore in the advanced course.

The commercial and continuation classes were well filled as usual. The difficulty is not to get students, but to keep them long enough to make real progress. The demand for junior clerks, typists, and shorthand-writers is so strong that the students are tempted to leave before they are properly prepared.

The classes in domestic economy continue to do very valuable work. I have again to urge that longer courses should be arranged for cooking for invalids. These courses are attended by hospital nurses seeking to obtain their certificates as competent nurses, and the time which they can devote to cooking is far too little for a really good course. It is to be hoped that in the interests of the patients a better arrangement will be found possible.

The numbers in the Technical High School are increasing at present, and appear likely to increase at a greater rate in the future. The school is powerfully throttled by reason of inadequate premises and unsuitable surroundings, and the efficiency of the work and the keen interest of the students reflect great credit on the teachers, who are performing exceedingly difficult duties in almost impossible conditions.

The buildings have been kept in good order throughout the year. The equipment has been added to where necessary, though much more is required in every branch of the work. It is not possible, however, to use much more in our present quarters.

The thanks of the College are due to the Wellington City Corporation, New Zealand Institute of Architects, and New Zealand Academy of Fine Arts, who contributed £300, £10, and £10 respectively to the funds of the College during the year. Fifteen Callander Memorial Scholarships of £5 each were awarded, distributed as follows: Carpentry, 1; domestic economy, 1; plumbing, 3; mechanical engineering, 8; electrical engineering, 2.

W. S. LA TROBE, Director.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE PETONE TECHNICAL SCHOOL.

The work during the year has been interfered with considerably by the war. The plumbers' class and the senior electricity class were most seriously affected. In some cases the junior students were required to work overtime, and this greatly affected their attendance. As there is such a demand at present for clerical work, the commercial classes are taken up in preference to the domestic courses. The shorthand and typewriting classes consist largely of girls, some of whom have made a great advance in their work. The attendance at these classes was such as to render an additional teacher necessary. The book-keeping and business class also improved considerably, and it was found necessary to appoint an additional teacher. The continuation classes (English, arithmetic, shorthand, and book-keeping) are largely attended and require teachers of great skill. We have been very fortunate in obtaining teachers who have this essential, and therefore the work in these departments has been of an exceptional quality. So few pupils came forward for dressmaking and millinery that it was deemed advisable not to start these classes during the year. This is regrettable, but an effort will be made once again in this direction. The instrumental-drawing class made good progress during the year, and a solid foundation was laid for more advanced work. The building-construction and carpentry classes show work that reflects in no small degree the interest taken in them by their instructor. In the last quarter of the year a steam class was started. Although only five pupils attended this class, I think it was a step in the right direction. Good work was done, and this class will no doubt prove of great benefit to the community. The cookery class was continued throughout the year. This is a most important class, and it will still further improve. The experiment of introducing invalid cookery for both men and women should tend to popularize this subject. The introduction of ambulance instruction has been a good thing. Men and women have been brought into closer contact with the school, and I am sure that their influence will do much to bring the school into greater prominence. Most of those attending expressed their appreciation of the work the Managers enabled them to do. The plumbing class this year has been very small

owing no doubt to the war. Excellent work has been done. The wool class has done excellent work, and the examiner was greatly pleased with the six who presented themselves for examination, all passing in the first class. There is no doubt that this is one of the best classes of its kind in the Dominion. The class in physical science continues to do good work, and this subject will have to have more attention paid to it, as there can be no doubt that science will play an important part in the development of the country. The classes established for the Public Service Senior and Matriculation Examinations did work which would compare favourably with any other such classes. An additional class was started, and was especially well attended. It should prove one of the best in the school when properly established. The two classes in electricity did good work. The senior class was not well attended owing to a large demand from outside for electricians. This, while in a way regrettable, shows that the pupils of the school were largely in demand. The junior class made rapid advance, and was a credit to the school. The attendance was somewhat interfered with owing to the war. Many of the students had to work overtime, and so could not attend regularly. There are pupils who lack the perseverance and application that is necessary for them to get to the top of the tree. Some people seem to think that their boys and girls must be clever to achieve success, but my experience teaches me to believe that perseverance and reliability are the most important factors for the success of any boy or girl.

It is to be regretted that owing to the war the Upper Hutt classes had to be discontinued. Eighty pupils attended the classes at Lower Hutt during the year. The English, arithmetic, and shorthand classes had the highest roll numbers, while book-keeping proved much less popular than during the previous year. A trial was made in continuing the shorthand class during the 1915-16 summer vacation, but this was not a success. For two terms the class was held on two nights a week. The class for dressmaking and millinery was carried on for two terms with a satisfactory number of pupils, and the effort to cater for candidates for the public examinations met with encouraging support. The classes are conducted with the minimum of expense, as the school buildings are rent-free. The result is that financially the branch is in a sound position.

JAS. H. LYNCKEY, Director.

EXTRACT FROM THE REPORT OF THE MANAGERS OF THE MASTERTON TECHNICAL SCHOOL.

The year's course of instruction was commenced in March, and was continued throughout three terms. An epidemic of infantile paralysis in Masterton necessitated the closing of the school for three weeks during the first term.

The total number of individual students in attendance during the year was 337—137 males and 200 females. The total roll number of the classes was 557, while the percentage of average attendance for the year was 83.2. As most of the classes were conducted in the evening, this percentage must be considered very satisfactory, being the highest recorded by the school. The war was no doubt responsible for the small roll numbers in the men's classes, which show a falling-off of twenty-nine from the previous year's attendance. Of the ninety-two free-place pupils who were admitted during the year, thirty-seven were males and fifty-five females; sixty-eight were holders of junior free places, and nineteen of senior free places, while four returned soldiers were admitted under Government regulations. The return of ages shows that between the ages of thirteen and seventeen years there were 124 students, while 213 were over seventeen years of age.

Early in the year the Managers invited tenders for the erection of a cookery-room and laundry, consisting of a washhouse and ironing and drying room. The tenders greatly exceeding the architect's estimate, the original scheme had to be modified. A cookery-room was erected at a cost of £560 14s. The day and evening students showed by their very regular attendance and keen interest that they appreciated the course of instruction in cookery given during the second and third terms. At the request of the Wellington Education Board the Managers were able also to give instruction in cookery to thirty-eight pupils of Standards V and VI of the Lansdowne School. In addition classes were held in the following subjects, the roll numbers being shown in brackets: English and arithmetic (60), book-keeping (61), general knowledge (30), industrial and commercial history (43), elocution (16), magnetism and electricity (10), typewriting and Gregg's shorthand (120), typewriting and Pitman's shorthand (46), theory of building and machine construction (7), woodwork (19), wood-classing (11), plumbing (9), dressmaking (57), art needlework (17), and art (30). All the classes for which enrolment was invited were conducted with the exception of the class in agricultural chemistry, for which only three students enrolled. The Managers again direct the attention of farmers and all interested in agricultural pursuits to the facilities offered for receiving technical instruction from an agricultural expert. To meet the convenience of country students it has been decided to include in future English and arithmetic and book-keeping in the time-table of day classes, as well as in the evening time-table, as at present. It will then be possible for students living at a distance to attend the Technical School for a complete commercial, a home-science, or an arts course, and reach home daily by the late afternoon train from Masterton. It will be noted that there has been a substantial increase in the number of attendances at classes in subjects relating to commercial pursuits, thus indicating that the school is providing a course of instruction which suitably equips students to take up office-work. The book-keeping, typewriting, and shorthand classes are very popular.

Three students sat in 1916 for Pitman's shorthand certificates, and the result of the examination is being awaited from England. The students of plumbing acquitted themselves well in their examinations. One, who was too young to be permitted to sit for the practical test, sat for the theory paper of the registration examination conducted by the Plumbers' Board of New Zealand and for the second grade of the City and Guilds of London Institute. He passed both

examinations with credit. Two others passed in the final practical examination for registration, and a fourth passed in both the theoretical and the practical final tests. A junior student entered for the City and Guilds theory examination for plumbers, and passed in the first grade. The students of the wool-sorting and wool-classing division, although few in number, were enthusiastic in their work. Three sat, with success, for the theory and practical tests for the first year, and one for the second year's tests. Certificates were awarded to them by the Board of Managers.

By effluxion of time the junior free places of twenty-seven pupils lapsed on 31st December; the Department granted twenty of these pupils senior free places, entitling them to three years' additional free tuition.

The statement of receipts and expenditure shows the receipts from all sources to have been £1,863 0s. 10d., of which the sum of £186 18s. was paid in class fees, £528 3s. in voluntary contributions, and £508 16s. 4d. in capitation grants from the Government. Including a debit balance of £66 11s. 10d. brought forward from 1915, the disbursements amounted to £1,787 9s. 9d. The principal items of expenditure were: Salaries, £736 18s. 9d.; part payment new cookery-room, £517 3s. 3d.; furniture, fittings, apparatus, £144 7s. 6d.; material for class use, £102 10s. At the end of the year the balance to credit was £75 11s. 1d.

J. M. CORADINE, Chairman.

D. E. LESLIE, Director.

HAWKE'S BAY.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF MANUAL AND TECHNICAL INSTRUCTION.

Evening technical classes were conducted in Woodville and Gisborne. At Woodville only continuation work was attempted, and classes were held in book-keeping, shorthand and typewriting. The roll number was fifty-five, and the average attendance forty-one. At Gisborne centre classes were established on a more ambitious scale, and the local director by his enthusiasm and earnestness succeeded in doing some very satisfactory work. It was found, however, that after the first term was concluded the attendance dropped to 45 per cent. of the total roll numbers. The classes established, with roll numbers, were as follows: Cookery (invalid, two classes), 19; telegraphy (two classes), 44; book-keeping, 20; shorthand, 17; typewriting, 11; English (two classes), 40; arithmetic (two classes), 40; mathematics, 9; Latin, 6; French, 10; Maori, 14; heat engines, 6; machine drawing, 8. Owing to the departmental request to economize where possible the Education Board did not carry out its proposals in the matter of teachers' classes. The following classes for which arrangements had been made were not held: Drawing classes (two), dairy science (one), elementary agriculture, and domestic science (two). Saturday training classes were held at Gisborne, Napier, and Dannevirke. The attendance was as under: Art—Gisborne, 17 and 12; Napier, 42 and 30; Dannevirke, 11 and 9. Elementary hygiene—Gisborne, 17 and 13; Napier, 41 and 28; Dannevirke, 9 and 8. Satisfactory work was done at all centres.

E. G. LOTEN,

Director of Manual and Technical Instruction.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE NAPIER TECHNICAL COLLEGE.

The usefulness of the Technical High School is still on the increase, and it is becoming of greater value to the community. The courses of study were arranged as in 1915—viz.: (a) A commercial course for boys to fit them for office life, and a combined domestic-science and commercial course for girls, in which half the school-time is arranged for office-work and half for domestic subjects, so that they may have the choice of (1) entering an office, (2) being trained for the work-room in dressmaking, millinery, &c., or (3) having a good training in all domestic arts, including the care and feeding of the sick; (b) a mechanical course for boys who intend to enter skilled trades or ultimately take up farming.

The enrolment for the year was 111, made up as follows: First-year pupils, 64; second-year pupils, 40; third-year pupils, 5; fourth-year pupils, 2; left during the year, 16: roll at end of year, 95. The number of pupils who withdrew before the end of the year is very much less this year than in previous years, and in every case except one a good and sufficient reason for doing so existed. This is very much more satisfactory and tends to increase the value of the work in every way. Attendance has been remarkably good, and home-work, except in two cases, has been well attended to.

At the annual examination eighty-eight pupils were examined in all the subjects on the syllabus, and the results were as follows: First-year pupils, thirty-eight first class, sixteen second class; second-year pupils, fourteen first class, thirteen second class; third-year pupils, two first class, one second class; fourth-year pupils, one second class. It is a matter for congratulation that every qualified pupil obtained a good appointment by the end of the year, and I receive nothing but good reports from employers. I am pleased to report that the official recognition of the work done in the engineering department is at last an accomplished fact, although more yet remains to be accomplished. The Marine Department, on the

advice of its Inspectors, has decided that when a pupil has put in three years at a full engineering course and passed the annual examinations he shall be entitled to a third-class marine engineer's certificate at the end of four years' training in a recognized workshop. The Public Service Commissioner has also notified that he is prepared to receive applications from pupils who have passed the second-year examination in the first class for any special appointment in the Public Service that have a bearing on the course of the work done at the College.

Visits have been made by the boys to Messrs. J. J. Niven and Co., the Power-house, Woollen-mills, Railway Workshops, and the Acetone Company. Two exhibitions of school-work have been held, one at Hastings and the annual exhibition at Napier, and visitors have assured me that improved work is noticeable every year. The usual sports have been carried on—*i.e.*, cricket, football, net-ball, hockey, tennis, swimming, and drill. In the life-saving competition held at the beginning of the year the College gained second place, being half a point behind the winning team. A gold medal for life-saving was gained by a girl pupil. At an examination for life-saving by the Life-saving Society proficiency certificates and bronze medallions were gained by seven pupils and the award of merit by one pupil. Long-distance certificates for swimming were obtained by twenty-three boys for distances varying from 100 yards to $3\frac{1}{4}$ miles, and by twenty girls for distances between $133\frac{1}{2}$ yards and $3\frac{1}{2}$ miles.

Three pupils passed the Public Entrance Examination at the end of 1915, and two pupils at the end of 1916. At the examinations held by Pitman's examination department forty-four pupils obtained certificates. The Cadet Company at the annual musketry tests occupied the proud position of being the only company in Group 7 in which every boy passed the test for shooting, and out of thirty-three boys competing thirteen obtained marksmen's badges.

Alterations in the plumbing-shop in the shape of a brick partition wall made a most complete smithy in direct communication with the engineering-shop, and quite cut off from the plumbing department.

The work carried on by the evening classes has been similar to that of the previous year, and has met with considerable success, and the results, particularly to those pupils who attended a full course regularly, can scarcely be overestimated. As in the past, courses of work have been carried on as under: A continuation course of two evenings per week for pupils who have not passed Standard VI, and trade courses for first-, second-, third-, and fourth-year pupils. Classes have also been arranged for teachers in science and art, and primary-school classes in cookery, dressmaking, and woodwork. The general attendance has improved a little over that of previous years, but it is still far from satisfactory, and until pupils, parents, and employers alike realize that regular attendance and systematic work are the only ways to achieve success the pupils' work will continue to be of little value, and certainly not worth the time that is spent on it. The compulsory-attendance regulations have proved to be of very great benefit to a large number of pupils who otherwise would be unable to attend; but I much regret that a large number of pupils, and even parents, seem to regard them as onerous and endeavour to evade the law in every way possible, failing to realize that the instruction is for the pupils' own good, and is provided absolutely free. A writer in *Education*, an English paper, points out in the course of a carefully reasoned article that from an inquiry into the careers of some ten thousand men who have been successful in various spheres of work it is found that a boy with primary education alone had one chance of success in nine thousand, the secondary-school boy one in four hundred, and the college-trained boy one in forty.

The total number of pupils attending evening classes was 331, an increase of twenty-eight over last year. Of this number, 139 were attending under the compulsory regulations. The highest weekly average attendance for any one month was 486, and the lowest 405; and as at least three hundred pupils would be attending twice a week, it shows that on the average nearly a hundred attendances were missed every week of the year. This irregularity has a bad effect on those who attend regularly, their progress being delayed by absentees being more backward than they. Twenty-eight classes were carried on during the year.

W. FOSSEY, Director.

EXTRACT FROM THE REPORT OF THE WAIPAWA TECHNICAL SCHOOL BOARD.

A cabinetmaking class, with an average roll of fifteen students, was held. This class was well conducted, and excellent work was done. The enthusiasm was maintained through three sessions. In fact, so keen were the majority of the students that the first session for 1917 is now well advanced. An exhibition of the work done by members of this class was held, and the public showed a keen appreciation of the finished work of the students. The attendance at the class for invalid cookery was only moderate, but despite this fact very good work was accomplished. The students were all young hospital nurses. A class in Pitman's shorthand was held throughout the year. The teacher was capable and held the little class together well.

In regard to evening classes, it is still a very open question whether some measure of compulsion should not be adopted to compel young people of both sexes to take advantage of the splendid facilities offering to the end that they might become better equipped to maintain the struggle for existence which is daily becoming more acute. We are of opinion that the increasing desire for leisure and pleasure are more potent factors in keeping students away from our classes than are fees.

A. E. JULL, Chairman.

W. SMITH, Secretary.

NELSON.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE NELSON TECHNICAL SCHOOL.

Technical classes in the following subjects were held: Dressmaking, 8; millinery, 4; cookery, 4; arts and art crafts, 9; commercial subjects, 8; carpentry, 7; plumbing, 2; photography, 1; telegraphy, 2; chemistry, 1; botany, 1; engineering, 2; English and arithmetic, 3; French, 1; history and geography, 1; metal-work, 1; English and mathematics, 1. The number of pupils enrolled during the year were as follows: Junior free pupils, 95; senior free pupils, 86; other students, 247: a total of 428 students. The work of the school has, in spite of abnormal conditions, been carried on very successfully during the year. The number of paying students enrolled was slightly less than usual, but this was more than compensated for by the increased attendance, and the fact that more students took grouped courses of work. Twenty-nine students made the maximum number of attendances on which capitation is payable. The capitation claims for the year constitute a record for the school, amounting to £1,409, having doubled in four years. During the year the local bodies were approached with a view to subsidizing the school. The Nelson Technical School is the only one not receiving such support from the local bodies. The finances of the City Council were not in such a condition as to allow them to do so, which is very much to be regretted. As I have previously stated, there are several essential branches of work which should be fostered, but which from the nature of the work can never be self-supporting; in fact, the more advanced the subject the smaller the earning-capacity of the class. The commercial classes continue to be well attended, but the accommodation is far from adequate. The students from these classes find no difficulty in obtaining good situations in the various local offices. The art and craft classes were also well attended, and produced some very good work during the year. Of the domestic classes, those for dressmaking and millinery were well filled and did very good work. The day cookery class was moderately well attended, but the evening class in this important subject was a complete failure, only two students enrolling. The instructress resigned at the end of the year to take an appointment in Masterton. It was then decided to obtain the services of an instructress capable of taking charge of the whole of the domestic science department. The class for telegraphy was also very unfortunate, two changes of instructors occurring through the transfer of officers by the Post and Telegraph Department to other districts. The plumbing class, although depleted by the war of its older students, did some very excellent work, and made an excellent display of work at the annual exhibition of students' work. The engineering class met two evenings in the week and did a very good year's work, but more work could be done if more commodious premises and better equipment were provided. From the numerous inquiries from time to time it is very apparent that the establishment of day classes in this subject would be popular. Unfortunately, the present instructor's services are not available during the day. It will therefore be necessary to consider the question of the appointment of a suitable instructor.

If it is not feasible to consider the question of the erection and equipping of a larger and more up-to-date workshop I would suggest that temporary relief might be obtained by extending the present building. This would give an additional floor-space of something like 300 square feet. Classes for teachers in chemistry, botany, and drawing were held on Monday and Friday evenings and on Saturday mornings. These were not so numerous attended as formerly, owing to the new regulations allowing only teachers who were desiring to sit for examination for the D and C certificates to attend. Two classes for carpenters' apprentices were formed, but were only poorly attended, and this in spite of every encouragement given by the school and by the Amalgamated Society of Carpenters and Joiners, who kindly donated the sum of £5, and also paid the fees of such students as attended.

F. C. COCKBURN, Director.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE WESTPORT TECHNICAL SCHOOL.

It is satisfactory to be able to state that the year's work just closed is in advance of that of the previous year, in spite of the fact that there has been a steady decrease in the population of this district. The attendance at the school during the year, too, was interfered with considerably by an epidemic of measles. The total capitation and receipts from other sources for this year exceed the 1915 total by about £58, the respective amounts being £952 and £893. The work of the school has proceeded upon most harmonious lines during the year, the teaching staff without exception having exerted themselves to the utmost in the interests of their work and the welfare of the school generally. The annual exhibition of work fortunately coincided with the visit of the Minister of Education, who in formally opening the exhibition expressed his satisfaction at what he had seen during his visit of inspection. The exhibition was highly successful, notwithstanding that the weather at the time was unpropitious. I am pleased to report that the laboratory for domestic science and other science work is now an accomplished fact. The instructress in domestic science will be in a position to provide a thorough course in domestic science. By arrangement the science-room will also be used in connection with the secondary department of the District High School.

The day school and evening engineering classes and the commercial course have been most successful this year. In connection with the commercial course the need of a suitable room for typewriting is very great. A total of fifteen students were examined for senior free places, all of whom passed. The amendment of the regulations governing free places in technical schools which provides for holders of endorsed certificates of competency being admitted as free-place pupils is, I think, one that will be most beneficial, and have a far-reaching effect of great value

to the Dominion. The accommodation provided for some of the classes is still poor, and I shall be glad when the Board can arrange at least to have the building known as the "old residence" thoroughly renovated and lavatory accommodation provided. In connection with buildings and equipment I must refer to the work of my two assistants in the engineering department and the day engineering students. Besides carrying out the painting and renovation of the engineering department, they have assisted materially in connection with the equipment of the laboratory and various repairs. I take the opportunity of expressing my appreciation of the prompt and sympathetic attention given by the Board and Secretary to all matters pertaining to the welfare of the school during the past year.

A. G. TOMKIES, Director.

EXTRACT FROM THE REPORT OF THE SUPERVISOR OF THE REEFTON TECHNICAL CLASSES.

Unfortunately the year has not been a very successful one, the only classes held being classes for book-keeping and shorthand. The book-keeping class was very successful, but shorthand had to be abandoned at the end of the first term as the class numbers did not warrant a continuance. No qualified instructor was available for cookery and dressmaking, and consequently the usual school classes in these subjects could not be held. The ordinary school course is not complete without these, and it is to be hoped that the effort being made to obtain the services of a fully qualified instructor will prove successful. There is no reason why adult classes should not be as successful as they were in former years if sound instruction is available. In conclusion, I have to thank the instructors, the Board's officials, and local bodies for assistance so willingly given.

W. A. RUMBOLD, Supervisor.

CANTERBURY.

EXTRACT FROM THE REPORT OF THE EDUCATION BOARD.

During the year technical and continuation classes under the direct control of the Education Board were carried on at the following centres: Blackball, Darfield, Greymouth, Geraldine, Hannanton, Hokitika, Kaikoura.

At Blackball a technical class in dressmaking was successfully carried on, the attendance being about fifteen, also a continuation class, with an average attendance of nine. For a small centre like Blackball this is as much as could be expected in the way of technical and continuation classes. At Darfield it was only found practicable to carry on one class, a class in typing, which was poorly attended. A great deal of enthusiasm in technical work was displayed at Geraldine, and successful classes were carried on in book-keeping, wool-classing, millinery, and dressmaking. The attendance at each of these classes was good: a total of forty-eight individual pupils joined the school. During the year the amount of £57 16s. was raised as voluntary contributions, and it is hoped that steps will be taken to form a Technical School Board at Geraldine to enable classes to be run by a duly constituted body in the future. The new manual-training room which has just been erected and well fitted up with apparatus should give a fillip to the work. It is hoped during the coming session to carry on technical classes in woodwork and cookery in addition to those that have been carried on during the past year. At Greymouth day and evening technical classes were conducted on the same lines as in previous years. The Engineering School with its workshop practice did excellent work, starting off with an attendance of about eighteen pupils. Owing to war conditions the evening classes were not well attended. Courses of instruction were also carried on in commercial and domestic subjects. Taking into consideration the want of facilities and the poor accommodation provided, these classes must be deemed to have been well attended, and in connection therewith a great amount of useful work was done. At Ngahere, Moana, Brunner-ton, and Totara Flat dressmaking classes were conducted with very successful results. At Hannanton one class in dressmaking was attended by about nine students. At Hokitika classes in commercial subjects were held for about thirty weeks. Twenty-five students took a grouped course, consisting of book-keeping, shorthand, typing, English, and arithmetic, and five students took up single subjects. At Kaikoura dressmaking and woodwork were the only classes held. The dressmaking class was fairly well attended, although showing a slight falling-off from previous years. The woodwork class was poorly attended, and very little interest was taken in the work generally. An attempt to form a Technical School Board met with no response.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE CHRISTCHURCH TECHNICAL COLLEGE.

The number of individual students has reached a total of 1,601, an increase of twenty-four as compared with 1915. Of these, 376 were pupils in the Technical High School, while the remainder, 1,225, were students attending our evening and special classes. The total is, however, about two hundred below that reached in 1914, before the growth of the College was seriously checked by the war. I believe it will be generally recognized that for a district with our population and under the conditions that now obtain such a roll number is a credit to Christchurch; and when I add that even at this time, when there are so many distractions abroad, there has been a marked improvement in the regularity of attendance it will be felt that the record is an honour to the students.

Technical High School.—The 376 pupils in the Technical High School are divided among the various departments as follows: Commercial, 152; domestic science, 73; industrial, 115; agricultural, 36. Our staff has suffered a serious loss during the year through the resignation by Mrs. Gard'ner of the position of Lady Principal of the Girls' Hostel, which she has filled with such distinction from its inception. Mrs. Gard'ner has been succeeded by Miss Patterson, late Superintendent of Domestic Instruction for Derby, England.

We have again enlisted the assistance of the pupils themselves in carrying on the work of the school. Some three years ago a system of self-government was instituted, and under able school officers was then undoubtedly a great success. Last year it was felt desirable to suspend the system temporarily, but having revived it in a modified form during the present session we are able to look back upon the results obtained with every satisfaction.

The chief development that has taken place during this year has been in the electrical department. Considerable additions have been made to the equipment, and for the first time boys in the day school have been given an opportunity of doing electrical construction work. An innovation was made in the commercial and industrial departments in the direction of making special provision for those wishing to prepare for the Public Service Entrance Examination. This has been found desirable owing to the number of pupils, both on the commercial and on the industrial sides, who wish to look forward to Government appointments.

Evening School and Special Classes.—Our trade classes have necessarily suffered most severely by the war: in the carpentry and joinery department alone, of the students who have been in attendance during the last six years more than fifty are already on active service. A gratifying exception to the rule is formed by the engineering classes, which have shown an increase in almost every case, owing to the large number of young apprentices now in attendance. The typographical classes have well maintained their numbers, and are remarkable for the fact that they contain both young apprentices and older journeymen. It is a very unusual thing to find in any trade a considerable number of the latter who are wise enough to know that they can profit by further instruction, and it reflects great credit on students and instructor alike that this is not found to be the case among the compositors of Christchurch.

New classes have been formed for instruction in the principles of breadmaking and in the principles and practice of electric wiring, and each of these has thoroughly justified its existence, the former having a roll number of eighteen and the latter of forty.

A great improvement has taken place in the regularity of attendance, and this I believe may be taken as a proof of increased earnestness. Certainly the pluck and determination shown by very many of our students is sufficient evidence that we cannot do too much to help and encourage them in their efforts. But the conditions under which evening classes have to be carried on are such that the physical strain is in many cases too great, and it follows that the less fit and the less determined are deprived of the training of the school during the years when they need it most and can best profit by it. While the State insists that up to the period of adolescence every child must be under the ordered influences of school life, as soon as ever this stage is reached and its physical and mental development is undergoing the most momentous change in its life-history, it is left to the casual influences of the business or the street, which are generally far from helpful. This can only be remedied by insisting on the continuance of the training for at least a part of its working-hours up to seventeen or eighteen years of age, and on the provision of the instruction during the daytime when brain and body are not too tired to profit by it.

We are grateful for the growing recognition of the value of the work that is being done in the technical schools. The realization by the Education Department that the qualifications required for profiting to the full by the facilities which a technical school offers are not the same as those which rightly obtain for the ordinary secondary school removes an obstacle to the training of some deserving pupils, though the principle needs to be carried further than in the granting of free education to holders of certificates of competency who have shown special aptitude. The stamp of approval which has been placed on the work of the College by the Marine Department is particularly gratifying, and it is hoped that before long other Government Departments, and especially the Railway Department, will take similar action.

JOHN H. HOWELL, Director.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE ASHBURTON TECHNICAL SCHOOL.

The session opened in February with a small increase in roll numbers of the domestic science and trade classes and a large increase in the commercial classes. This increase was maintained throughout the year with the exception of the domestic classes, the roll numbers in this department at the end of the year being slightly less than at the end of 1915, which is accounted for by the fact that dressmaking and millinery classes were not started at Winchmore because of the insufficient number of students offering. The number of individual students attending technical classes this year is 427, against 429 for last year; and the roll number of the school for all classes is 1,665, as compared with 1,289, an increase of 376. This is very gratifying from the community's point of view, for it means that the students are taking a recognized course of subjects which will make them more proficient in their calling, and better able in the future to discharge their duties as citizens.

The details of the several departments are as follows: Commercial and general—Arithmetic (roll number 124), book-keeping (121), business methods (46), English (145), geography (25), history (14), physical culture (26), shorthand (Gregg) (35), shorthand (Pitman) (84), type-writing (199); domestic science—art needlework (14), cookery (80), dressmaking (252), home

nursing (35), home science (18), hygiene (8), home-management (15), millinery (106); industrial—agriculture (15), trade drawing (18), woodwork (carpentry, &c.) (65), principles of carpentry and joinery (21), farm carpentry (24), farm metal-work (20), geometry (15), physical science (34), practical mathematics (22), shearing (17), wool-classing (31); art—painting and design (24), art and crafts (12). In addition the school provided instruction in woodwork and cookery for 523 pupils (308 boys and 215 girls) of public and secondary schools.

The most notable increase is that of the commercial classes, the roll numbers of which have increased just over 80 per cent. This may be accounted for by the fact that the depletion of male members of office staffs and the consequent great demand for girls has led a large number to take up commercial subjects; and also by the fact that an increasing number of girls are realizing that it is wise that they should have training in some work which will render them independent members of a regularly organized commercial community.

Another pleasing feature is the increase of about 30 per cent. in the industrial classes. I sincerely hope that the increase will be still greater next year, for it is this particular branch of education that we must expand and develop. As a recent speaker in Christchurch said, this can be best done by "the close co-operation of the employer and the school." The time at present at the disposal of the apprentice for instruction and study is not sufficient, neither is it the most opportune, for the students are tired and the brain is not alert, consequently either more energy than is necessary has to be expended in order to acquire knowledge or a repugnance for work is developed. When I say that the time is not sufficient I mean that a fair proportion of their time after labour should be spent in healthful recreation and sport. If the employers could be induced to give their apprentices a certain amount of time off for instruction, to be backed by an equally fair proportion of the apprentice's own time to be spent in a like manner, we male members of office staffs and the consequent great demand for girls has led a large number shall reach a high stage of industrial efficiency. I should like to see Ashburton employers start this important forward movement for the benefit of their apprentices.

Nine students entered for the City and Guilds of London Examinations, eight students sat for the Public Service Entrance Examinations, and forty-four have been examined for the award of senior free places.

The new additions to the school that are to be made in the early part of next year will remove present disabilities, and make for increased efficiency in the working of the school.

The year has been one which the Board of Managers and the various contributing bodies and private subscribers might well be proud of, and it shall be my endeavour with the able assistance of the Board and my staff to continue the successful work of the school so that it shall leave its mark for good upon the community. The thanks of the Board are due to the following contributing bodies: County Council, Borough Council, Canterbury Sheepowners' Union, Ashburton Agricultural and Pastoral Association, High School Board, Borough and Hampstead School Committees, and private subscribers who have generously contributed monetary and other support.

A. L. MOORE, Director.

EXTRACT FROM THE REPORT OF THE MANAGERS OF THE TIMARU TECHNICAL SCHOOL.

The total number of individual students who joined the school was 336, being eleven short of the number that joined in 1915. As stated in the last year's report, the enrolments for that year were the smallest that had obtained for some years, and it is fairly evident that the reasons given for the falling-off last year—viz., the disturbing influence caused by the war—can be put down as the reason for the continued shrinkage in the number of pupils attending the school. Thirty-one recognized classes were carried on during the year, taught by eighteen different instructors, as follows: Book-keeping (four classes), 150; shorthand (three classes), 89; typewriting (five classes), 96; arithmetic (two classes), 105; English (two classes), 105; cookery (two classes), 42; dressmaking (three classes), 65; millinery (one class), 14; woodwork (two classes), 31; building-construction (one class), 6; electricity (one class), 11; wool-classing (two classes), 41; drawing and painting (two classes), 28; Standard VI. (one class), 13: making a total of 787 class entries for all classes. 153 free pupils joined the school during the year—namely, fifty-nine first-year junior, forty-three second-year junior, twenty-two first-year senior, seventeen second-year senior, and twelve third-year senior. Other students numbered 183, 146 being first-year students and thirty-seven other than first-year students.

Of the 336 students on the rolls, seventeen were under thirteen years of age, ninety-two between thirteen and fifteen years, 101 between fifteen and seventeen years, and 126 over seventeen years of age.

The courses of instruction carried on during the year were as follows: Commercial course, consisting of English, arithmetic, book-keeping, typewriting, shorthand, and commercial correspondence; domestic course—English, arithmetic, dressmaking, millinery, cookery, and domestic economy; trade courses—carpentry, architectural drawing and building-construction, also electricity and magnetism; art course—drawing and painting. Wool sorting and classing was also an interesting and well-attended class this year.

It is a matter of regret that students as a rule leave the school after completing their free places, although the school offers facilities for these students continuing their studies in more advanced work. The sheep-shearing class was not continued this year owing to the small number of students enrolling. The total number that desired to join this class was four, and these were

transferred to Temuka. The examination held at the end of the year proved that the students had done very satisfactory work, and all the students, thirty-two in number, who sat for the Senior Free Place Examinations have been granted free places by the Education Department, tenable for three years.

Mr. E. C. Isaac, Inspector of Technical Schools, paid his annual visit to the school in July, and saw all the classes at work. Mr. Isaac's report was highly satisfactory, and stated that all the classes were under efficient instruction, and that the discipline and conduct of the school was most satisfactory. The buildings have been kept in efficient repair throughout the year, and since the school closed in November the whole of the outside of the building has been painted and renovated. Since the Education Board has removed its officers and office equipment to Christchurch, the Board has handed over to the Managers the control of the rooms formerly used by them as offices, and this will give accommodation for more classes if necessary.

The balance-sheet shows that the school is still in a sound financial position, although the credit balance is £18 less than it was the previous year. Voluntary contributions are about £35 less than they were last year.

Considering the year's work as a whole the results are highly satisfactory, and the thanks of the Managers are due to the teaching staff for the enthusiasm they have put into their work. The success of the school depends on the efficiency of the teachers, and the Managers have been fortunate in having the services of expert instructors. The Managers feel they cannot close this report without placing on record their high appreciation of the very valuable services rendered by the late Director, Mr. Ritchings Grant, who has been appointed Supervisor of Manual and Technical Education under the Canterbury Education Board. Mr. Grant has occupied the position of Director of the Timaru Technical School for the last ten years; during that time the school has made very great progress. Not only has the school grown in numbers, but a sound financial position has been built up as the result of careful administration. The Managers have appointed as Mr. Grant's successor Mr. Gavin Moffat, F.P.A. (N.Z.), as Director and Secretary. Mr. Moffat was for the past five years the book-keeping instructor at the school.

GILBERT DALGLISH, Chairman.

EXTRACT FROM THE REPORT OF THE MANAGERS OF THE TEMUKA TECHNICAL SCHOOL.

During the year classes were conducted in dressmaking (three), wool-classing, singing and voice-production, painting and sketching, elocution, commercial work, ambulance and home nursing, and sheep-shearing: that is, there were ten classes in all, one less than in 1915. Classes in cookery and agriculture were not well enough supported and had to be dropped, while singing and elocution classes were taken up in place of those abandoned. The wool-classing class was stronger than it has been for some years, and there are proofs that the instruction given at it is having a good effect on the marketing of farmers' clips, as some reports from London of wool classed and baled by pupils and ex-pupils of the class go to show. The wool-classers were well represented at the competition held by the Timaru Agricultural and Pastoral Association, and prizes were again carried off by our men. For sheep-shearing a very good stamp of young men enrolled, and, although the class was slightly weaker numerically than it was last year, excellent work was done and satisfied even the most exacting. Mr. McCully was again most energetic in helping the Managers, and quite a number of farmers kindly came forward with mobs of dry sheep. Altogether 2,150 sheep were shorn in three weeks, and the wool came off the sheep's backs practically undamaged. No public demonstration in shearing was given this year on account of the exigencies of war; but Mr. and Mrs. McCully were quite prepared to do their part had it been possible to guarantee a good attendance. The other classes were as well supported as could be expected, and the Managers have every reason to be pleased with the standard of instruction given. Altogether 116 individual students attended the school, in spite of the high percentage of men in the district who have answered their country's call.

Mr. J. McInnes, Winchester, again supplied a large quantity of wool for wool-classing, and no praise is too great for that gentleman's public-spiritedness; nor must Mr. H. Bell be forgotten for his continued interest in the welfare of the school and for his endeavours to have the wool-room stocked with stud fleeces: in this matter he generally contrives to enlist the sympathy of prominent farmers.

The voluntary contributions are not quite so large as last year, but a grant from the Hobson Trust Account made through the courtesy of the Temuka Road Board was a great help, and the Managers trust that it will become an annual grant. Owing to financial stringency no subscription was received this year from the Temuka Bicycle Club, but it is more than likely that a donation will be received during 1917. In connection with the financing of the school we would again respectfully urge that it is important to keep up donations, and we would emphasize the fact that slightly increased amounts from the local bodies and an extended list of private contributors would greatly strengthen the Managers' hands, and have a direct influence for good on the school and the district. We cannot close this review of the year's work without expressing our appreciation of the valuable help rendered to our Board by Mr. Ritchings Grant, who has been removed to Christchurch.

GEO. B. CARTWRIGHT, Chairman.
J. T. SMART, Director.

EXTRACT FROM THE REPORT OF THE MANAGERS OF THE WAIMATE TECHNICAL SCHOOL.

The last year has been a very successful one in many respects, though the number of classes has not been quite so large as in previous years.

The wool-classing class, which is still under the able instruction of Mr. H. F. Harte, had twenty-two students and fifteen District High School pupils, making a total of thirty-seven. Mr. Harte still continues to put the same amount of enthusiasm and energy into his work as he did when he first started this subject, with the result that the pupils take the keenest interest in their work. Through the liberality of the farmers of the district we had seventy-two fleeces of wool donated to the class, which were of the greatest assistance to the class. Classes in dress-making were conducted by Miss Coe at Waimate (two classes), Morven, and Makikihi. The total number of pupils was fifty-nine, which must be considered most satisfactory at these times. The fact that the classes still continue to be well attended says much for Miss Coe's work. A class for painting under Mr. William Greene, of Timaru, was revived, and was attended by eight pupils. The class for shorthand was attended by sixteen students, and very satisfactory work was done. During the year we have had very necessary sanitary improvements carried out, to which the High School Board and the Managers contributed £20 each.

ERNEST HASSALL, Chairman.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE KAIAPOI TECHNICAL SCHOOL.

During the year classes for woodwork (18), dressmaking (28), and shorthand (15) have been held. The attendance has been satisfactory. In addition to the technical classes instruction in woodwork and cookery was provided for pupils from the Woodend, Clarkevale, Coutt's Island, and Otoka Public Schools. The contributing bodies have again kindly responded. A new science-room has been added to the Technical School for the use of secondary pupils of the District High School taking a rural course. The buildings and grounds are in good order.

THOS. DOUDS, Director.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE AKAROA TECHNICAL SCHOOL.

Attempts were made to hold evening classes in woodwork, cookery, and dressmaking, but owing to the exigencies of the war the last was the only one sufficiently well attended to warrant its being held. During the year successful classes were held in woodwork and in cookery for public-school pupils. The classes were well filled, so many pupils enrolling for the former subject that it was necessary to arrange for two classes to be held.

W. W. GARTON, Director.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE PLEASANT POINT TECHNICAL SCHOOL.

During the year three dressmaking classes have been conducted with gratifying success, one at Pleasant Point and two at Cave. The attendance in most cases was highly satisfactory. Attempts to establish other classes were not successful, Red Cross work taking up the whole of the leisure time of those who might be expected to devote time to technical work. Application has been made for two new ranges for the Technical School, but although some months have passed no reply has yet been received. The Managers continue to take a keen interest in technical work, and the finances are in a very satisfactory condition. During the year the science-room was fitted with new benches and water-supply, and the improved conditions are much appreciated.

R. B. CLARKE, Director.

EXTRACT FROM THE REPORT OF THE MANAGERS OF THE FAIRLIE TECHNICAL SCHOOL.

The new Director, Mr. F. Piper, quickly obtained a grasp of his duties, and has been most assiduous in assisting the Managers in their endeavour to obtain pupils for the usual classes. Unfortunately, owing to the war and the urgency of Red Cross and other patriotic work, a sufficient number of pupils was not forthcoming to justify opening the adult classes. The public-school classes in woodwork and cookery were, however, most successful, and are now being taken by senior pupils attending the smaller public schools in the vicinity of Fairlie. The buildings are well looked after, and are in a first-class state of repair. The addition to the cookery-room, making the kitchen airy and commodious, is much appreciated. Regular meetings of the Managers have been held, and a keen desire has been evinced to further technical education in the district. The finances are in a sound condition owing to the exercise of strict economy. A further attempt will be made to commence adult classes in cookery, dressmaking, first aid, and wool-classing, but it is not expected that much can be done in that direction until after the war. The thanks of the Managers are due to subscribers to the funds, especially the Mackenzie County Council and the Mackenzie Agricultural and Pastoral Association; to the Director for his interest in the work and the painstaking manner in which the books and records are kept; to Mr. Ritchings Grant, the Director of Technical Instruction under the late South Canterbury Board, and to the Department for the prompt way in which it has attended to the various requirements of the Managers.

CHAS. J. TALBOT, Chairman.

EXTRACT FROM THE REPORT OF THE CONTROLLING AUTHORITIES OF THE RANGIORA TECHNICAL SCHOOL.

The past year has been a successful one both in respect to the work done and the attendance. The manual classes have been attended by pupils from the following public schools,—viz. : Rangiora, Southbrook, Swannanoa, Fernside, Loburn, Ashley, Sefton, and Waikuku. Arrangements were made for a teacher to accompany pupils coming in by train, and this has proved very satisfactory. Certain classes are attended by pupils of the High School. There has been no change in the teaching staff, whose work continues to give general satisfaction. The subjects taught were woodwork, cookery, and dress-cutting. A conference of teachers of the public schools sending pupils to the manual classes was convened to meet the Chairman and Director. The conference proved very helpful, and is likely to become an annual fixture.

ROBERT BALL, Chairman.

EXTRACT FROM THE REPORT OF THE CHAIRMAN OF THE BOARD OF GOVERNORS OF CANTERBURY COLLEGE.

School of Engineering.—Though many of the students of 1915 enlisted as soon as they were able to do so, and thus the numbers for 1916 promised to be low, yet actually a slight increase took place, due, as the Professor in Charge explains, to a large number of students of a mature age attending as extra-mural students, owing probably to their desiring to have a fuller technical knowledge and thus qualify for more responsible positions. In all ninety-eight students have enlisted, and while many of those who were able to proceed Home obtained commissions in the technical branches of the services, nearly all if not all who offered their services in the Dominion were accepted for the infantry, and only a few were chosen for technical work. As there is a corps of specialists in training at the camps in the North, one would expect that a larger number of those whose training was of a technical kind would be selected for such a corps. Owing to the continuance of the war and the consequent commandeering of the manufacturers' plants at Home for the purpose of providing munitions, the additions to the machinery that have been sanctioned by the Board have not yet been installed in the school.

School of Art.—This institution has suffered, though comparatively slightly, in the matter of attendance owing to many of the eligible students leaving the Dominion for the front; this, of course, is marked by the decrease in the evening students. Though the attendance has fallen, the standard of work is kept up to the previous high standard, judging both by the success attained by many of the students and the reports on the work that was shown at the Art Gallery and at the annual exhibition of work.

The classes for apprentices in painting and decorating which were in course of being established at the end of last year are now in full swing, and there is every indication that this section of the school's work will prove of very great advantage to those who attend, as by the final award that was made it is compulsory for these apprentices to attend a certain number of hours per week, a portion of the hours allotted for attendance being in the daytime. The Master Painters' Association has given its earnest support to the scheme, and some of the firms have, by donations of material, enabled the Board to equip the classes very fully.

The ultimate results of undertaking these special classes will not be fully seen for a year or two, but the result must be that of turning out students more fully appreciative of the value of artistic work in decoration. The structural alterations that were made in the school itself have proved of great convenience to both the members of the staff and the students, enabling the work to be carried on with greater comfort, as no inconvenience is now experienced from the overcrowding of the class-rooms. The work in connection with the classes in architecture has been carried on with considerable success, and many students who have taken the diploma course have been admitted as associates by the New Zealand Institute of Architects. It is pleasing to note in the report of the Director that in the art competitions held in the larger centres in the Dominion most of the principal prizes were secured by students from this school, showing that year by year the school keeps its position as one of the leading art schools. Such a position is due to the earnest endeavours and enthusiasm of the Director and his staff, and also to the support given by many of our citizens, who give substantial prizes to be competed for each year, and thus help to encourage the study of art in our midst. When the state of the Dominion becomes more settled it is to be hoped that the Board will be able successfully to approach the Government with a proposal that at least one travelling scholarship a year should be awarded to the best student in the Dominion to enable such a one to continue study in Europe. Such a scholarship would undoubtedly encourage many students to put forward their best efforts to secure the prize, and would result in raising the standard of work throughout New Zealand.

The School account shows to better advantage than in the previous year, the receipts, which amounted to £3,083, exceeding the expenditure by £402. The revenue was, however, swelled by the receipt of capitation earned during 1915 and outstanding at the end of the financial year. Students' fees realized £467, as compared with £438 in the previous year. £1,297 was expended during the year in alterations and improvements to the school buildings.

EXTRACT FROM THE REPORT OF THE PROFESSOR IN CHARGE, SCHOOL OF ENGINEERING.

During the year a considerable addition has been made to the number of students at the war, ten matriculated and fourteen extra-mural students having volunteered and been accepted for active service. The number of students who have left the school to proceed to the front is now ninety-eight. Despite the great drain occasioned by the war, the number of students attending at the

school showed a slight increase as compared with 1915, being 137 as compared with 120 in that year. The hour attendances per week were, however, 879 as against 912. A marked feature was the increase in the number of men of mature years holding responsible positions who attended as extra-mural students. Nineteen matriculated students were studying for the University degree or the associateship of the School of Engineering, and in addition there were twelve matriculated students taking their preliminary year at the College. Twenty-nine lectures were delivered each week, and instruction was given for ninety-six hours per week in drawing problems, experimental and field work. At the University examinations of 1916 there were no failures in professional subjects. One student passed the final examination for the degree of B.E. (Electrical); one student passed the final examination for the degree of B.E. (Civil); three students passed the second professional examination for the degree of B.E. (Civil); two students passed the first professional examination in mechanical, electrical, and civil engineering; whilst seven Canterbury, four Auckland, and two Dunedin students passed the Engineering Entrance Examination. An engineering travelling scholarship was awarded to Mr. Isaac Richard Robinson, now on active service, with permission to enter on his scholarship at the conclusion of the war. The second-year engineering exhibition was awarded to William Charles Patton. At the College and associateship examinations for 1916 two students passed in spherical trigonometry; in chemistry, one; geology, one; applied mechanics, three; strength of materials (elementary), five; strength of materials (advanced), two; building-construction, one; principles of civil engineering, one; hydraulics, one; steam-engine (elementary), six; steam-engine (advanced), one; surveying (elementary), one; freehand mechanical drawing, three; descriptive geometry, four; mechanical drawing, five. One hundred and six certificates were awarded to extra-mural students who attended lectures and passed examinations in various subjects.

During the year tests were made in the engineering laboratories for various persons on building-stones, oils, cast steel, rolled steel bars, and concrete blocks. An extended test on the weathering properties of various New Zealand and Australian coals was also undertaken. The Professor in Charge supervised the installation of electric lighting and experimental circuits at the new College buildings. He also prepared a comprehensive scheme for the supply of heat, light, and power to the College Block. This scheme was approved by the Board, and plans and specifications were prepared with the assistance of the technical staff of the school. A $\frac{1}{2}$ h.p. commutating A.C. motor was purchased locally, otherwise, owing to war conditions, there was no expenditure on new plant. Mr. G. McIndoe, B.E., Demonstrator in Electrical Engineering, volunteered for the front, and was succeeded by Mr. M. Watson Munro, A.Am.I.E.E.

ROBT. J. SCOTT, Professor in Charge.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE SCHOOL OF ART.

Attendance: First term, 407 individual students; second term, 405; third term, 397. There has been a decrease in the number of evening students since 1915, which is accounted for by the large number of male students who have volunteered for active service. The exhibition of work was held during December. A large number of the public attended during the week the exhibition was open. The Press reported favourably on the advancement of the work of the school. Instruction was given in drawing and painting from life, still life, antique, and landscape, a special feature being made of the figure in landscape, an outdoor life class being held on Monday morning. Design: Important work has been done during the year, particularly in connection with embroidery and lace work. Artistic crafts: The work of this department comprised silversmiths' work, including raising, chasing, and embossing and mounting; enamelling; wood and stone carving; tooled leather-work; gesso work; stained-glass and leadlight work. Modelling: Four classes were held. The instruction included modelling from life, modelling from the antique, and modelling design. Sound work was done in each section. Architecture: Excellent work has again been carried out by the students of this department of the school. A number of the students who have been through the diploma course were admitted as associates by the New Zealand Institute of Architects. The work of the sign-painting class has again been very satisfactory. Definite arrangements have now been made to commence a department of painting and decorating, which will have the support of the Master Painters' Association and Painters' Union. The Arbitration Court has included in the painters' award a clause making it compulsory for all apprentices to attend the day classes as well as the evening classes of the school, therefore next year should see this important section of the school in actual progress.

Classes for teachers and pupil-teachers were held on Saturday mornings and Monday and Thursday evenings for drawing, modelling, design, and colour work.

Special classes for training-college students were held on Tuesday afternoons for elementary drawing and handwork subjects. Instruction in drawing and woodwork was given by members of the staff of the School of Art to pupils of the Boys' High School. In connection with the art competitions held by the art societies in the various large centres in New Zealand, students of the school carried off most of the principal awards. The alterations and additions to the school have proved very satisfactory. More space, better ventilation, and increased light have resulted, and the students and staff have greatly appreciated the changed surroundings. Two scholarships valued at £25, and eleven scholarships carrying free tuition, were awarded to students of the day and evening classes. Thanks are due to Messrs. J. W. Gibb and Hammond and Co. for special prizes, and also to Mr. W. H. Montgomery and to Mr. William Reece for valuable prizes in connection with the life classes; also to the executors of the late Mr. William Sey for prizes in connection with the signwriting classes; also to Mrs. Lonsdale for a special prize; and lastly to the Canterbury Branch of the Institute of Architects both for valuable prizes and for acting in connection with the annual examinations. In conclusion, I have to thank the Board for the support given me in my efforts to further the benefits and growth of the school.

R. HERDMAN-SMITH, Director.

OTAGO.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE SCHOOL OF ART.

The total number of individual students in attendance at classes was 560, made up as follows: Day students, 108; evening students, 142; town pupil-teachers and probationers, 80; junior students in training, 65; senior students in training, 58; country pupil-teachers, 34; country teachers, 73. Although these numbers show a slight increase on 1915, the war again sensibly affected both enrolments and attendances. The architectural course lost 80 per cent. of its students during the year; in fact, only two articulated pupils are left among the architects of Dunedin. It was found impossible to obtain students among cabinetmakers, who are especially hard hit. The building trade also was seriously depleted of its young men, and our course in building-construction suffered a gradual diminution of attendance throughout the year. It was thought advisable not to open the class in photography with the numbers offering. The attendance of lady students also suffered, especially during the day, on account of the demand for office and shop assistants to replace men on active service. The usual programme of art subjects was provided for day students—freehand, model, geometry, perspective, design, light and shade, drawing and painting from life, still life, landscape, &c. Solid progress was made by a small body of earnest students, and some excellent work was done in all branches. In art craft subjects, copper and pewter relief work, enamelling, wood-carving, stencil, art needlework, and modelling were provided for, and met with fair support considering the war strain on society. There was a pleasing increase in the attendance at the juvenile classes during the afternoons. Interesting work in colour, design, and simple stencilling on material was done, while an attempt was made to interest the older ones in the all-important study of drawing through light and shade. These classes are non-productive of revenue, but are of the utmost importance to the community, and it is from their ranks that future art students should spring. As a result of the excellent attendance at classes for pupil-teachers and probationers we were enabled still further to increase the percentage of young students who have passed the drawing tests for D certificate before entering the Training College. Especially gratifying was the progress made in blackboard drawing both by pupil-teachers and students in training. For the latter a course of study in free drawing from actual objects, natural and fashioned, instrumental drawing, brush drawing, the study of plant and animal form and design was provided. For pupil-teachers and probationers living outside Dunedin classes were provided on Saturday mornings. There was a good average attendance of such students, who were prepared in the three branches of drawing for the D certificate. Large numbers of head teachers and assistants outside Dunedin were also enabled to take a course of study in drawing and handwork. Modelling in clay and plasticene, design, brush and colour work, wood-carving, cardboard, and brickwork were the principal handworks dealt with. Drawing of common objects, mass estimation, light and shade, and blackboard illustration were the drawing subjects in most request. At the evening classes in art subjects, instruction in freehand, model, and object drawing, geometry, perspective, plant form, design, light and shade, drawing from life and the antique, painting in oil and water colours was provided. The classes were, on the whole, well attended, and a good standard of work was maintained. In art craft subjects the number of students taking copper and pewter relief work, enamelling, jewellery, wood-carving, and other practical crafts showed a decided diminution, possibly due to the difficulty of obtaining material unless at excessive cost. There was almost an entire absence of male students. On the other hand, the art needlework section was very considerably increased, the attendance being excellent throughout the year. The architectural course commenced with a good roll under the experienced guidance of Mr. R. Newton Vanes, A.R.I.B.A. History of architecture, architectural design, and building-construction formed the special subjects; the course also including geometrical drawing, perspective, freehand, and light and shade. I am indebted to the Otago Branch of the New Zealand Institute of Architects for the very practical interest taken in these classes and for a substantial contribution towards their maintenance. The annual exhibition of work by students was held in June, in conjunction with the Otago Art Society. Much credit was given to students and the staff for the excellent display of drawings, paintings, sculpture, and art crafts, Press comments being very eulogistic. We again carried off the whole of the prizes awarded by the Otago Art Society for life studies in charcoal and in colour, still life, &c. An attempt was made during the year to induce the whole of the secondary schools in Dunedin to associate themselves with the School of Art so that there might be uniformity in their teaching of drawing, thus securely linking the secondary course between that of the primary schools and the School of Art. The suggestion was sympathetically received, and will probably bear fruit whenever arrangements between the schools and their present staff permit.

R. HAWCRIDGE, Director.

EXTRACT FROM THE REPORT OF THE DUNEDIN TECHNICAL SCHOOL BOARD.

Notwithstanding the large number of voluntary enlistments from among students of our classes during the year the attendance at the school was well maintained, and the classes were conducted on much the same lines as in former years. Towards the end of the year delegates representing the Typographical Union and the Master Printers' Association met a committee of the Board, and urged the establishment of a class for instruction in typography. The Board, by adopting the report of this conference, agreed to open a class at the beginning of the 1917 session, and with this end in view, after discussing the financial position, the Managers decided to obtain at once the initial equipment, costing approximately £110, without making application to the Education Department for a grant-in-aid. It may well be added here that in pursuance

of this policy of reducing the claims upon the Department as much as possible the Board has during the year, as the statement of accounts shows, purchased necessary appliances and apparatus from its own funds. In accordance with the suggestion of the Inspector of Technical Instruction, an Advisory Board for the engineering classes was set up, consisting of the following gentlemen: Messrs. J. B. Shacklock (representing the Ironmasters' Association), M. Moloney and H. Walker, jun. (Amalgamated Society of Engineers), and T. Scott (Technical School Board). Similarly an Advisory Board for the plumbing classes, constituted as follows, was brought into existence: Messrs. J. Harrison and F. E. Harridge (representing the Plumbers' Union), C. S. Jenkins and T. R. Christie (elected by the union of employers), and T. Scott (Chairman, Technical School Board). A question which has frequently been considered by the Managers was brought before them again during the session, and definite action in the matter was taken. It has repeatedly been affirmed that free pupils must recognize their responsibility in receiving free technical education; it should be part of their training to learn that a benefit received from the State demands this recognition. Too many pupils in the past have failed to keep up their attendance, and thus the College has lost capitation, while still obliged to keep up a large and expensive staff. To check this tendency on the part of those who thus shirk their duty the Board has passed the following regulation: "That all applicants for free places in technical classes under the Free Place Regulations be required to deposit the sum of 10s., the same to be refunded at the end of the year in all cases in which the free student makes at least 80 per cent. of the possible attendances." The very large question of the reorganization of the elementary-school system in order to provide for earlier differentiation of study than prevails at present was raised by the Christchurch Technical School Board, and their suggestions were fully considered by this Board. The Southland League also wrote asking for joint action in seeking more liberal treatment for technical colleges than now prevails. While recognizing that there was need for a reorganization of the whole educational system of the Dominion in order to avoid the overlapping which at present so largely exists, and to bring the whole into a harmonious scheme—which should embrace every department of education from the kindergarten to the university—the Board did not consider that the question should be attacked piecemeal, and was not in full agreement as to the question of earlier differentiation. The Board considers that the whole problem should be taken into consideration by the Government. The Board has had under consideration the advisability of erecting a hostel for girls, as well as an assembly and recreation hall and gymnasium. While both are wanted, the latter is the more pressing need, and the architect has prepared plans of a building suitable for physical exercises and recreation purposes. The statement of accounts for the year shows that the balance to credit at end of year was £1,855 18s. 10d., but outstanding cheques and other liabilities amounted to approximately £100.

THOS. SCOTT, Chairman.

ANGUS MARSHALL, Director.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE DUNEDIN TECHNICAL COLLEGE.

For the year 1916 the total enrolment for all classes was 1,519 individual students. Of these, 315 attended the Technical High School, and were distributed over the various courses as follows: Domestic course—First-year girls, 16; second- and third-year girls, 24. Agricultural course—First-year boys, 20. Industrial course—First-year boys, 25; second- and third-year boys, 10. Commercial course—First-year pupils, 31 boys, 100 girls; second-year pupils, 9 boys, 56 girls; third- and fourth-year pupils, 24 girls. The pupils seeking instruction in commercial subjects numbered more than two-thirds of the total enrolment for the full-day courses, and this large proportion may be taken to represent the general tendency throughout the Dominion. The great demand upon our day school for training in commercial subjects, the conspicuous success of our students in the Government shorthand-typists' examinations, and the large number of important positions secured by the pupils of our day school, may all be regarded as tributes to the efficiency of the commercial training given in the Technical College; but the fact that so few of our girls are prepared to undertake the full domestic course is certainly not a matter for congratulation. Although the girls attending the commercial course are required to attend for instruction in one or more domestic subjects, this training is not to be regarded as by any means equivalent to that received by girls taking the full domestic course. Further, strange as it may seem, sometimes the mother of a girl applying for admission to the day school objects to her daughter's learning either needlework or cookery; and usually such a mother, when informed that one of the two subjects mentioned is compulsory, generally decides to send her daughter elsewhere for her general education, and to the school of adversity or bitter experience for the training in domestic subjects. It is gratifying, therefore, to find that other educational institutions, in order to counteract this tendency, are taking advantage of the opportunities afforded by the Technical College, by arranging with us to hold morning or afternoon classes suitable to the requirements of their scholars. Under special arrangements the pupils from Columba College, St. Andrew's College, St. Hilda's College, the Convent and Catholic Schools, and also the domestic science students from the University, received instruction in cookery in our school during the year just ended. The day classes offering a preliminary training in the various branches of engineering are now on a very satisfactory basis, and when the equipment for the steam-room and the engineering laboratories (costing approximately £1,600) can be obtained from Britain the provision for instruction in engineering will be fairly comprehensive and quite up to date. Referring to agriculture, I have to point out, although we have appropriate courses in ironwork and farm blacksmithing, woodwork, science and agriculture, wool-sorting, &c.,

we have no farm-grounds for dealing practically with the most important part of the subject. In view of the increasing number of boys applying for admission to the agricultural course, this state of affairs should not be allowed to continue.

The afternoon and evening classes were attended by 1,204 individual students, classified as follows: Junior free pupils, 204 males, 79 females; senior free pupils, 98 males, 71 females; other than free pupils, 732; scholarship-holders, 17; returned soldiers, 3. The outstanding features of the afternoon and evening classes were the great demand for instruction in commercial subjects, the steady application and consistent work of the girls as compared with that of the boys taking commercial work, the earnestness and enthusiasm of the large body of students in the engineering classes, and the decline in the number of the students in the classes for cookery, dressmaking, and needlework. The attendance at the trade classes—carpentry, plumbing, cabinet-making, painters' work, blacksmithing, &c.—was, as was foreseen, seriously affected by the number of voluntary enlistments made by students of these classes. Towards the end of the year it was found necessary to combine some classes and abandon others. However, notwithstanding the adverse circumstances, the aggregate attendance for the year was only about 5 per cent. less than that of last year, which was the highest in the history of the College.

ANGUS MARSHALL, Director.

EXTRACT FROM THE REPORT OF THE MANAGERS OF THE OAMARU TECHNICAL SCHOOL.

The work of the school has been carried on during the year in a satisfactory manner, and the attendance has been the best yet recorded. The commercial courses were well attended, and a number of pupils have gained positions in offices as a result of their training at the school. The dressmaking, millinery, and wool-classing classes received a good measure of support, and the continuation classes were better than usual. Thanks are due to those who contributed to the support of the classes, and to the Press for valued assistance.

C. H. CHURCH, Chairman.

EXTRACT FROM THE REPORT OF THE MANAGERS OF THE MILTON TECHNICAL SCHOOL.

During the year classes were conducted in book-keeping (roll number 28), typewriting (18), beaten copper work (22), and painting (28). The number of students who enrolled was forty-nine, of whom eleven were males, and the total number of class entries was ninety-six. Over 50 per cent. of the students took commercial subjects. The book-keeping and typewriting classes were held for two quarters, and the beaten copper and painting classes for three quarters. The attendance was not quite up to the high standard of last year.

J. R. LAING, Secretary.

EXTRACT FROM THE REPORT OF THE PROFESSOR IN CHARGE, HOME SCIENCE DEPARTMENT, OTAGO UNIVERSITY.

The number of students has again increased. This year there are forty-three students taking either the full degree or diploma course, as against thirty-two who were on the roll last year. There are also four students who are taking single courses, as against three who were doing so last year. The three students who gained their degree last year all secured posts at once. Miss Timewell was appointed to Napier Girls' High School, Miss Pigott to Blenheim, and Miss Rudall, under the Auckland Education Board, to the Whangarei district. Miss Tucker completed her diploma just before Christmas, and has been appointed to Woodford House School, Hawke's Bay. Several other appointments could have been made, but we had no trained students available except Miss Rosevear, who has been appointed to the Wanganui Girls' College, where Miss Cornish, another of our students, already teaches home science. During my two journeys across Canada to England I visited the McDonald College at Guelph, which works in connection with Toronto University. Both these colleges were founded and endowed by Sir William McDonald for the teaching of home science, and both have splendid buildings, grounds, and equipment. Toronto University is the only university in Canada where a home-science course is provided in the curriculum, though several universities in the States now provide one, notably Columbia University, New York, also Chicago, Michigan, and others. I went into the details of the various courses with great care, and found, as far as laundry-work and needlework are concerned, that our courses and theirs are almost identical, but in all the science subjects we are distinctly in advance of the two colleges mentioned, the only exception being bacteriology. The syllabus of this course is now being revised and enlarged, and one afternoon a week throughout the session is in future to be assigned to bacteriological work. Now that it is possible to devote a small laboratory in the new Medical School exclusively to the work of our students, Dr. Champaloup will be able to bring this course also up to the standard required, and I am going to ask the Council to sanction the arrangements which I propose. So far all is satisfactory, but the very unsatisfactory side has yet to be mentioned. With our increasing numbers we are dreadfully handicapped in our work by lack of space and lack of equipment. The Council have, I feel sure, no idea of the difficulties involved. The only way in which I can arrange the classes at present is by overflowing into the Mining School (and here I should like to acknowledge Professor Park's kind courtesy in doing everything in his power to lend me rooms at the times I need them). But it is impossible to give proper needlework classes without sewing-machines, with no arrangements for heating irons for pressing, and with no proper tables upon which to

cut out. Also, it is very difficult and undesirable to carry diagrams, specimens, and experiments to and fro for the science classes, and impossible in wet weather. Then, in regard to laundry-work, we have only the small washhouse and ironing-room at Studholm House, in which the house washing has to be done every week. This is quite inadequate for teaching a class of any size. It is difficult for even eight girls to be taught properly, and I do not know what we shall do during the approaching summer session. We shall probably have to work the classes in sections, thereby doubling, or even trebling, the time and labour involved in teaching, and even then not doing it to our satisfaction. Moreover, it creates a very bad impression to have the work done in such small, dark, inadequate quarters. Outsiders who wish to "pick holes" can readily bring up points to find fault with, which are not in the least the fault of the course, but are entirely due to our very deficient accommodation; and they take full advantage of this opportunity. Others who are not wilfully critical find it difficult to believe that we really are doing what we profess to do. They ask, "How can you teach the girls properly in those surroundings?" If the Council would see the difference in doing that work in a large and properly equipped laundry, and in the poor accommodation we have got, they would be surprised at the different impression it would create.

W. L. BOYS-SMITH, Dean.

SOUTHLAND.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF TECHNICAL INSTRUCTION.

Very successful classes in wool-sorting were carried on at six country centres in the eastern district, the number of students in attendance at each being as follows: Knapdale, 13; Gore, 20; Waimumu, 12; Mandeville, 7; Balfour, 21; Waikaia, 13. Other centres also were anxious to have classes established, but could not be taken owing to the instructor's time being full, occupied. That the students fully appreciated the value of the instruction given was shown in the high average attendance recorded at each centre. There can be no doubt but that farmers are realizing that students who have gone through the course intelligently are enabled to grade their wools in a manner that enables buyers to put their utmost limit of value on them with certainty. The instructor was fortunate in securing the co-operation of a number of studmasters who very obligingly placed their best sheep at the disposal of the classes for demonstration purposes. In only one other centre was a country class carried on during the year—Greenhills, where a class in drawing and painting was held with the satisfactory roll number of twenty-two. For some years now this has been practically the only centre where it has been found possible to establish evening classes, and the fact that these have been so successful is entirely due to the enthusiasm of the instructress. Knowing that all country children passing out of the Sixth Standard do not avail themselves of a course at a secondary school, one feels disappointed on reflecting that there should be so little evidence of a desire amongst those who have left school to pursue their education any further. In conclusion, I have to acknowledge the fairness with which all claims have been met by the Education Department. To the Inspectors and the Secretary a word of thanks is due for willing assistance at all times, and to the various instructors I have also to record my thanks for their untiring efforts to make their classes a success.

R. BROWNIE,
Director of Technical Instruction.

EXTRACT FROM THE REPORT OF THE DIRECTOR OF THE SOUTHLAND TECHNICAL COLLEGE.

The Managers held regular monthly meetings during the year, and special sub-committees were set up at each meeting to attend to matters requiring consideration during the month.

This Board was one of the first to move in connection with the provision of special education for returned soldiers, and had actually decided to provide instruction at its own expense for ten men before the present arrangements were made by the Government. One of the most pleasing features of the year's work has been the donation by Mr. W. B. Scandrett of £200 to found two scholarships, one for domestic science students and one for apprentices in the wood or metal working trades.

Since the Technical High School was established in 1912 the roll number has increased steadily. In that year the roll was 139, as compared with 223 in 1916. Free places were held by 213 students, including 190 holders of junior free places and twenty-three holders of senior free places. The numbers enrolled for the different courses were as follows: Commercial, 154; domestic science, 28; trades, 33; agricultural, 8: total, 223, an increase of 23. The number of boys is slightly lower than it was last year, when ninety-nine were in attendance, whereas the number of girls has increased from 101 to 133. Undoubtedly the war has been principally responsible for this, as boys with secondary training are in keen demand in the professions and the skilled trades, and during the year it has been impossible to fill even half the positions for which boys were required. A greater proportion of the boys are also going to work immediately on leaving the primary schools, otherwise one would have expected increased enrolments in the boys' as well as the girls' classes.

The proportion of students taking the commercial classes is always very considerable, but this is only natural as shown by the large number of junior clerks and typists who attend for

instruction in the evening classes. A very large proportion of the younger workers in Invercargill are engaged in offices, and so long as this is the case the commercial classes will attract large numbers of students, for the law of supply and demand operates in a vocational school as surely as it does in business. At the same time it is certain that many parents are attracted by the comparatively large starting wages offered for clerical work, and that many are inclined to regard an apprenticeship of five years, even in a skilled trade, as an imposition. Such persons, when choosing a career for their children, particularly for their boys, would do well to consider what it would offer them when they reach manhood.

With the increased roll number the shortage of class-room accommodation created some difficulty, but this was overcome for the year by holding the sewing classes in the assembly hall under the charge of two teachers. The removal of the No. 2 manual training cookery centre from the College affords an additional class-room for next year, but we have come to the point where the acquisition of additional ground and buildings must be regarded as necessary for the proper development of the school. The domestic science classes would benefit most by the provision of increased accommodation, as it has not been found possible to provide them with a full course of instruction in alundry-work and practical housewifery owing to lack of rooms.

On account of the considerable proportion of time given to practical work in all the courses, the school cannot specialize fully in the preparation of students for public examinations. However, two of the boys in the commercial class passed the Public Service Entrance Examination held in November, 1915. A slight modification of the examination syllabus by including the principles and practice of metal-work would permit boys in the trade class to enter on satisfactory conditions for the same examination. The very satisfactory total of seventy-nine Pitman's shorthand certificates was obtained in an examination held in November, 1915, including thirty-nine elementary, twenty theory, and twenty speed certificates, ranging from 60 to 100 words per minute.

The value of the work done in technical high schools is gradually gaining recognition. During the year a substantial concession has been granted by the Marine Department, which now allows a proportion of the time spent in the engineering course at approved technical high schools to count as part of the experience required for the third-class marine engineers' certificate. It is hoped that other Government Departments will follow suit, and that ultimately recognition will be given in the arbitration awards to apprentices who have received training in a technical high school prior to entering into employment. Presumably in the awards apprentices' wages and the duration of the apprenticeship are based on the assumption that the apprentice knows nothing of his trade when he enters it, so that different conditions should apply in the case of apprentices who have spent a year or more in the classes of a technical high school. It would surely not be too much to ask that apprentices trained in this way should receive higher starting wages and serve a shorter apprenticeship than those who take up their trade work without preliminary training.

An increased attendance has been recorded this year in the evening classes as well as in the Technical High School, for the war, far from diminishing the interest in technical education, has increased the demand for it to a marked degree. The enrolments during the year have been as follows: Free students, 154; paying students, 317: total, 471, an increase of 109. This marked increase has taken place despite the fact that there remains in the classes hardly a man of military age, the trade classes having suffered most in this respect. In regard to the different sections of work it is pleasing to note that the enrolments for instruction in general education, including art subjects among others, have never been greater. Though the art classes fell away somewhat last year, they have returned this year to their full numbers. In addition to the usual classes a class has been established this year in the applied arts section for sign and ticket writing. Nineteen students enrolled for instruction, and the work they displayed at the end of the session more than justified its establishment. Good enrolments and attendances were recorded in classes for English, arithmetic, and mathematics, and a class for advanced instruction in English was formed, whilst it was found possible to revive the French class. A considerable number of ex-students of the High School now enrol in the evening classes when they enter into employment, but there is no reason why more of them should not take advantage of the facilities afforded to them here for continuing their general education without cost to themselves. The domestic science classes have shown marked development, though undoubtedly there is not the demand for instruction in cookery that existed some years ago, owing to the attention that is now being given to this subject in primary schools. The classes in needlework, dress-making, and millinery have attracted students in large numbers, and the number of day classes for ladies has been increased to four weekly. The fact that Invercargill is essentially a commercial and not a manufacturing town is responsible for the enrolment of a large proportion of the students for commercial instruction, and again this year it has been found necessary to increase the number of shorthand and typewriting classes. There have also been good attendances in the book-keeping and correspondence classes. Classes for woodworking have not attracted students in large numbers at any time, and owing to the enlistment of a number of apprentices the roll numbers have been very low this year, though good work has been done by the individual students. The plumbing classes have suffered in the same way, but the standard of work done in them is indicated by the fact that in the last examination for plumbers' registration five candidates were successful in Invercargill, four of them being students of this school. The engineering classes have increased considerably in numbers, and the course of instruction has been modified to enable students to enter for the City and Guilds Examinations in mechanical engineering. An apprentice passing this examination in the first grade is entitled under the present Arbitration Court award to receive an additional 2s. 6d. per week for the last two years

of his apprenticeship. Owing to the increased numbers of students in attendance an additional class has been formed. The class for electrical wiring, though small, has done good work, as evidenced in some of the rooms and workshops where electric lighting and bells have been installed by the class. A class has been established for drivers of motor-cars, with an initial enrolment of thirty-nine students. This was carried on very successfully with the use of a sectional chassis and parts of cars kindly loaned by different firms. During the year ten returned soldiers have availed themselves of the facilities for special education provided free of charge in the school by the Government. The increased attendance in the evening classes has had the result that there is now little unused accommodation in the buildings on any evening. Should the attendance continue to increase as it has done now for several years, the evening classes will feel next year the restrictions of space at our disposal. Although a considerable increase in roll numbers has taken place this year, there is still a wide scope for developing the work of the evening classes. Only a proportion of the young people in employment in Invercargill are taking advantage of the classes, whereas there are few, if any, of them under the age of twenty years who would not benefit by a course of instruction in the school. It is to be hoped that a system of compulsory continuation education will be made general throughout the Dominion at no distant date.

In conclusion, thanks must be accorded to the bodies that have contributed to the funds of the College and assisted in its management; to the numerous donors of special prizes, including among others Mr. W. B. Scandrett, the Lawn Tennis Association, the Athenæum Committee, the Society of Accountants, Mr. John Fisher, Mr. J. J. Sheehan, Miss M. Wilson, M.A., Miss I. Gunn, Mr. O. Duff, B.A., Mr. William Grieve, Mr. J. R. Baillie, Mr. J. W. Dickson, Mr. J. Miller, M.R.C.V.S., and Mr. James Hinton; to the numerous private persons and firms who permitted visits of inspection by students to their farms and works during the year; to the officers of the Education Department for their consideration; to the Press for the assistance it has rendered during the year; and in particular to the teachers of the staff for their whole-hearted work in furthering in every way the interests of the College.

H. E. NIVEN, Chairman.

D. E. HANSEN, Director.

EXTRACT FROM THE REPORT OF THE CONTROLLING AUTHORITY OF THE GORE TECHNICAL CLASSES.

The classes commenced in May and were continued for two terms of ten weeks each. The following were the roll numbers: Electricity, 17; book-keeping, 16; English, 12; arithmetic, 10; carpentry, 7; dressmaking, 8; ladies' woodwork, 8: total, 78. Of this number twenty held free places.

A. MARTIN, Secretary.

No. 4.

DETAILED TABLES RELATING TO TECHNICAL INSTRUCTION.

TABLE J1.—SOME PARTICULARS RELATING TO TECHNICAL EDUCATION FOR THE YEARS 1911–1916 INCLUSIVE.

	1911.	1912.	1913.	1914.	1915.	1916.
Number of centres at which classes were held..	130	136	132	138	168	151
Number of technical high schools	8	8	8	8	8	8
Number of other classes	1,467	1,552	1,626	1,731	1,817	1,915
Number of students—						
(a.) Technical high schools	1,341	1,526	1,664	1,839	1,955	2,105
(b.) Other classes	13,632	13,527	15,206	16,602	18,247	17,586
Number of free pupils at (a) and (b) above ..	3,568	3,852	4,678	5,258	5,660	5,975
Number of students attending under “ compulsory regulations ”	..	73	451	436	858	1,219
Total expenditure by Government	£ 53,765	£ 57,874	£ 70,280	£ 80,210	£ 72,089	£ 84,931
Including—						
Capitation—(a) Technical high schools ..	9,477	14,808	15,280	18,854	19,309	25,934
(b) Other classes	21,819	19,832	24,526	26,209	30,729	38,922
Grants for buildings and equipment	11,495	10,872	18,130	20,572	7,877	6,614
Subsidies on voluntary contributions	4,552	5,560	6,600	5,427	5,323	4,206
Conveyance of (a) Instructors	1,058	1,223	2,058	2,023	1,018	790
(b) Students	1,727	1,676	1,851	2,457	2,659	2,596

TABLE J2.—CLASSES OTHER THAN CLASSES AT TECHNICAL HIGH SCHOOLS HELD DURING THE YEAR ENDED 31ST DECEMBER, 1916.

Controlling Authorities, Technical School Boards, and Managers.	Number of Students.			Number of Classes.									
	Free and Compulsory Pupils, and Discharged Soldiers.	Other Pupils.	Totals.	Art and Art-crafts.	Civil, Mechanical, and Electrical Engineering.	Wood, Iron, and Lead-working, and other Trades.	Experimental and Natural Science and Practical Mathematics.	Agriculture, Horticulture, Wool-sorting, &c.	Domestic Instruction.	Commercial Instruction.	Subjects of General Education (Continuation Classes).	Total Number of Classes.	
Auckland Education Board ..	1,313	1,722	3,035	11	13	54	35	9	52	48	64	286	
Managers, “Elam” School of Art ..	..	260	260	20	..	..	..	..	..	..	..	20
Auckland University College Council ..	..	39	39	..	13	..	..	..	..	..	..	13
Taranaki Education Board ..	453	950	1,403	25	26	11	18	32	22	30	40	204	
Wanganui Education Board ..	591	1,159	1,750	18	13	22	16	12	51	34	45	211	
Palmerston North High School Board ..	187	486	673	7	3	3	4	1	20	13	10	61	
Wellington Education Board ..	..	226	226	5	..	4	6	1	4	..	5	25
Wellington Technical School Board ..	504	703	1,207	21	17	12	15	..	9	13	25	112	
Petone Technical School Board ..	189	147	336	2	1	3	7	2	3	8	12	38	
Managers, Masterton Technical School ..	91	246	337	3	..	4	1	1	12	8	4	33	
Hawke’s Bay Education Board ..	..	477	477	3	3	2	5	5	8	6	7	39
Napier Technical School Board ..	262	69	331	1	4	3	1	..	6	7	4	26	
Managers, Waipawa Technical School ..	..	36	36	..	..	1	..	..	1	1	..	3
Nelson Education Board ..	217	520	737	11	3	9	3	..	17	13	10	66	
Canterbury College Board of Governors ..	60	538	598	57	66	..	..	..	..	10	1	134
Canterbury Education Board ..	106	461	567	4	4	3	8	6	21	9	11	66	
Christchurch Technical School Board ..	396	829	1,225	2	11	18	7	4	19	20	12	93	
Ashburton Technical School Board ..	176	251	427	4	..	7	6	4	27	22	12	82	
Managers, Kaiapoi Technical School ..	1	59	60	..	..	1	..	..	1	1	..	3
Managers, Akaroa Technical School ..	..	9	9	..	..	..	..	..	1	..	..	1
Rangiora High School Board ..	..	98	98	..	..	2	..	..	3	..	..	5
Timaru Technical School Board ..	153	183	336	2	..	3	1	2	6	11	6	31	
Temuka Technical School Board ..	..	116	116	1	..	..	..	2	4	1	2	10
Waimate Technical School Board ..	..	96	96	1	..	..	..	2	4	1	..	8
Managers, Pleasant Point Technical School ..	..	13	13	..	..	..	..	..	2	..	..	2
Otago Education Board ..	..	821	821	36	..	..	6	9	..	..	4	55
Dunedin Technical School Board ..	456	748	1,204	1	12	19	7	2	23	35	33	132	
Oamaru Technical School Board ..	32	150	182	..	..	2	..	1	7	7	3	20
Managers, Milton Technical School ..	..	49	49	2	..	..	..	..	..	2	..	4
Otago University College Council ..	..	81	81	..	..	..	13	..	8	9	2	32
Southland Education Board ..	..	322	322	8	..	3	6	9	5	..	2	33
Inverargill Technical School Board ..	156	319	475	10	6	5	4	1	9	12	13	60	
Gore High School Board ..	6	54	60	..	..	2	1	..	1	1	2	7
Totals for 1916 ..	5,349	12,237	17,586	255	195	193	170	105	346	322	329	1,915	
Totals for 1915 ..	4,749	13,498	18,247	254	164	179	148	134	369	259	310	1,817	

TABLE J3A.—INCOME OF EDUCATION BOARDS AND HIGH SCHOOL BOARDS AS CONTROLLING AUTHORITIES OF TECHNICAL SCHOOLS AND CLASSES (INCLUDING TECHNICAL HIGH SCHOOLS) FOR THE YEAR 1916.

Controlling Authorities.	Capitation, Grants, and Subsidies from Government.										Other Receipts.						Total Receipts.						
	Capitation.		Buildings and Equipment.		Material for Class Use.		Subsidies on Voluntary Contributions.		Total Capitation, Grants, and Subsidies.		Class Fees.		Voluntary Contributions.		For Services rendered to other Schools.		Miscellaneous.		Total of other Receipts.		£	s.	d.
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.			
Auckland Education Board	14,691	6 11	270	15 6	860	17 5	125	4 0	15,948	3 10	1,215	13 10	178	5 7	..	1,193	10 2	2,587	9 7	18,585	13 5		
Taranaki Education Board	2,510	11 2	219	2 4	81	9 9	76	18 4	2,888	1 7	252	11 2	221	6 7	..	130	11 11	604	9 8	3,492	11 3		
Wanganui Education Board	5,059	10 2	419	19 2	122	6 0	591	3 0	6,192	18 4	866	2 5	554	14 7	..	712	15 11	2,133	12 11	8,326	11 3		
Palmerston North High School Board	946	15 7	79	7 4	44	6 0	117	6 0	1,187	14 11	398	4 10	195	5 0	..	170	19 2	764	9 0	1,952	3 11		
Wellington Education Board	202	18 0	29	16 5	55	11 5	..	..	288	5 10	..	..	..	..	..	240	0 0	240	0 0	528	5 10
Hawke's Bay Education Board	185	9 6	..	0 0	23	7 2	20	0 0	228	16 8	162	12 3	20	0 0	..	..	..	182	12 3	411	8 11
Nelson Education Board	1,623	7 1	150	0 0	..	..	131	7 0	1,904	14 1	238	14 5	132	3 4	341	7 0	..	793	5 6	2,697	19 7
Canterbury Education Board	970	8 7	827	18 4	140	10 5	76	17 0	2,015	14 4	99	3 0	..	..	..	189	2 2	288	5 2	2,303	19 6
Rangiora High School Board	75	12 9	75	12 9	51	6 5	18	0 0	63	15 0	22	16 4	155	17 9	231	10 6	
Otago Education Board	848	1 1	..	..	18	4 0	10	0 0	876	5 1	383	13 0	10	10 0	..	300	0 0	704	3 0	1,580	8 1
Southland Education Board	26	13 3	..	..	6	1 0	..	..	32	14 3	100	0 0	..	..	..	75	7 0	175	7 0	208	1 3
Gore High School Board	12	10 6	..	..	..	..	25	0 0	37	10 6	44	0 0	25	0 0	..	..	..	69	0 0	106	10 6
Totals	27,153	4 7	1,996	19 1	1,352	13 2	1,173	15 4	31,676	12 2	3,822	1 4	1,355	5 1	405	2 0	3,116	3 5	8,698	11 10	40,375	4 0	

7—E. 5.

TABLE J3B.—EXPENDITURE OF EDUCATION BOARDS AND HIGH SCHOOL BOARDS AS CONTROLLING AUTHORITIES OF TECHNICAL CLASSES (INCLUDING TECHNICAL HIGH SCHOOLS) FOR THE YEAR 1916.

Controlling Authorities.	Working-expenses.										Total Expenditure.												
	Salaries of Director and Teaching Staff.		Salaries of Registrar and Clerical Staff.		Office Expenses, Advertising, Printing, &c.		Material for Class Use.		Repairs.		Lighting and Heating.		Caretaker, Cleaning, &c.		Miscellaneous.		Total of Working-expenses.		Buildings, &c., and Equipment.		£	s.	d.
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.			
Auckland Education Board	8,776	15 5	693	4 6	1,491	10 6	1,047	5 10	116	3 10	257	5 10	130	0 0	1	12 0	3,737	2 6	2,595	6 7	15,109	4 6	
Taranaki Education Board	2,880	8 3	61	18 4	145	12 0	131	8 5	106	7 2	47	17 6	74	19 4	16	6 1	584	8 10	1,497	7 11	4,962	5 0	
Wanganui Education Board	5,027	13 2	221	1 11	297	13 7	327	16 9	191	14 4	379	14 10	..	..	674	6 7	2,092	8 0	891	11 10	8,011	13 0
Palmerston North High School Board	1,518	7 6	20	0 0	51	13 4	100	19 1	20	9 11	94	1 3	52	0 0	90	9 11	429	13 6	121	4 2	2,069	5 2	
Wellington Education Board	376	11 0	30	7 5	..	..	84	14 11	..	..	..	..	..	..	2	9 6	117	11 10	140	17 7	635	0 5
Hawke's Bay Education Board	396	19 0	..	..	12	10 0	62	1 8	..	..	3	10 9	22	10 0	57	16 7	158	9 0	..	..	555	8 0
Nelson Education Board	2,005	18 10	39	5 0	137	6 1	216	9 2	36	2 4	41	5 7	63	6 0	71	4 11	604	19 1	82	4 9	2,693	2 8	
Canterbury Education Board	1,134	7 8	13	16 0	48	1 10	177	17 0	17	4 9	25	12 6	60	13 0	70	0 6	413	5 7	673	14 9	2,221	8 0	
Rangiora High School Board	199	16 0	..	..	1	5 0	25	2 11	..	..	6	4 3	15	0 0	5	3 1	52	15 3	..	..	252	11 3
Otago Education Board	1,183	14 2	65	0 0	41	19 6	124	14 10	7	13 11	78	1 4	100	10 0	8	6 9	426	6 4	14	3 8	1,624	4 2	
Southland Education Board	118	18 9	..	..	..	..	12	13 4	..	..	6	15 9	..	..	..	..	12	13 4	..	..	131	12 1
Gore High School Board	102	12 6	..	..	5	10 9	..	..	..	..	..	..	..	..	..	..	12	6 6	..	..	114	19 0
Totals	23,722	2 3	1,444	13 2	2,233	2 7	2,311	3 11	495	16 3	940	9 7	518	18 4	997	15 11	8,641	19 9	6,016	11 3	38,380	13 3	

TABLE J4A.—INCOME OF MANAGERS OF TECHNICAL SCHOOLS (INCLUDING TECHNICAL HIGH SCHOOLS) FOR THE YEAR 1916.

Technical Schools.	Capitation, Grants, and Subsidies from Government.						Other Receipts.						Total Receipts.									
	Capitation.		Buildings and Equipment.		Material for Class Use.		Subsidies on Voluntary Contributions.		Total Capitation, Grants, and Subsidies.		Class Fees.		Voluntary Contributions.		For Services rendered to other Schools.		Miscellaneous.		Total of other Receipts.			
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.		
"Elam" School of Art	563	13 1	589	13 6	..	..	200	0 0	1,353	6 7	113	11 3	..	..	376	5 5	519	11 0	633	2 3	1,986	8 10
Wellington Technical School	5,469	16 4	358	18 8	449	4 0	321	0 0	6,598	19 0	989	18 0	321	0 0	40	0 0	668	9 11	2,355	13 4	8,954	12 4
Petone Technical School	752	1 10	111	9 6	14	17 1	146	4 9	1,024	13 2	114	4 3	105	13 0	..	..	12	12 4	272	9 7	1,297	2 9
Masterton Technical School	598	16 4	..	..	..	..	502	2 0	1,100	18 4	186	18 0	528	3 0	..	..	47	1 6	762	2 6	1,863	0 10
Napier Technical School	1,981	8 3	..	..	137	19 4	132	17 0	2,252	4 7	83	3 3	117	7 0	436	0 0	199	13 11	836	4 2	3,088	8 9
Wainawa Technical School	..	..	..	..	..	..	..	..	..	..	62	0 0	..	..	..	..	7	15 0	69	15 0	69	15 0
Christchurch Technical School	6,503	17 10	141	9 6	507	5 8	645	12 9	7,798	5 9	1,175	10 2	579	13 0	405	4 4	901	17 10	3,062	5 4	10,860	11 1
Ashburton Technical School	1,720	14 4	34	13 0	110	18 11	18	9 0	1,884	15 3	258	13 3	98	6 6	303	2 6	166	16 10	826	19 1	2,711	14 4
Akaroa Technical School	12	3 9	..	..	..	..	26	6 0	38	9 9	2	5 0	25	0 0	10	9 8	..	..	40	6 2	78	15 11
Kaipoi Technical School	33	3 3	..	..	13	6 8	..	..	46	9 11	33	0 0	41	8 0	87	11 6	..	..	221	14 2	268	4 1
Timaru Technical School	590	6 7	9	16 5	9	12 8	15	16 6	625	12 2	150	1 3	73	1 4	120	0 0	..	..	375	16 10	1,001	9 0
Temuka Technical School	152	7 3	83	18 3	8	9 1	66	8 6	311	3 1	70	11 6	59	12 6	16	15 7	..	..	146	19 7	458	2 8
Waimate Technical School	183	14 0	..	..	..	..	80	16 6	264	10 6	109	4 6	26	4 0	7	17 4	64	18 9	208	4 7	472	15 1
Fairlie Technical School	30	1 7	..	..	..	..	4	4 0	44	4 7	0	15 0	12	2 0	..	..	3	11 1	16	8 1	60	12 8
Pleasant Point Technical School	20	0 0	..	..	..	..	4	4 0	24	4 0	17	1 6	2	2 0	..	..	6	5 7	25	9 1	49	13 1
Dunedin Technical School	7,488	5 7	..	..	185	11 10	519	19 0	8,193	16 5	913	11 10	211	1 0	..	..	255	11 9	1,380	4 7	9,574	1 0
Oamaru Technical School	167	10 8	..	..	..	..	39	7 6	206	18 2	124	0 0	36	19 6	..	..	..	..	160	19 6	367	17 8
Milton Technical School	24	14 3	2	4 3	..	..	8	16 0	35	14 6	57	1 10	4	2 0	..	..	3	0 5	64	4 3	99	18 9
Invercargill Technical School	3,006	16 1	269	14 8	97	19 10	121	0 11	3,495	11 6	372	19 0	133	16 6	188	10 0	106	3 9	801	9 3	4,297	0 9
Totals	29,299	11 0	1,601	17 9	1,535	5 1	2,863	3 5	35,299	17 3	4,834	9 7	2,375	11 4	1,991	16 4	3,058	10 1	12,260	7 4	47,560	4 7

TABLE J4B.—EXPENDITURE OF MANAGERS OF TECHNICAL SCHOOLS (INCLUDING TECHNICAL HIGH SCHOOLS) FOR THE YEAR 1916.

Technical Schools.	Salaries of Director and Teaching Staff.	Working-expenses.										Buildings, &c., and Equipment.	Total Expenditure.
		Salaries of Registrar and Clerical Staff.	Office Expenses, Advertising, Printing, &c.	Material for Class Use.	Caretaker, Cleaning, &c.	Repairs.	Lighting and Heating.	Miscellaneous.	Total Working-expenses.				
"Flam" School of Art ..	£ 970 0 0	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Wellington Technical School ..	7,071 18 10	83 0 0	54 16 7	93 0 10	347 7 7	61 10 5	27 6 11	293 18 1	555 2 5	323 4 10	1,848 7 3		
Petone Technical School ..	785 14 9	480 0 0	249 9 10	845 9 6	82 10 0	35 2 7	142 12 0	440 5 10	2,566 15 2	801 1 4	10,439 15 4		
Masterton Technical School ..	736 18 9	10 0 0	19 5 0	31 11 11	82 10 0	25 3 8	60 1 10	120 18 8	359 10 0	9 14 5	1,164 19 2		
Napier Technical School ..	1,884 3 5	..	58 19 4	102 10 0	38 16 0	31 2 0	48 9 9	47 9 8	321 8 5	662 10 9	1,720 17 11		
Waipawa Technical School ..	80 3 4	..	7 5 0	6 3 4	74 0 0	0 10 0	4 19 3	18 7 1	37 4 8	217 19 8	2,700 7 9		
Christchurch Technical School ..	6,095 1 1	580 19 4	242 2 2	1,022 19 9	494 15 11	48 18 7	195 1 10	918 8 1	3,503 5 8	1,277 12 0	10,875 18 9		
Ashburton Technical School ..	1,557 19 5	115 13 6	75 2 5	275 3 3	74 12 8	46 7 4	41 2 0	134 11 9	762 12 11	181 19 8	2,502 12 0		
Akaroa Technical School ..	32 0 0	..	2 8 2	5 6 10	6 11 10	1 5 6	1 0 9	7 10 4	24 3 5	..	56 3 5		
Kaipoi Technical School ..	132 0 0	..	2 8 10	31 6 0	15 0 0	0 5 3	8 1 7	66 5 0	123 6 8	1 0 0	256 6 8		
Timaru Technical School ..	753 9 8	..	54 4 7	24 16 9	52 5 10	1 5 0	32 6 7	29 6 8	206 5 5	30 8 6	990 3 7		
Tenakea Technical School ..	207 4 0	..	22 13 2	0 12 0	30 0 0	1 1 3	11 16 0	14 4 11	80 7 4	82 10 0	370 1 4		
Waimate Technical School ..	189 12 0	27 7 0	10 13 9	5 12 10	14 0 0	..	12 10 10	58 13 10	128 18 3	3 3 6	321 13 9		
Fairlie Technical School ..	2 10 0	..	6 19 2	..	8 2 0	1 2 8	0 4 10	2 0 0	18 8 8	7 10 0	28 8 8		
Pleasant Point Technical School ..	30 10 0	..	1 14 6	0 7 6	6 12 0	0 10 0	0 17 0	1 4 0	11 5 0	3 15 0	45 10 0		
Dunedin Technical School ..	5,011 9 10	250 0 0	226 9 8	659 7 8	209 2 0	20 19 9	101 16 5	326 15 6	1,794 11 0	1,090 3 6	7,896 4 4		
Oamaru Technical School ..	314 16 6	..	6 10 0	..	20 0 0	3 9 0	6 8 5	7 6 7	43 14 0	1 12 6	360 3 0		
Milton Technical School ..	63 0 0	15 15 0	2 1 0	9 5 9	10 16 0	0 5 9	5 12 7	0 10 0	44 6 1	0 15 0	108 1 1		
Invercargill Technical School ..	3,143 14 0	57 18 8	207 3 7	172 12 7	160 16 0	70 13 5	159 2 1	101 5 5	929 11 9	498 8 3	4,571 14 0		
Totals ..	29,072 5 7	1,632 13 6	1,329 17 1	3,559 2 2	1,645 7 10	352 12 2	940 0 0	2,649 8 9	12,109 1 6	5,193 8 11	46,374 16 0		

TABLE J5.—MONETARY ASSETS AND LIABILITIES OF (a) EDUCATION BOARDS AS CONTROLLING AUTHORITIES OF TECHNICAL SCHOOLS AND CLASSES, AND (b) TECHNICAL SCHOOL BOARDS AND MANAGERS, AS AT 31ST DECEMBER, 1916.

	Bank Balances.			Monetary Assets.			Liabilities.			Net Balances.											
	Total.			Total.			Total.			Total.											
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.									
(a) EDUCATION BOARDS.	5,040	13	1	6,243	0	0	11,283	13	1	325	0	0	10,958	13	1	686	1	1			
Auckland .. .. .	..	..	..	3,663	0	0	1,770	0	0	19	0	0	3,005	0	9	..	..	..
Taranaki .. .. .	..	..	..	1,770	0	0	489	0	0	386	10	1	2,456	1	1	..	..	..
Wanganui .. .. .	..	..	..	489	0	0	134	0	0	149	18	6	169	18	6	67	9	11			
Wellington .. .. .	..	..	..	134	0	0	1,922	0	0	888	14	4	1,648	8	0	..	..	..
Hawke's Bay .. .. .	..	..	..	1,922	0	0	300	0	0	1,240	8	0	1,648	8	0	273	12	0			
Nelson .. .. .	..	..	..	300	0	0	377	0	0	3,185	16	7	3,185	16	7	..	..	..
Canterbury .. .. .	..	..	..	377	0	0	166	0	0	615	12	6	628	12	6	..	..	..
Otago .. .. .	..	..	..	166	0	0	20,104	13	1	11,909	1	10	12,729	1	10	11,957	14	3			
Southland .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	5,040	13	1	15,064	0	0	20,104	13	1	11,909	1	10	12,729	1	10	11,957	14	3	4,582	3	0
(b) TECHNICAL SCHOOL BOARDS AND MANAGERS.	..	..	..	1,158	17	1	1,158	17	1	2,675	12	5	3,686	19	11	..	..	..	2,528	2	10
"Elam" School of Art .. .. .	..	..	..	3,755	13	10	3,801	3	9	..	..	..	651	10	7	3,149	13	2	..	..	..
Wellington Technical School	45	9	11	611	18	11	768	15	10	..	..	..	34	18	9	733	17	1	..	..	..
Petone Technical School	156	16	11	634	12	11	710	4	0	..	..	..	82	10	8	627	13	4	..	..	..
Masterton Technical School	75	11	1	1,185	1	3	2,126	15	7	..	..	..	156	18	6	1,969	17	1	..	..	..
Napier Technical School	941	14	4	36	13	0	52	13	10	..	..	..	2	0	0	50	13	10	..	..	..
Waipawa Technical School	16	0	10	4,968	3	10	5,747	15	8	..	..	..	1,617	19	4	4,129	16	4	..	..	..
Christchurch Technical School	779	11	10	1,367	3	0	2,197	9	2	..	..	..	288	17	3	1,908	11	11	..	..	..
Ashburton Technical School	830	6	2	28	3	0	125	5	7	..	..	..	..	..	..	125	5	7	..	..	..
Akaroa Technical School	97	2	7	83	10	8	255	5	3	..	..	..	65	0	9	190	4	6	..	..	..
Kaipoi Technical School	171	14	7	105	0	2	458	2	7	..	..	..	4	14	1	453	8	6	..	..	..
Timaru Technical School	353	2	5	125	2	10	191	11	10	..	..	..	3	9	0	188	2	10	..	..	..
Temuka Technical School	66	9	0	232	14	9	70	13	1	..	..	..	..	..	..	303	7	10	..	..	..
Waimate Technical School	232	14	9	70	13	1	303	7	10	..	..	..	..	..	..	52	19	7	..	..	..
Fairlie Technical School	60	13	7	12	2	0	72	15	7	..	..	..	19	16	0	85	18	8	..	..	..
Pleasant Point Technical School	69	10	7	16	8	1	85	18	8	..	..	..	..	..	..	208	6	0	..	..	..
Dunedin Technical School	1,855	18	10	3,029	19	0	4,885	17	10	..	..	..	25	0	0	4,677	11	10	..	..	..
Oamaru Technical School	110	16	2	28	2	9	110	16	2	..	..	..	2	3	0	85	16	2	..	..	..
Milton Technical School	66	7	7	1,446	6	0	94	10	4	..	..	..	206	12	8	92	7	4	..	..	..
Invercargill Technical School .. .. .	..	..	..	..	..	..	1,446	6	0	90	4	6	206	12	8	1,239	13	4	..	..	..
Totals	5,930	1	2	18,663	11	5	24,593	12	7	2,765	16	11	7,056	16	6	20,064	18	11	2,528	2	10
Grand totals	10,970	14	3	33,727	11	5	44,698	5	8	14,674	18	9	19,785	18	4	32,022	13	2	7,110	5	10

TABLE J6.—NUMBER OF STUDENTS ACCORDING TO AGES ADMITTED TO CLASSES OTHER THAN CLASSES AT TECHNICAL HIGH SCHOOLS DURING THE YEAR ENDING 31ST DECEMBER, 1916.

Education Districts.	Under 13 Years.		13-15 Years.		15-17 Years.		Over 17 Years.		Totals.		Students admitted during 1916 who left a Public School during 1915 (Included in Foregoing Totals).	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Auckland ..	135	122	381	322	658	411	651	654	1,825	1,509	256	143
Taranaki ..	10	..	61	93	197	227	567	248	835	568	99	129
Wanganui ..	50	40	180	186	339	360	416	852	985	1,438	156	157
Hawke's Bay ..	2	..	113	100	170	189	81	189	366	478	68	65
Wellington ..	31	32	209	115	426	219	503	571	1,169	937	129	67
Nelson ..	32	44	73	77	99	103	110	199	314	423	49	32
Canterbury ..	59	84	242	307	485	401	787	1,180	1,573	1,972	192	149
Otago ..	24	38	168	160	309	225	597	816	1,098	1,239	202	123
Southland ..	19	16	56	42	92	94	279	259	446	411	20	21
Totals ..	362	376	1,483	1,402	2,775	2,229	3,991	4,968	8,611	8,975	1,171	886

TABLE J7.—NUMBER OF STUDENTS TAKING GROUP COURSES AT TECHNICAL CLASSES OTHER THAN CLASSES AT TECHNICAL HIGH SCHOOLS DURING THE YEAR ENDED 31ST DECEMBER, 1916.

Controlling Authorities.	Number of Schools.	Courses and Number of Students.					Totals.
		Elementary and Higher Commercial, Science and General (including Courses for Public Examinations).	Industrial (including Agriculture).	Domestic.	Pure and Applied Art.		
Auckland Education Board ..	11	767	336	92	5	1,200	
Managers, "Elam" School of Art ..	1	..	..	..	143	143
Auckland University College Council ..	1	..	19	..	..	19
Taranaki Education Board ..	3	238	76	54	20	388	
Wanganui Education Board ..	11	275	130	87	6	498	
Palmerston North High School Board ..	1	86	34	37	23	180	
Wellington Education Board ..	4	529	227	38	59	853	
Managers, Masterton Technical School ..	1	59	26	39	6	130	
Hawke's Bay Education Board ..	1	82	32	31	9	154	
Nelson Education Board ..	2	76	70	51	59	256	
Canterbury College Board of Governors ..	2	..	71	..	230	301	
Canterbury Education Board ..	5	452	274	174	9	909	
Otago Education Board ..	3	373	149	24	92	638	
Otago University Council ..	2	9	..	36	..	45	
Southland Education Board ..	1	102	36	48	10	196	
Gore High School Board ..	1	7	..	..	..	7
Totals, 1916 ..	50	3,055	1,480	711	671	5,917	
Totals, 1915 ..	46	2,682	1,417	855	684	5,638	

TABLE J8.—OCCUPATIONS OF STUDENTS IN ATTENDANCE AT TECHNICAL CLASSES OTHER THAN CLASSES AT TECHNICAL HIGH SCHOOLS DURING THE YEAR ENDED 31ST DECEMBER, 1916.

Domestic pursuits ..	3,179	Painters, plasterers, &c. ..	117
Professional pursuits ..	2,382	Printers, &c. ..	147
Clerical pursuits ..	2,207	Skilled labourers ..	92
Students ..	3,290	Labourers ..	166
Agricultural pursuits ..	1,207	Seamen ..	56
Employed in shops or warehouses ..	1,422	Engaged in various other trades and industries ..	444
Dressmakers, milliners, &c. ..	262	Engaged in various public services ..	365
Tailors and tailoresses ..	127	Occupations not stated ..	369
Engineers and mechanics ..	745		
Electricians ..	248		
Plumbers, metal-workers, &c. ..	377	Total ..	17,586
Woodworkers ..	384		

TABLE J9.—NUMBER OF PUPILS RECEIVING FREE EDUCATION UNDER REGULATIONS FOR FREE PLACES AT TECHNICAL CLASSES DURING THE YEAR ENDED 31ST DECEMBER, 1916.

Education District.	At Technical High Schools.			At other Classes.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Auckland	245	230	475	509	311	820
Taranaki .. .. .	..	..	..	78	111	189
Wanganui	134	76	210	201	241	442
Wellington	99	179	278	513	249	762
Hawke's Bay	38	59	97	70	51	121
Nelson	23	..	23	85	132	217
Canterbury	163	163	326	440	433	873
Otago	89	195	284	309	175	484
Southland	88	134	222	67	85	152
Totals for 1916	879	1,036	1,915	2,272	1,788	4,060
Totals for 1915	844	925	1,769	2,313	1,578	3,891

TABLE J10.—TECHNICAL HIGH SCHOOLS.—COURSES TAKEN BY STUDENTS DURING THE YEAR 1916.

School.	Courses of Instruction and Number and Sex of Students.												Capitation earned during Year ended 31st December, 1916.
	Industrial.		Agricultural.		Domestic.		Commercial and General.		Art.		Totals.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	£
Auckland	144	..	61	..	..	50	61	192	..	..	266	242	6,084
Wanganui	37	..	25	..	..	28	90	70	..	..	152	98	2,647
Wellington	63	..	..	..	..	15	36	169	2	..	101	184	3,104
Napier	23	..	..	..	..	67	21	..	..	..	44	67	1,231
Westport	29	..	..	..	..	..	..	..	..	..	29	..	252
Christchurch	115	..	36	..	..	73	40	112	..	..	191	185	4,100
Dunedin	35	..	22	..	..	40	38	180	..	..	95	220	3,332
Invercargill	34	..	9	..	..	28	52	108	..	..	95	136	2,545
Totals, 1916	480	..	153	..	..	301	338	831	2	..	973	1,132	23,295
Totals, 1915	489	1	115	..	..	327	333	688	..	2	937	1,018	20,985

TABLE J11.—TECHNICAL HIGH SCHOOLS.—ATTENDANCE OF PUPILS AND CAPITATION EARNED DURING THE YEAR 1916.

Status of Pupil.	Attended not less than 800 Hours.	Rate per Pupil.			Capitination.			Attended less than 600 Hours, not less than 400 Hours.	Rate per Pupil.			Capitination.			Totals.											
		£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.	Pupils.	Capitination.										
Free pupils—																										
First year	922	12	10	0	11,525	0	0	77	9	7	6	721	17	6	45	6	5	0	281	5	0	1,084	12,653	2	6	
Second year	437	13	15	0	6,008	15	0	61	10	6	3	29	1	3	38	6	17	6	261	5	0	568	7,011	1	3	
Third year, &c.	115	15	0	0	1,725	0	0	32	11	5	0	360	0	0	24	7	10	0	180	0	0	193	2,347	10	0	
Other pupils—																										
First year	86	8	5	0	709	10	0	26	6	3	9	160	17	6	8	4	2	6	33	0	0	130	924	0	0	
Second year	23	9	2	6	209	17	6	4	6	16	11	27	7	8	7	4	11	3	31	18	9	47	298	17	7	
Third year, &c.	5	10	0	0	50	0	0	1	7	10	0	7	10	0	..	5	0	0	..	..	..	7	60	0	0
Totals	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,029	23,294	11	4

TABLE J12.—RETURN OF STAFFS OF TECHNICAL SCHOOLS AND CLASSES FOR THE YEAR ENDED 31ST DECEMBER, 1916 (EXCLUSIVE OF OFFICE STAFF, CARETAKERS, ETC., AND OF PART-TIME INSTRUCTORS RECEIVING SALARIES OR ALLOWANCES OF LESS THAN £100 PER ANNUM).

Controlling Authorities, Technical School Boards, and Managers.	Number of Instructors.	Maximum Salary.	Salaries of Directors and Supervisors.			Remarks.
			£	s.	d.	
Auckland Education Board	25	340	£700	(Director, Auckland Technical College)	..	..
Managers, "Elam" School of Art	3	220	£450	(Supervisor of Technical Instruction for district)	..	.. Also Supervisor of Manual Instruction for district.
Taranaki Education Board	11	350	£450	(Director and Secretary)	..	..
"	..	..	£500	(Director of Agriculture)	..	..
"	..	..	£450	(Director of Technical Education)	..	..
Wanganui Education Board	13	350	£275	(Superintendent, Hawera Technical School)	..	.. Also instructor of manual classes.
"	..	..	£400	(Director, Wanganui Technical College)	..	..
Palmerston North High School Board	2	225	£325	(Director, Feilding Technical School)	..	..
Wellington Technical School Board	24	380	£350	(Director, Palmerston North Technical School)	..	..
Petone Technical School Board	..	..	£700	(Director and Secretary)	..	..
Managers, Masterton Technical School	2	150	£150	(Director and Secretary)	..	..
Napier Technical School Board	6	250	£100	(Director and Secretary)	..	.. Also on staff of Petone District High School (salary, £270).
Hawke's Bay Education Board	..	..	£380	(Director and Secretary, Napier Technical College)	..	.. Also on staff of Masterton District High School (salary, £330).
Nelson Education Board	5	180	£375	(Director of Technical Instruction for district)	..	.. Also Director of Manual Instruction for district.
"	..	..	£375	(Director, Nelson Technical School)	..	.. Also instructor.
Canterbury Education Board	3	208	£340	(Director, Westport Technical School)	..	..
Christchurch Technical School Board	20	375	£325	(Supervisor of Technical Instruction for district)	..	.. Also Supervisor of Manual Instruction.
Ashburton Technical School Board	4	200	£300	(Director and Secretary)	..	..
Timaru Technical School Board	..	..	£250	(Director and Secretary)	..	..
Canterbury College Board of Governors	5	275	£350	(Director, School of Art)	..	..
Dunedin Technical School Board	17	312	£350	(Director)	..	..
Oamaru Technical School Board	..	..	£100	(Director and Secretary)	..	..
Otago Education Board	4	225	£400	(Principal, School of Art)	..	..
Invercargill Technical School Board	10	300	£300	(Director)	..	..
Southland Education Board	1	100	£265	(Supervisor of Technical Instruction)	..	.. Also Supervisor of Manual Instruction.

TABLE J13.—NUMBER OF CANDIDATES WHO PASSED THE TECHNOLOGICAL EXAMINATIONS OF THE CITY AND GUILDS OF LONDON INSTITUTE AND THE SCIENCE EXAMINATIONS OF THE BOARD OF EDUCATION, LONDON, 1916.

Subjects of Examination.	Number of Entries.	Number of Passes.
<i>Technological Examinations.</i>		
Telegraphy—Grade I	1	1
Electrical engineering—Grade I	34	13
Electrical engineering—Grade II (first paper)	12	2
Electrical engineering—Grade II (second paper)	3	2
Electrical engineering—Final	1	1
Electric wiremen's work—Grade I	6	6
Electric wiremen's work—Final	4	4
Plumbers' work—Grade I	14	14
Principles of leadwork—Grade II	5	5
Plumbers' work—Grade II (practical)	3	..
Plumbers' work—Grade II (whole examination)	20	17
Principles of leadwork—Final	3	3
Plumbers' work (practical)—Final	2	..
Plumbers' work (whole examination)—Final	3	2
Mechanical engineering—Division I, Grade I	39	21
Mechanical engineering—Division I, Grade II	3	..
Mechanical engineering—Division II, Grade I	10	6
Mechanical engineering—Division II, Grade II	2	2
Structural engineering—Grade I	1	..
Motor-car engineering—Grade I	16	8
Carpentry and joinery—Grade I	11	4
Carpentry and joinery—Grade II	12	3
Carpentry and joinery—Final	2	1
Cabinetmaking—Grade I	12	9
Mine-surveying—Grade I	2	1
Painters' and decorators' work—Grade I	1	1
Gas-supply—Final	1	1
Gas-fitting—Grade II	1	1
Woodwork—First year	16	6
Woodwork—Final	10	7
Millinery	1	1
Dressmaking	18	16
Plain needlework	4	3
Plain cookery	63	50
Totals, 1916	336	211
Totals, 1915	275	193
<i>Science Examinations.</i>		
Practical geometry and graphics—Lower stage	6	2
Practical geometry and graphics—Higher stage	1	1
Practical mathematics—Lower stage	3	1
Machine construction and drawing—Lower stage	17	7
Applied mechanics (materials and structures)—Lower stage	26	18
Applied mechanics (machines and hydraulics)—Lower stage	5	5
Building-construction—Lower stage	20	14
Building-construction—Higher stage	2	1
Magnetism and electricity—Lower stage	5	2
Totals, 1916	85	51
Totals, 1915	83	39

Approximate Cost of Paper.—Preparation, not given; printing (1,200 copies), £50.

By Authority: MARCUS F. MARKS, Government Printer, Wellington.—1917.

Price 1s. 3d.]